Phase II Environmental Site Assessments

Project Identification:

HAM-75-0.22
PID 89068; Task Order No. 08-J

Seven Sites Associated with the Brent Spence Bridge Project

Prepared for:

Ohio Department of Transportation
District 8
505 South SR 741
Lebanon, Ohio 45036

April 2014

BURGESS & NIPLE

PHASE II ENVIRONMENTAL SITE ASSESSMENTS

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THE BRENT SPENCE BRIDGE
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PREPARED FOR
OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT 8
505 SOUTH SR 741
LEBANON, OHIO 45036

APRIL 2014

PREPARED BY:

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TABLE OF CONTENTS

Page

LIST OF APPENDICES

LIST OF FIGURES

LIST OF TABLES

EXECUTIVE SUMMARY

Burgess & Niple, Inc. (B&N) was retained by the Ohio Department of Transportation (ODOT) to conduct a Phase II Environmental Site Assessment (ESA) for seven properties, portions of which will be included as part of the proposed right of way (ROW) for improvements associated with the Brent Smith Bridge over the Ohio River in Cincinnati, Hamilton County, Ohio. The findings of the Phase I ESA completed by Third Rock Consultants, LLC in 2010, indicated that potential environmental concerns existed on the seven sites. The sites are listed below and refer to sites identified in the Brent Spence Bridge Project. **Figure 1** shows the locations of the seven sites and surrounding area. All figures are included in **Appendix A**.

- Site 17 – Large Apartment Complex, 845 Ezzard Charles Drive
- Site 29 – City of Cincinnati ROW, 817 Mound Street
- Site 49 – ARTIMIS (ODOT)/Former Gas Station, 508 West 3rd Street
- Site 51 – City of Cincinnati-Vacant Site, 4th Street and Central Avenue
- Site 53 – Speedway SuperAmerica, 605 and 609 West 3rd Street
- Site 58 – City of Cincinnati Parking Lot, Block with West 3rd Street/Pete Rose Way/Central Avenue/Former Smith Street
- Site 65 – Valley Asphalt, 612 Mehring Way.

The Phase II ESA was conducted using guidelines established by ODOT (*Environmental Site Assessment Guidelines*, April 2009), which are similar to the American Society for Testing and Materials (ASTM) in its Practice E1903-97.

Prior to advancing soil borings, a geophysical survey, consisting of ground penetrating radar (GPR) and electromagnetic (EM) survey, was conducted by Mr. David Grumman, of Grumman Exploration, Inc. (Grumman), on March 13, 2014 at Sites 29, 49, and 53 to assist in the determination of whether or not underground storage tanks (USTs) or other subsurface structures were present. Preliminary results of the geophysical survey were

discussed in the field to aid in soil boring placement. The geophysical survey report, included in **Appendix B**, did not identify any anomaly at Site 29, a potential UST at Site 49, and the potential for USTs and Site 53.

Results from the geophysical survey helped identify the soil boring locations for all three sites. At Site 29, the EM response indicated that the roadway outside of the island, where soil borings were proposed, was constructed with rebar reinforced concrete. At Site 49, the EM survey, as well as the GPR, indicated a potential tank behind the ODOT building in the vicinity of the location of the soil borings advanced. The geophysical survey at Site 53 helped identify the area where previous USTs had been located on old mapping provided in the Phase I ESA Report. This site was previously a gasoline station. The survey was somewhat impacted by a pile of soil and other demolition-type of debris including reinforced concrete place on the site. The survey also provided information on a main water line that traversed the site. Grumman recommended that prior to construction activities at each of these three sites, an invasive exploration may be warranted to determine whether USTs exist.

From March 17 through March 19, 2014, B&N, assisted by EnviroCore, Inc. (EnviroCore), advanced soil probes at the pre-approved soil boring locations for each site during the Phase II ESA field operations. Direct push sampling techniques were utilized during soil sample collection. The Phase II ESA consisted of the advancement of soil probes at each of the seven sites until the intended depth was encountered. Groundwater was not encountered at any of the sites. Maximum depth of the soil borings was 20 feet. One soil sample from each soil probe was submitted to Pace Analytical Laboratories (Pace) for analysis for all or a combination of the following chemicals of concern (COCs):

- Volatile organic compounds (VOCs); benzene, toluene, ethylbenzene, xylene (BTEX) compounds; and methyl tert-butyl ether (MTBE) by U.S. Environmental Protection Agency (EPA) Method 8260;

- Semi-volatile organic compounds (SVOCs) by U.S. EPA Method 8270;

- Polynuclear aromatic hydrocarbons (PAHs) by U.S. EPA Method 8270; and

- Total petroleum hydrocarbons (TPH) (gasoline range organics [GRO], diesel range organics [DRO], and oil range organics [ORO]) by U.S. EPA Method 8260/8270.

Soil analytical results were compared to the Ohio Voluntary Action Program (VAP) generic direct contact standards for commercial/industrial land use and construction/excavation worker scenarios. In the case of whether soils were potentially impacted at Bureau of Underground Storage Tank Regulations (BUSTR) sites, the results were compared to the BUSTR Reuse Action Levels to determine if the site requires a plan note for petroleum-contaminated soil (PCS). To determine if an excavated material may be a waste, Ohio EPA's VAP residential land use levels were used. The latter assessment was used to determine whether the soil sampled might be considered a waste material, but actual waste characterization for disposal would have to be determined during the construction portion of the project.

Since groundwater was not encountered at the depths the soil borings were advanced, no groundwater samples were collected or analyzed.

The following summarizes the soil analytical results:

- **Site 17 – Large Apartment Complex, 845 Ezzard Charles Drive:** This site is located on the southeastern corner of Ezzard Charles Drive and Winchel Avenue. It is a site of a former gasoline filling station. Results were compared to BUSTR standards. Two soil borings were advanced on the property and two samples analyzed. No parameter exceeded the laboratory reporting limit and all reporting limits were less than the BUSTR standard.

- **Site 29 – City of Cincinnati Right-of-Way, 817 Mound Street Avenue:** This site is a former filling station and most of the site has become public roadway as a ramp to Interstate (I)-75 or part of 8th Street. Two soil borings were advanced in the small sliver of land between the ramp and 8th Street. The two samples collected at this site were compared to BUSTR standards. One parameter, TPH, diesel range, exceeded the laboratory reporting limit at 43.2 milligrams per kilogram (mg/kg) but was below the BUSTR standard of 2,000 mg/kg. No other parameter exceeded the laboratory reporting limit nor the BUSTR standard.

- **Site 49 – ARTIMIS (ODOT)/Former Gas Station, 508 West 3rd Street:** This site was a former filling station and is currently an ODOT facility. Two soil borings were advanced near the loading dock area and two samples collected. All parameters analyzed for BUSTR standards were below the laboratory reporting limit as well as the BUSTR standard.

- **Site 51 – City of Cincinnati-Vacant Site, 4th Street and Central Avenue:** Two soil borings were advanced in the sidewalk along Central Avenue in an area that used to be the southwestern corner of Central Avenue and 4th Street. Fourth Street no longer exists in this area west of Central Avenue. The two soil samples analyzed at this site had no parameters above the laboratory reporting limits and all were below BUSTR standards.

- **Site 53 – Speedway SuperAmerica, 605 and 609 West 3rd Street:** This site was a former filling station. Four soil borings were drilled on this site and four soil samples collected for analysis. An expanded list of parameters was requested for this site to address hydrocarbons outside of standard fuel, such as used oil and volatile organics that are typically associated with cleaning products such as trichloroethene and perchloroethene. Because of this, the laboratory results were compared to both BUSTR standards, as well as VAP standards. All results from all four samples were below the laboratory reporting limits as well as the BUSTR and VAP standards.

- **Site 58 – City of Cincinnati Parking Lot, Block with West 3rd Street/Pete Rose Way/Central Avenue/Former Smith Street:** This site was a large parking lot encompassed by the streets listed. There were six soil boring advanced and six soil samples collected for analysis. Historically, the property was used for warehousing; numerous railroad lines terminated on the property; and the Phase I ESA reported more than one UST was located on the property. The suite of chemicals for analyses included those chemicals associated with petroleum products for fuels, lubricating fluids, and used oils, as well as those associated with solvents. Results for the laboratory analysis were compared to the VAP standards. Samples collected from soil borings 58-SB-1 and 53-SB-2 had no positive results and all reporting limits were below the VAP standards. The samples from 58-SB-2 and 58-SB-3 at depths of 2 to 4 feet and 6 to 8 feet, respectively, had slight concentrations of TPH for the range C20-C34. No other parameters were reported above the reporting limit. The sample

collected from 2 to 4 feet below ground surface (bgs) at 58-SB-4, contained TPH as well as a total of 16 parameters under the SVOC suite of chemicals. Most of these are considered part of the PAH chemicals. One of these parameters, benzo(a)pyrene, exceeded the industrial standard under VAP. The concentration was 9.51 mg/kg and the standard is 7.70 mg/kg. One chemical, 1,2,4-trimethylbenzene, is listed in VAP as a SVOC but was analyzed as a VOC in the laboratory. This chemical had positive results, but below the VAP standard. Several of the parameters from the sample collected at 58-SB-4 also contained concentrations that exceeded the residential standards of VAP. The residential standards are used by ODOT to determine whether an excavated material should be treated as a solid waste or not. This was the only sample on Site 58 that had concentrations over the VAP residential standards.

- **Site 65 – Valley Asphalt, 612 Mehring Way:** Six soil borings were advance at this site. One of them could not be advanced beyond 5 feet even after offsetting and trying again several times. No sample was collected from this location as any retrievable material was just gravel fill. The other soil borings were advance to 20 feet. The western portion of the site was beneath the Brent Spence Bridge, which was an empty plot of land. Three soil borings were advanced in this area. There were two of the six soil borings drilled on the eastern portion of the property which was an active asphalt manufacturing facility. The soil samples were analyzed for the suite of chemicals associated with industrial sites, including asphalt manufacturing. None of the samples analyzed had parameters above the VAP standards. Soil borings 65-SB-1, 2, and 5 had no positive values above the reporting limits. Samples collected at 4 to 6 feet bgs at 65-SB-4 and at 8 to 10 feet bgs at 65-SB-6, had positive values for all three ranges of TPH and several SVOCs. Some of the positive results were consistent with heavy ended oils, but the sample at SB-6 also contained 3 & 4 methylphenol (m&p cresol) as well as a minor hit of acetone. These parameters are consistent with the manufacturing of asphalt. Additionally, none of the positive values reported by the laboratory exceeded the VAP residential standards, which is used to determine whether a material, if excavated, would need to be disposed of as a solid waste.

SIGNATURE PAGE

This Phase II ESA Report has been prepared by B&N. The primary author and reviewer information is listed below.

_____

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1.0 INTRODUCTION

Burgess & Niple, Inc. (B&N) was retained by the Ohio Department of Transportation (ODOT) to conduct a Phase II Environmental Site Assessment (ESA) for seven properties (sites), portions of which will be included as part of the proposed right of way (ROW) for improvements associated with the Brent Smith Bridge over the Ohio River in Cincinnati, Hamilton County, Ohio. The findings of the Phase I ESA completed by Third Rock Consultants, LLC in 2010 indicated that potential environmental concerns existed on the seven sites. The sites are listed below and refer to sites identified in the Brent Spence Bridge Project. **Figure 1** shows the locations of the seven sites and surrounding area. All figures are included in **Appendix A**.

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The Phase II ESA was conducted using guidelines established by ODOT (*Environmental Site Assessment Guidelines*, April 2009), which are similar to the American Society for Testing and Materials (ASTM) in its Practice E1903-97.

2.0 BACKGROUND INFORMATION

This Phase II ESA was performed for seven sites, portions of which will be included as part of the proposed Brent Spence bridge project across the Ohio River in downtown Cincinnati, Ohio. A Phase II ESA was recommended at the various sites due to the historical uses or practices identified in the Phase I ESA. ODOT approved the recommended subsurface investigations to evaluate whether the historical uses had impacted the soils or groundwater. The work included both geophysical surveys on three of the sites and soil borings on all of the sites. If groundwater was encountered on Site 53, then groundwater monitoring wells were to have been installed and sampled. No groundwater was encountered. Sites 55 and 66 from the original Task Order were also removed by ODOT. It was determined by ODOT that sufficient environmental data was available for Site 55 and Site 66, as defined in the Phase I ESA, did not require soil borings.

Table 1 (**Appendix E**) shows a listing of the sites, the number of soil borings advanced, number of soil samples collected, whether groundwater samples were recommended, whether a geophysical survey was conducted, and the reason for assessing the site. The goal of the project was to evaluate whether soils were impacted to approximately 10 feet below ground level at four of the sites and to 20 feet at three of the sites. Groundwater monitoring wells were to be installed at Site 53 if a saturated zone was encountered. No saturated zone capable of producing water was encountered at any of the sites at the depths drilled.

The study area is drained by Mill Creek that is the drainage basin for the central part of the City of Cincinnati. The sites are located in one of the best areas in Hamilton County for groundwater. Although not encountered during the Phase II ESAs, permeable sand and gravel deposits in ancient stream channels are present at depth in this area. The bedrock is the Upper Ordovician Point Pleasant comprised of approximately 60 percent limestone.

One soil sample was collected from each boring and submitted to Pace Analytical (Pace) for analysis of a combination of the following:

- Volatile organic compounds (VOCs); benzene, toluene, ethylbenzene, xylene (BTEX) compounds; and methyl tert-butyl ether (MTBE) by U.S. Environmental Protection Agency (EPA) Method 8260;

- Semi-volatile organic compounds (SVOCs) by U.S. EPA Method 8270;
- Polynuclear aromatic hydrocarbons (PAHs) by U.S. EPA Method 8270; and
- Total petroleum hydrocarbons (TPH) (gasoline range organics [GRO], diesel range organics [DRO], and oil range organics [ORO]) by U.S. EPA Method 8260/8270.

3.0 GEOLOGICAL INFORMATION, PHYSICAL SETTING, AND REGIONAL HYDROLOGY

3.1 Geological Information

3.1.1 Bedrock Geology

The bedrock in Hamilton County consists of interbedded limestones and shales of Late Ordovician age or Upper Ordovician. Rocks from the Ordovician System were formed between 438 and nearly 505 million years ago, representing the oldest rocks exposed at the surface in Ohio, specifically, southwestern Ohio. The Ordovician System is characterized by soft, calcareous shales, interbedded with thin, hard limestone layers. The Ordovician yields an incredible abundance and diversity of well-preserved fossils.

The bedrock beneath the Sites investigated in downtown Cincinnati was identified by the *Geological Survey of Ohio* (2004 and 2006) as the Point Pleasant Formation which is comprised of approximately 60 percent limestone and contains interbedded limestone and shale. The main bedrock structure in the area is the Cincinnati Arch, a north-south-oriented, structural feature in southwestern Ohio and adjacent areas to the south, which started in Late Ordovician. The axis of the arch is east of Cincinnati and continues northward until it splits into the Findlay Arch to the north and the Kankakee Arch to the west. The broad area formed at the three arches is called the Indiana-Ohio Platform.

3.1.2 Glacial Geology

The glacial history of Hamilton County is complex and is not completely understood to date. Evidence for Pre-Illinoian glaciation has been recognized in southwestern Ohio near Cincinnati. These deposits of glacial material represent the oldest known glacial sediments in Ohio. Subsequent glacial advances covered most of the Pre-Illinoian deposits and represent deposits from Illinoian and Wisconsinan glaciers that followed (*Glacial Map of Ohio*, ODNR, Division of Geological Survey, 2005).

The uplands of Hamilton County are dissected by valley systems formed by glacial and fluvial processes. Current stream valley systems did not cut the larger valleys in which they lie. The glacial history of these began during the Pleistocene where there were at least three major glacial events identified above. Prior to this glaciation of the Pleistocene, the

major drainage system of the area was the Teays River, which flowed eastward north of Cincinnati, and its tributaries flowed northward from present day Hamilton County into the Teays River. Deep valleys were cut into the bedrock by the Teays River. With the beginning of the Pleistocene glaciation, flow in the Teays River came to a halt and changed the flow direction as water was dammed by the glacier and water flowed southward causing deep eroded channels into the bedrock. This period of deep cutting of the bedrock is commonly called the Deep Stage system. During subsequent periods of glaciation , Hamilton County was completely covered by ice. When the glaciers retreated northward, the major streams derived from the melting ice deposited large quantities of sand and gravel within the bedrock valleys eroded by the Teays tributaries and modified during Deep Stage time. Many of these deposits are below the present day water table and serve as aquifers for dozens of high capacity industrial and municipal wells (*Ground Water Pollution Potential of Hamilton County, Ohio*, University of Cincinnati Groundwater Research Center, 1989).

3.2 Physical Setting

The extreme southern edge of Hamilton County where the Phase II ESA investigations were located is located in the Bluegrass Section of the Interior Low Plateaus Province of the Interior Plains physiographic region of Ohio. The basic geology is silt loam colluvium, over pre-Wisconsinan-age till, over Ordovician and Silurian age dolomities, limestones and calcareous shales. Moderately high relief (300 feet) dissected plateau of carbonate rocks exists. This physiographic region contains caves in the eastern portion and in the west, thin, early drift caps and narrow ridges. The elevation is 455 feet to 1,120 feet above mean sea level (amsl) (*Physiographic Regions of Ohio*, C S Brockman, ODNR, Division of Geological Survey, 1998).

3.3 Regional Hydrology

The primary aquifers within Hamilton County occur in the major buried valleys that contain varying deposits of sand and gravel, silts, and clays. These sands and gravels were deposited during the glacial meltwaters during the Pleistocene Epoch. The buried valleys beneath the Great Miami River, the Ohio River, and some areas of the Whitewater River contain coarse deposits of sand and gravel that are capable of producing yields of 1,000 gallons per minute (gpm).

Other valleys within the County are also capable of supplying significant quantities of groundwater. Well sorted sand and gravel deposits in both the Little Miami and Mill Creek valleys produce up to 500 gpm from properly developed wells. Lesser yields of 10 to 100 gpm may be obtained near the edges of these buried valleys from sand and gravel lenses interbedded with silts and clays. Domestic wells are often supplied from sand and gravel lenses from some of the tributaries and abandoned channels of the preglacial and interglacial drainage system.

Outside of the buried valley areas, limited groundwater supplies are available from the Odovician limestone-shale sequence. The bedrock consists of interbedded plastic shales and limestones that are only capable of supplying up to 3 gpm. Seasonal losses of water in these wells exist, some becoming dry. Groundwater from the bedrock generally occurs in the upper weathered material or in fractures and bedding planes with the bedrock. Glacial till over the bedrock is generally less than 50 feet in thickness.

3.4 Local Hydrology

All seven sites investigated during the Phase II ESAs fall within an area described by Walker (ODNR, 1986), as being within the best groundwater areas in Hamilton County. The water resource comes from permeable sand and gravel deposits in ancient stream channels and the source is suitable for large industrial well field development. Yields of up to 1,000 gpm have been developed in these areas. The 1986 *Ground-Water Resources of Hamilton County* map shows two wells near the area of investigation. One well is at a depth of 117 feet and produces 600 gpm. The other well was drilled to 108 feet and produces 1,000 gallons of water per minute. The area falls within the Mill Creek watershed. The thick sand and gravel deposits appear to be associated with the deep drainage system below this as well as the sand and gravel associated with the Ohio River.

4.0 GEOPHYSICAL SURVEY

4.1 Geophysical Survey

Grumman Exploration, Inc. (Grumman) was contracted to perform a geophysical survey consisting of an electromagnetic (EM) survey, followed by a ground penetrating radar (GPR) survey for three sites, 605 West 3rd Street (Site 53), 508 West 3rd Street (Site 49), and 817 Mound Street (Site 29), on March 13, 2014 prior to advancing soil borings. The survey was performed over portions of each site, specifically where the soil borings were to be advanced, although at Site 53 a larger area was covered to determine whether underground storage tanks (USTs) could be located adjacent to the old service building that remains on site. Results were discussed in the field to determine if the proposed soil boring locations could be safely advanced. A letter report from Grumman, included as **Appendix B,** discusses the geophysical survey field procedures. Section 5.1 provides a description of the survey procedures and Section 6.0 discusses the survey results.

5.0 FIELD ACTIVITIES AND SAMPLING PROCEDURES

5.1 Geophysical Survey

Based on the historical use of Sites 29, 49, and 53, as former service stations, a geophysical survey was performed to determine whether or not USTs may be present in the subsurface. On March 13, 2014, prior to advancing soil borings, Grumman performed the geophysical surveys. A GPR and EM survey comprised the geophysical survey. Preliminary results of the geophysical survey were discussed in the field to aid in soil boring placement. The geophysical survey report, included in **Appendix B**, identified a few anomalous EM or GPR responses indicative of undocumented as well as documented USTs or excavations. These anomalies are discussed in Section 6.0 of this report.

Detailed discussions of the geophysical survey methods are discussed in **Appendix B**. Generally, the two surveys used can be described as follows:

- EM induction profiling have been used to non-destructively explore, map and characterize subsurface conditions on the basis of different electrical conductivity response that can occur between natural and man-made materials in the subsurface. Grumman used the Geophysical Survey Systems, Inc. (GSSI) GEM-300 multi-frequency EM induction profiling system. Vertical dipole quadrature-phase (proportional to conductivity) and in-phase (metal sensitive) measurements were observed using a single coil alignment at three frequencies (15,030 Hz, 9,810 Hz, and 4,410 Hz). Conductivity is a useful measurement for mapping spatial variations in soil and fill types based on contrasts in electrical conductivity. For instance, sands and gravels can often be distinguished between clays and silts. The in-phase measurement is highly sensitive to buried metallic objects and can be used to locate and map buried reinforced steel structures, USTs, barrels, utility lines, and other buried metallic structures or highly conductive debris.

- GPR Survey has been used as a site investigation tool since the 1970s. GPR operates by transmitting and receiving microwave EM impulses that are governed by the principles of EM wave propagation through the subsurface. Transmitted GPR impulses propagate downward through the subsurface, reflect off buried target boundaries, and return to the receiver antenna. This device is used, under favorable conditions, for locating and mapping buried underground tanks, pipes, waste fill

boundaries, and building foundations. The GPR survey does have some limitations in the presence of clay, silty clay, weathered shale, or other electrically conductive fill materials, such as slag, foundry sand, cinders, etc. These materials can attenuate the signals and thus reduce the signal penetration into the subsurface. Equipment specifics such as frequency measured in Hertz, are outlined in **Appendix B**.

Using the combined EM and GPR surveys, under favorable conditions, a sound subsurface profile can be obtained that can provide insight to whether there are soil type changes, such as you might observed in fill material in a former excavation, and whether an anomaly might be metallic, such as you would observe in a UST tank. A common scenario for a survey is walking the site with the EM device looking for small and large subsurface anomalies, such as a UST in a filled excavation. Then the same area would be walked using a GPR device to see what the profile of that initial anomaly is. The response for a UST made of steel would show a high EM response followed by a signature curved response from the radar indicating the curvature of the UST.

Conversely, if there is a strong EM response, indicating a metallic object, but the GPR signature does not show the typical UST curved profile and perhaps shows a flat surface, it could be a concrete vault with rebar where the flat surface represents the base of the vault. The GPR can provide an accurate depth of the metallic object the EM survey identifies. For instance, if the EM survey shows a high metallic response and the GPR shows that that response represents a structure only a couple feet below ground surface (bgs), then most likely it is not a tank but some other metallic object.

5.2 Soil Sampling Methods

Between March 17 and March 19, 2014, B&N, assisted by EnviroCore, advanced soil probes at the seven sites investigated during this Phase II ESA. Direct push sampling techniques (Geoprobe®) were utilized during soil sample collection.

Direct-push soil samples were collected in a steel macrocore soil sampler (4-foot-long by 2-inch diameter) attached to 1-inch-outside-diameter (OD) steel rods. The soil core sampler was lined with a new, clean, disposable acetate liner before collection of each soil sample. The sampler was driven into the ground by the static weight of the carrier vehicle and

hydraulic hammer percussion. The soil was collected in 4-foot intervals until the desired termination depth was reached.

Upon opening the acetate liner, the soil was described by a B&N geologist and recorded on a soil probe log (**Appendix C**). In general, soil samples were collected in 2-foot or 4-foot intervals for both laboratory and headspace analysis. After recording the description, soil samples were collected in clean glass sample jars provided by the laboratory. Each sample was collected using clean chemical-resistant nitrile gloves that were discarded after collection of the sample. The sample jars were properly labeled and placed into coolers chilled to 4 degrees Celsius (^{o}C) or less with ice.

A new acetate liner was inserted into the soil sampler for collection of each 4-foot interval. The soil sampler was cleaned between intervals, and the rods were cleaned after completion of each soil probe. The acetate liners were disposed of after each interval was collected.

Upon completion of the soil probes, the boreholes were properly abandoned following protocols in Ohio EPA's *Technical Guidance Manual for Hydrogeologic Investigations and Groundwater Monitoring, Chapter 9, Sealing Abandoned Monitoring Wells and Boreholes* (Ohio EPA, February 2005). Bentonite chips were poured into the borehole to the ground surface and hydrated. In paved areas, the blacktop or concrete was patched with similar material.

5.3 Field Screening and Sample Selection Method

A representative portion of each 2-foot or 4-foot soil interval was placed into a plastic zippered bag, sealed, and allowed to warm to ambient temperature for headspace screening. If low sample recovery occurred, the entire 4-foot interval was collected into a single sample. A calibrated photoionization detector (PID) was used to screen the samples for VOCs. The relative response of the PID is the main method of determining which samples were submitted to the laboratory for analysis. Because very few samples showed a response using the PID, additional considerations made for sample submittal were based on the following:

- Zone that appeared anomalous to the other samples collected within the soil probe, i.e., discoloration of soil, unusual odor, a change in soil type, etc., or

- Random soils representing various depths from surface to immediately above the saturated zone. Most samples were selected from the upper 10 feet which would represent the soils that might be affected during construction. This last criteria for selecting a sample was used due to the fact that very few samples screened for VOCs showed any positive impacts for this category of chemicals nor were there any additional abnormal characteristics of the sample that would suggest that they had been impacted negatively.

Per ODOT standards for collecting soil samples during a Phase II ESA, one soil sample per boring was collected and submitted to the laboratory for analysis.

5.4 Analytical Methods

One soil sample from each soil probe was submitted to the laboratory for analysis of all or a combination of the following chemicals of concern (COCs), which were determined by ODOT prior to the implementation of the Phase II ESA.

- VOCs; BTEX compounds; and MTBE by U.S. EPA Method 8260;
- SVOCs by U.S. EPA Method 8270;
- PAHs by U.S. EPA Method 8270; and
- TPH (GRO, DRO, and ORO) by U.S. EPA Method 8260/8270.

5.5 Quality Assurance and Quality Control (QA/QC)

QA/QC sampling is performed to provide information on the accuracy and precision of field sampling and the analytical data. The scope of work outlined by ODOT, and authorized on January 6, 2014, did not call for field duplicate samples or trip blank samples, therefore, no QA/QC samples were submitted for analysis. It should be noted, however, laboratories must adhere to stringent internal QA/QC procedures that ensure reliable data. The Pace laboratory reports for soil and groundwater analysis include the results of internal laboratory QA/QC to verify the precision and accuracy of the data

including the analysis of a laboratory blank, laboratory duplicate, and laboratory control sample (LCS)/LCS duplicate. Laboratory analytical reports are included in **Appendix D**.

For this project, the laboratory data for Sites 58 and 65 were certified that they met (with a couple of exceptions) the standards established for the Ohio VAP. The Affidavits of VAP Certified Laboratory results are included in **Appendix D**. For the rest of the sites, the laboratory analyzed the data per BUSTR requirements, as these sites historically were used as filling stations. Internal QA/QC procedures for these analyses were followed. Results for the QA/QC analyses are also included in **Appendix D**.

6.0 PHASE II ESA FINDINGS, DATA EVALUATION, AND REGULATORY INTERPRETATION

6.1 Geophysical Survey Results

Preliminary results of the geophysical survey were discussed in the field to aid in soil boring placement. The detailed geophysical survey reports, including maps, are contained in **Appendix B**. Each of the three sites where a survey was conducted is summarized below.

- **Site 29 – Former Filling Station, 817 West Mound Street:** No anomalous strong EM or GPR responses were observed within the limited sidewalk and grassy areas that could be scanned. Reinforced concrete made up the pavement on either side of the sidewalk and grassy areas. An interference effect from the reinforced pavement appears to have rendered both the EM and GPR instruments ineffective and consequently inconclusive within the roadway sections of the investigation. A region of deeper, more chaotic GPR reflections were observed along in the grassy area just west of the sidewalk. This response could be a fill area, former tank excavation, a backfilled basement of construction area since the original site has been reconstructed and is currently roadways or the small grassy area and sidewalk between the two roadways. Further invasive exploration may be desired in this area to observe actual soil or fill conditions. See **Figure 5** in **Appendix B** for the area of investigation and geophysical profiles.

- **Site 49 – Former Filling Station, 508 West 3rd Street:** This property is currently an ODOT facility, ARTIMIS, where a Service Building is located with a loading dock in the back. The geophysical survey was conducted behind the loading dock immediately north of a canopy area and south of the large outside generator. Anomalous strong EM responses were observed on the west side of the northwest corner of the building on site. The strength and lateral extent of the EM 'metal' response over this area is consistent with the anticipated response over metal tanks. Alternative explanations for the metal response in this area would be a more deeply buried reinforced concrete pavement sections, floor slab or loading dock ramp, large reinforced concrete vault, or concentration of buried metal debris.

No anomalous GPR responses were observed over the EM anomaly area. The local soils may not be favorable for a strong GPR signal but there were no indications of former excavation or fill zones. The GPR did indicate several shallow pipes and conduits. Invasive subsurface exploration at the EM anomaly location is advised to determine the source of the strong EM 'metal' response. **Figures 3** and **4** in **Appendix B**, show the area where the geophysical survey was conducted and the resulting profiles.

- **Site 53 – Former Filling Station, 605 West 3rd Street:** This property was a former gasoline station with a small operations building on site. To the west of the building, ODOT had piled soil and demolition debris (concrete, etc.) from smaller piles located over the site so the geophysical survey and soil sampling could be accomplished. Anomalous strong EM in-phase measurements were observed in the area of the new soil pile. The response is consistent with that which has been observed over USTs at similar sites throughout the United States. Historical maps contained in the Phase I ESA showed that USTs existed in the area west of the building where the demolition pile was located and the observed EM anomaly. Only the edges of the anomaly were observed where the demolition pile was located but the area of the EM anomaly also extended further west of the demolition pile. Grumman interpreted this response as possible USTs. Alternatives to this explanation would include buried metal debris or a more deeply buried reinforced concrete structure. No additional EM 'metal' responses were observed on the site.

  No GPR reflections consistent with USTs were observed over or in close proximity to the EM 'metal' anomaly described above. Many interferences are possible that would affect the GPR data. These include wet clay, silt, weathered shale, etc.). The survey was also restricted by the demolition debris pile. No additional regions of deeper, more chaotic GPR reflections that would suggest other former tank excavations were observed elsewhere within the investigation area. A large, wide east-west trending pipe trench with a deeply buried pipe was visible on the GPR records north of the building on site and between the building and West 3rd Street. The low GPR signal suggests that the trench is filled with sand and gravel. This pipeline was present on the ODOT maps provided for the project. The use of the GPR in this area also provided information for placement of the soil borings that were in close proximity to the trench.

Further invasive exploration at this location would be required to document the cause of the strong EM response and determine whether USTs still existed on the property. **Figures 1 and 2** in **Appendix B** show the results of the EM and GPR surveys on Site 53.

6.2 Field Screening

In general, soil samples were collected in 2-foot or 4-foot intervals for both laboratory and headspace analysis. Since few elevated PID readings were observed, only results that exceed background concentrations are tabulated. The soil boring logs contained in **Appendix C** show the screening concentrations of total VOCs in the right column. There was a background concentration of VOCs of around 0.6 part per million (ppm) or less at several locations. Results were not considered elevated unless the PID readings were above this background concentration. Although, at Site 51, SB-1, Site 58, SB-1, and Site 58, SB-5 the PID readings were a consistent 1.3 ppm. This value may also be considered background for those specific borings. However, the readings are included in the table below. The few elevated results observed from any of the sites assessed are shown below:

Site No.	Soil Boring ID	Sample Interval In Feet	PID Reading (ppm)
Site 51	51-SB-1	0-2	1.3
		2-4	1.3
		4-6	1.3
		6-8	1.3
		8-10	1.3
Site 49	49-SB-1	0-3	2.7
Site 53	53-SB-1	2-4	4.0
Site 58	58-SB-1	0-2	1.3
		2-4	1.3
		4-6	1.3
		6-8	1.3
		16-20	1.3
	58-SB-4	0-2	1.3
		2-4	1.3
		4-6	1.3
		6-8	1.3
		16-20	1.3

Site No.	Soil Boring ID	Sample Interval In Feet	PID Reading (ppm)
Site 58 (Cont.)	58-SB-5	0-2	1.3
		2-4	1.3
		4-6	1.3
		6-8	1.3
	58-SB-6	4-6	1.3
		6-8	1.3

6.3 Boring Log Descriptions

The following summarizes the soils collected from each site. Soil boring logs provide additional detail **Appendix B**.

- **Site 17 – Large Apartment Complex, 845 Ezzard Charles Drive:** This site is located on the southeastern corner of Ezzard Charles Drive and Winchel Avenue. It is a site of a former gasoline filling station. Two soil borings were advanced on the property to 10 feet bgs. **Figure 2** in **Appendix B** shows the location of the soil borings. There were 5.0 feet of fill in 17-SB-1 located along Wenchel Avenue, south of Ezzard Charles Drive. Below this, the soil type was a brown silt with clay, hard, dry to moist. Screening results for each 2-foot interval of soil indicated showed no VOCs.

- **Site 29 – City of Cincinnati Right-of-Way, 817 Mound Street Avenue:** This site is a former filling station and most of the site has become public roadway as a ramp to Interstate (I)-75 or as part of 8th Street. Two soil borings, as shown on **Figure 3**, **Appendix B**, were advanced in the small sliver of land between the ramp and 8th Street. There were 5 and 4 feet of fill material, respectively at 29-SB-1 and 29-SB-2. This material was made up of clay with sand and fine gravel, some discoloration of the soil and black cinders. Beneath the fill material to a depth of 10 feet, the soil at 29-SB-1 was brown and gray mottled clay with silt and very hard and moist. There were some very most and soft zones between 6 and 6.5 feet bgs. The soil at 29-SB-2 was very similar with very moist and soft zones from 6 to 8 feet bgs and at 9.5 feet. A background reading of 0.6 ppm was observed on all the samples during screening with a PID.

- **Site 49 – ARTIMIS (ODOT)/Former Gas Station, 508 West 3rd Street:** This site was a former filling station and is currently an ODOT facility. Two soil borings were advanced near the loading dock area as shown on **Figure 4, Appendix B**. Each of the soil borings was advanced to 8 feet as the probe could not drill beyond this depth. 49-SB-1 was advanced near a drainage grate adjacent to the area identified by Grumman as potentially being a UST. Soil boring, 49-SB-2 was advanced adjacent to the emergency generator between a couple of utility conduits. The top 3 feet in each boring was comprised of brown clay that was moist. This material was most likely fill material. The clay from 2.5 to 3.0 feet in 49-SB-1 was an olive color with a septic odor. At 3.0 feet bgs, limestone was encountered in both borings. Two feet of recovery was obtained in the 4- to 8-foot interval in 49-SB-1 and none at 49-SB-2. In an attempt to obtain more sample volume, the soil boring at 49-SB-2 was offset twice but in each case limestone was encountered and the drill was unable to advance beyond 8 feet. The material removed from the sampler in 49-SB-1 from 4 to 8 feet was sand and gravel with broken limestone and was dry and loose. The PID readings were non-detect except for the 0- to 3-foot interval in 49-SB-1 which was 2.7 ppm.

- **Site 51 – City of Cincinnati-Vacant Site, 4th Street and Central Avenue:** Two soil borings were advanced in the sidewalk along Central Avenue in an area that used to be the southwestern corner of Central Avenue and 4th Street. Fourth Street no longer exists in this area west of Central Avenue. The location of the soil borings are shown on **Figure 5, Appendix B**. It appears that both of these soil borings contain fill material from the surface to the total depth of 10 feet. Brick was observed at 7.2 feet bgs in 51-SB-1 and at 9 feet bgs in 51- SB-2. The fill material was comprised of sand and gravel, clay, from brown to a brown and olive mottling, and miscellaneous material such as the brick described above. PID readings of 1.3 ppm were recorded at each screened interval in 51-SB-1 and a background concentration of 0.6 ppm was observed in 51-SB-2 at each interval screened.

- **Site 53 – Speedway SuperAmerica, 605 and 609 West 3rd Street:** This site was a former filling station. Four soil borings (shown on **Figure 6, Appendix B**) were drilled on this site near where the USTs and gasoline dispenser appeared on historical maps. All four soil borings were drilled to a depth of 20 feet. Fill material existed to a depth of 2.5 feet (53-SB-1) to up to 6.0 feet (53-SB-4). The fill material consisted of sand and gravel, crushed brick, and black cinders. The material was

generally dry and very loose. Beneath the fill material, the site soils were predominately silt to a minimum depth of 11 feet. A trace of sand was also present in these upper native soils. The soils became sandy at each location (11 feet at 53-SB-2, 12 feet at 53-SB-4, 14 feet at 53-SB-3, and 15 feet at 53-SB-1) from beneath the silt zones to the bottom of the soil boring. There were traces of silt and clay as well as some thin lenses of silt within the sand sequence. The soils were generally moist with several very moist zones. None of the VOC screening results were above zero.

- **Site 58 – City of Cincinnati Parking Lot, Block with West 3rd Street/Pete Rose Way/Central Avenue/Former Smith Street:** This site was a large parking lot that stretched over an entire block. The six soil borings advanced to 20 feet on this site are shown on **Figure 7, Appendix B**. The amount of fill material varied quite a bit across this site. The parking lot slopes from north to south with a small portion of the parking lot, in the northwest corner being elevated by approximately 15 feet above the rest of the parking lot. The elevation of this portion of the parking lot is the same as West 3rd Street which bounds the site to the north. Soil boring 58-SB-3 was advance on this upper level. The thickness of the fill in 58-WB-2 was 2 feet, 4 feet in 58-SB-1, 2, and 6, 13 feet at 58-SB-3 and 16 feet at 58-SB-4. Much of the fill material was sand and gravel with clay. Some of the material was clay with varying amounts of sand and gravel. The upper portions were generally dry and loose. Below the fill material clay was the predominant soil type. The brown clay at SB-1 was slightly reddish in color with a trace of silt, and was soft. At SB-2, the clay was predominantly reddish brown from 8 to 12 feet bgs, and then changed to gray with a trace of brown mottling from 12 to 14 feet where it turned back to a more brown color to the total depth. The clay varied from soft to firm and from 16 to 20 feet bgs, the clay was very plastic.

  At 58-SB-3, below the fill material at 16 feet, the soil was brown, slightly reddish colored fine sand with some clay. It was loose and dry to slightly moist to 20 feet. At 58-SB-4, the fill material contained some brick and black staining. At 15.8 feet bgs there was a black organic material that had a peat like texture but was not positively identified. The lower portion of SB-4 was a brown sand with gravel, trace of clay, firm, very moist, and contained limestone fragments. Soil at SB-5 from 8 to 20 feet was a reddish brown clay with a trace of silt, soft, 16 to 20 feet bgs, and was moist throughout. At 58-SB-6, there was black staining from 7.6 feet to 8.0 feet bgs. A black silty sand zone was present from 10 feet to 10. 5 feet bgs and 2 inches of

broken red brick was observed at 11.0 feet. Between 11 feet and 15 feet the soft clay soil was discolored black and had a slight septic odor. The discoloration did not appear to be related to a hydrocarbon and the PID was non-detect for this interval. From 15 to 16 feet at SB-6, the soil was a brown silt with clay which became a brown clay with a trace of silt from 16 to 20 feet. This material was soft and moist.

- **Site 65 – Valley Asphalt, 612 Mehring Way:** Six soil borings were advance at this site. One (65-SB-3) of them could not be advanced beyond 5 feet even after offsetting and trying again several times. No sample was collected from this location as any retrievable material was just gravel fill. The location of four of the soil borings was under the I-75 Brent Spence Bridge which was several tens of feet above the ground surface. **Figure 8, Appendix A** shows the location of all the soil borings on this site. In addition to 65-SB-3 being advanced to only 5 feet before refusal, 65-SB-1 hit refusal at 14 feet, was offset and hit refusal at 14 feet again. All of the other soil borings were advance to 20 feet.

  The area of SB-1, 2, 3, and 4 contained sand and gravel fill of thicknesses ranging from 4 feet to 13 feet. Most of the fill also had various percentages of black cinders/soot, coal fragments, black discolored clay and silt. There were several wet lenses. The predominant soil type below the fill material was clay. The clay was typically gray in color and had silty zones but not in every soil boring. The clay varied from soft to hard and mostly moist. Two of the soil borings, 65-SB-4 and SB-5 were advanced at the active Valley Asphalt portion of the site. These borings were advance through the asphalt paved western portion of the property. There was 11 feet of fill at SB-4 and up to 12 feet at SB-5. The fill material contained very black sand with gravel, loose and dry to around 4 feet. There were very black wet zones between 4 to 5 feet, 7 to 8 feet, and 10 to 11 feet at SB-4 and similar wet zones in SB-5. Below the fill material, the soil was a gray clay with various amounts of silt and sand. The material ranges from soft to hard and in some sections very plastic. The soil water content was moist.

6.4 Soil and Groundwater Analytical Test Results

Tables 1 through **7** (tables are located in **Appendix E**) presents soil analytical results compared with applicable standards under Bureau of Underground Storage Tank Regulations (BUSTR) and Voluntary Action Program (VAP) for the seven sites

investigated. The tables list all the chemicals with positive values and some of the tables show that there were no positive values for all the chemicals analyses for every sample. This scenario with no positive values was true for Sites 17, 49, 51, and 53. Only one parameter had a positive value in one sample at Site 29, which was at a low value compared to the applicable standard. Positive laboratory results were observed at Site 65 but all were below the applicable standards. In addition, none of the soil results for these six sites had concentrations that exceeded the residential use standard under VAP which ODOT uses to determine whether excavated soils are considered a waste. At site 58, the large parking lot north of Pete Rose Way and south of West 3rd Street, four of the samples contained at least one positive value and one sample exceeded the commercial VAP standard for benzo(a)pyrene. This same sample (58-SB-4, 2 to 4 feet) also had parameters that exceeded VAP residential standards and some BUSTR standards.

The complete laboratory reports are located in **Appendix D.** Soil analytical results were compared to the Ohio VAP generic direct contact standards for commercial/industrial land use and residential worker scenarios. In the case of whether soils were potentially impacted at BUSTR sites, the results were compared to the BUSTR Reuse Action Levels to determine if the site requires a plan note for petroleum contaminated soil (PCS). To determine if an excavated material may be a waste, Oho EPA's VAP residential land use levels were used. The latter assessment was used to determine whether the soil sampled might be considered a waste material but actual waste characterization for disposal would have to be determined during the construction portion of the project.

General results for the whole project, when compared to commercial VAP direct contact standards, show that only one site, Site 58, has any parameter where the concentration exceeds the commercial standard. However, the more stringent assessment required by ODOT is whether the soils/material, if excavated, become a waste. Since only one sample was collected from each soil boring and the final plans for roadwork are not available, it is not possible to determine whether excavated soil would need to be handled as a waste or whether it could be used for any purpose. In some cases, the samples collected and analyzed were relatively shallow samples, in other cases, they might have been from depths approaching 10 feet or greater. ODOT will need to evaluate whether soils excavated during the project construction phase will need to be handled as waste or whether the soils can be treated as clean soil. Based on the work to date, there was only one sample at one location that would require the excavated soil to be disposed as a solid waste.

No groundwater samples were collected for this task order as no saturated zones were encountered at the Sites were wells were to have been constructed if groundwater was encountered.

The following summarizes the soil analytical results:

- **Site 17 – Large Apartment Complex, 845 Ezzard Charles Drive:** This site is located on the southeastern corner of Ezzard Charles Drive and Winchel Avenue. It is a site of a former gasoline filling station. Two soil samples were collected and analyzed. No parameter exceeded the laboratory reporting limit and all reporting limits were less than the BUSTR standard for each parameter. **Table 1** provides a summary of the parameters analyzed.

- **Site 29 – City of Cincinnati Right-of-Way, 817 Mound Street Avenue:** This site is a former filling station and most of the site has become public roadway as a ramp to I-75 or part of 8th Street. Two soil two samples collected and analyzed at this site were compared to BUSTR standards. One parameter, TPH, diesel range, exceeded the laboratory reporting limit at 43.2 milligrams per kilogram (mg/kg) but was below the BUSTR standard of 2,000 mg/kg. No other parameter exceeded the laboratory reporting limit or the BUSTR standard. Results are summarized in **Table 2.**

- **Site 49 – ARTIMIS (ODOT)/Former Gas Station, 508 West 3rd Street:** This site was a former filling station and is currently an ODOT facility. Two soil samples were collected and analyzed. All parameters analyzed for BUSTR standards were below the laboratory reporting limit as well as the BUSTR standard. **Table 3** summarizes the results.

- **Site 51 – City of Cincinnati-Vacant Site, 4th Street and Central Avenue:** Two soil borings were advanced in the sidewalk along Central Avenue in an area that used to be the southwestern corner of Central Avenue and 4th Street. The two soil samples analyzed at this site had no parameters above the laboratory reporting limits and all were below BUSTR standards. Results are summarized in **Table 4.**

- **Site 53 – Speedway SuperAmerica, 605 and 609 West 3rd Street:** This site was a former filling station. Four soil samples were collected for analyzed. An expanded list of parameters was requested for this site to address hydrocarbons outside of standard fuel, such as used oil and volatile organics that are typically associated with cleaning products such as trichloroethene and perchloroethene. Because of this, the laboratory results were compared to both BUSTR standards as well as VAP standards. All results from all four samples were below the laboratory reporting limits as well as the BUSTR and VAP standards. **Table 5** shows the suite of parameters analyzed for each of the samples and the laboratory reports for specific chemical results are located in **Appendix D**.

- **Site 58 – City of Cincinnati Parking Lot, Block with W. 3rd Street/Pete Rose Way/Central Avenue/Former Smith Street:** This site was a large parking lot south of West 3rd Street and north of Pete Rose Way Drive. There were six soil boring advanced and six soil samples collected for analysis. Historically, the property was used for warehousing; numerous railroad lines terminated on the property; and the Phase I ESA reported more than one UST was located on the property. The suite of chemicals for analyses included those chemicals associated with petroleum products for fuels, lubricating fluids and used oils as well as those associated with solvents. Results for the laboratory analysis were compared to the VAP standards. Samples collected from soil borings 58-SB-1 and 53-SB-2 had no positive results and all reporting limits were below the VAP standards. The samples from 58-SB-2 and 58-SB-3 at depths of 2 to 4 feet and 6 to 8 feet, respectively, had slight concentrations of TPH for the range C20-C34. No other parameters were reported above the reporting limit. The sample collected from 2 to 4 feet bgs at 58-SB-4, contained TPH as well as a total of 16 parameters under the SVOC suite of chemicals. Most of these are considered part of the PAH chemicals. One of these parameters, benzo(a)pyrene, exceeded the industrial standard under VAP. The concentration was 9.51 mg/kg and the standard is 7.70 mg/kg. One chemical, 1,2,4-trimethylbenzene, is listed in VAP as a SVOC but was analyzed as a VOC in the laboratory. This chemical had a positive results but below the VAP standard. Several of the parameters from the sample collected at 58-SB-4 also contained concentrations that exceeded the residential standards of VAP. The residential standards are used by ODOT to determine whether an excavated material should be treated as a solid waste or not. This was the only sample on Site 58 that had concentrations over the VAP residential standards.

- **Site 65 – Valley Asphalt, 612 Mehring Way:** Five soil samples were analyzed at this site. The soil samples were analyzed for the suite of chemicals associated with industrial sites including asphalt manufacturing. None of the samples analyzed had parameters above the VAP standards. Soil borings 65-SB-1, 2, and 5 had no positive values above the reporting limits. Samples collected at 4 to 6 feet bgs at 65-SB-4 and at 8 to 10 feet bgs at 65-SB-6, had positive values for all three ranges of TPH and several SVOCs. Some of the positive results were consistent with heavy ended oils but the sample at SB-6 also contained 3 & 4 methylphenol (m&p cresol) as well as a minor hit of acetone. These parameters are consistent with the manufacturing of asphalt. Additionally, none of the positive values reported by the laboratory exceeded the VAP residential standards, which is used to determine whether a material, if excavated, would need to be disposed of as a solid waste.

6.5 Quality Assurance/Quality Control (QA/QC) Evaluation

QA/QC sampling is performed to provide information on the accuracy and precision of field sampling and the analytical data. The scope of work outlined by the ODOT letter dated April 9, 2010 did not call for field duplicate samples or trip blank samples, therefore, no QA/QC samples were submitted for analysis. It should be noted, however, laboratories must adhere to stringent internal QA/QC procedures that ensure reliable data. In fact, for this project, the TestAmerica laboratory reports for soil and groundwater analysis included VAP certification of the results to verify the precision and accuracy of the data including the analysis of a laboratory blank, laboratory duplicate, and LCS duplicate. Laboratory analytical reports are included in **Appendix D**.

7.0 CONCLUSIONS AND RECOMMENDATIONS

There were seven Phase II ESAs conducted for this task order. Three of the sites required a geophysical survey. They included Sites 29, 49, and 53. All of these sites were formerly gasoline filling stations with potential USTs still remaining on site. Grumman performed an EM survey as well as a GPR survey to observe whether the survey's detected anomalies that could represent tanks or other similar structures still in the ground. There were anomalies associated with Sites 49 and 53 which may or may not have been representative of a UST. The results at Site 29 were also inclusive, due to reinforced concrete in the roadways on either side of the survey areas. Grumman's report, contained in **Appendix B**, shows the location of the anomalies. Grumman recommended that invasive exploration of these areas is warranted to determine whether these anomalies are actual tanks or other structures such as reinforced concrete prior to commencing construction activities.

Only one sample at Site 58 exceeded any standard used for evaluation. The sample, 2 to 4 feet at 58-SB-4, exceeded the commercial VAP single direct contact standard for benzo(a)pyrene. It also contained several parameters that exceed the standard for the BUSTR reused standard and the residential standards for VAP. The residential standard for VAP is used to determine whether the material, if excavated, would be considered as solid waste. No other sample at any of the sites, had values that exceeded the VAP commercial or residential standard or the BUSTR standards.

Since only one sample from each soil boring was analyzed, a complete vertical profile is not available to determine whether any excavated soils might be considered waste in lieu of material that could be reused as soil, assuming the technical requirements are met. ODOT should be aware that additional waste profiling may be required for some sites.

8.0 REFERENCES

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Alfred Walker. 1986. *Ground-Water Resources of Hamilton County*, Ohio Department of Natural Resources, Division of Water.

Ground-Water Pollution Potential of Hamilton County, Ohio, Report No. 7, Ohio Department of Natural Resources, Division of Water. 1989.

Phase I Environmental Site Assessment ODOT PID No. 75119, HAM-71/75-0.00/0.22, KYTC Project Item No. 6-17. Parsons Brinckerhoff, in Association with Third Rock Consultants. March 2010.

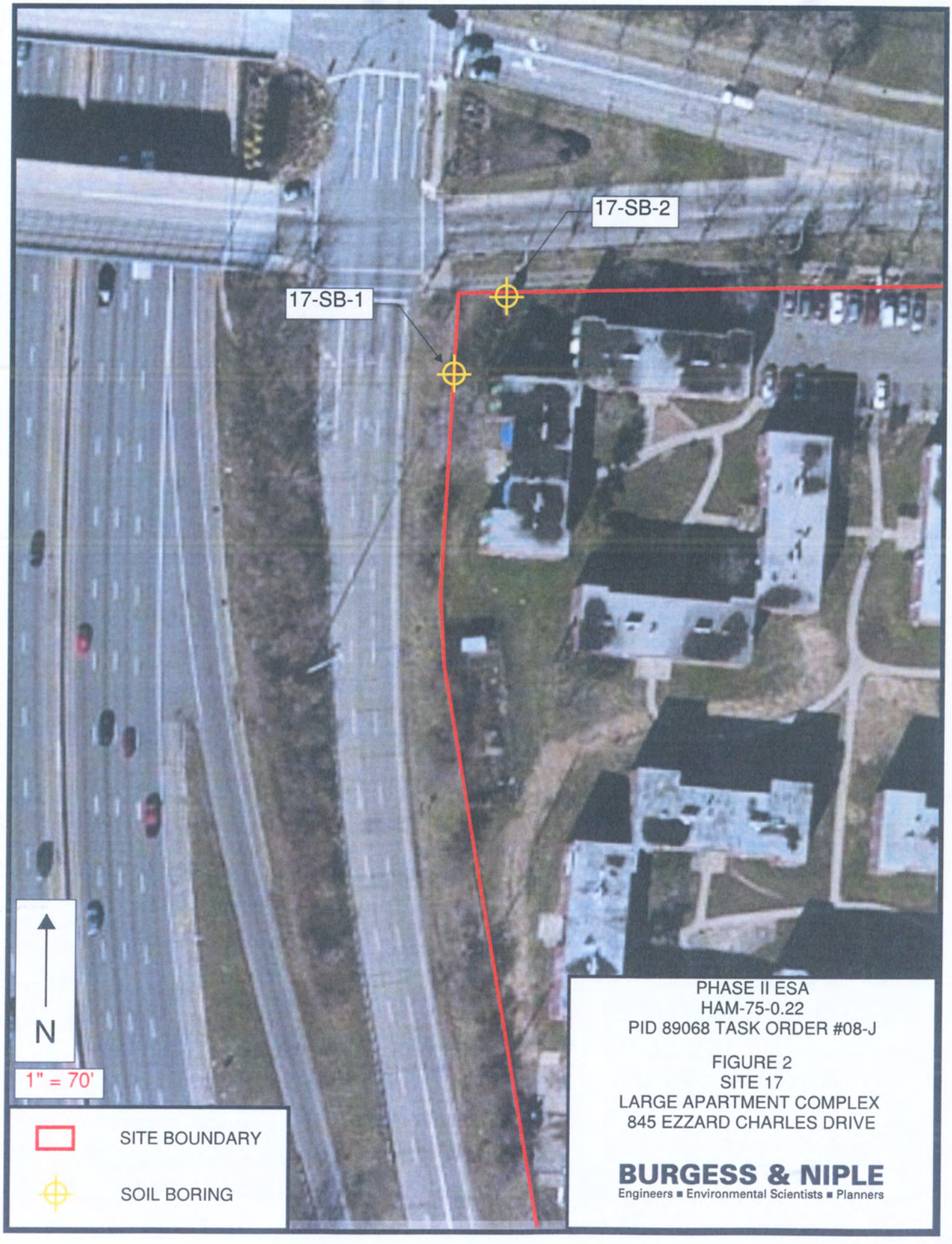
APPENDIX A

FIGURES

PHASE II ESA
HAM-75-0.22
PID 89068 TASK ORDER #08-J

FIGURE 1
SITE LOCATION MAP

BURGESS & NIPLE
Engineers ■ Environmental Scientists ■ Planners



PHASE II ESA
HAM-75-0.22
PID 89068 TASK ORDER #08-J

FIGURE 2
SITE 17
LARGE APARTMENT COMPLEX
845 EZZARD CHARLES DRIVE

BURGESS & NIPLE
Engineers ■ Environmental Scientists ■ Planners

PHASE II ESA
HAM-75-0.22
PID 89068 TASK ORDER #08-J

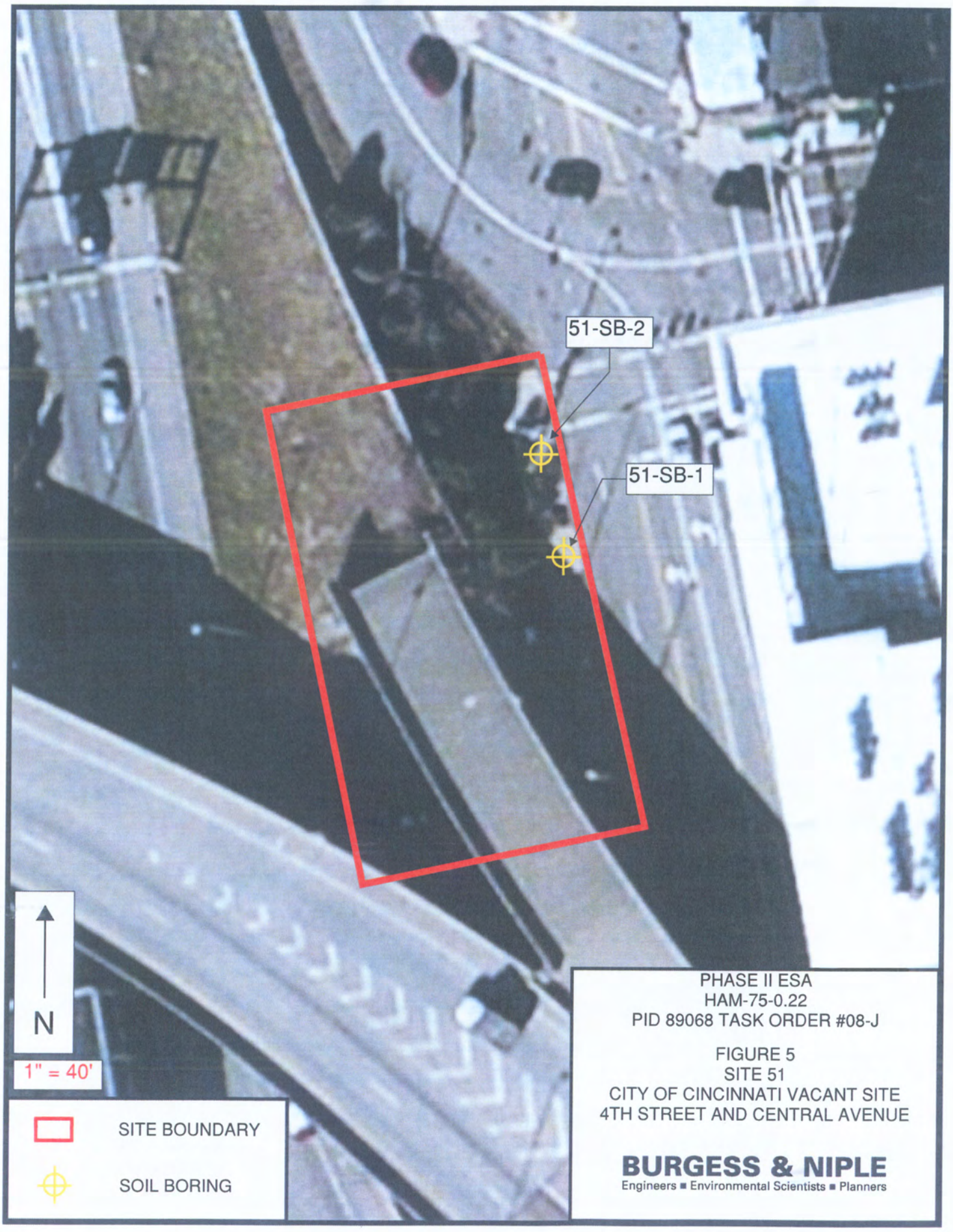
FIGURE 3
SITE 29
CITY OF CINCINNATI RIGHT-OF-WAY
817 MOUND STREET

BURGESS & NIPLE
Engineers ■ Environmental Scientists ■ Planners

PHASE II ESA
HAM-75-0.22
PID 89068 TASK ORDER #08-J

FIGURE 4
SITE 49
ARTIMIS (ODOT)/FORMER GAS STATION
508 W. 3RD STREET

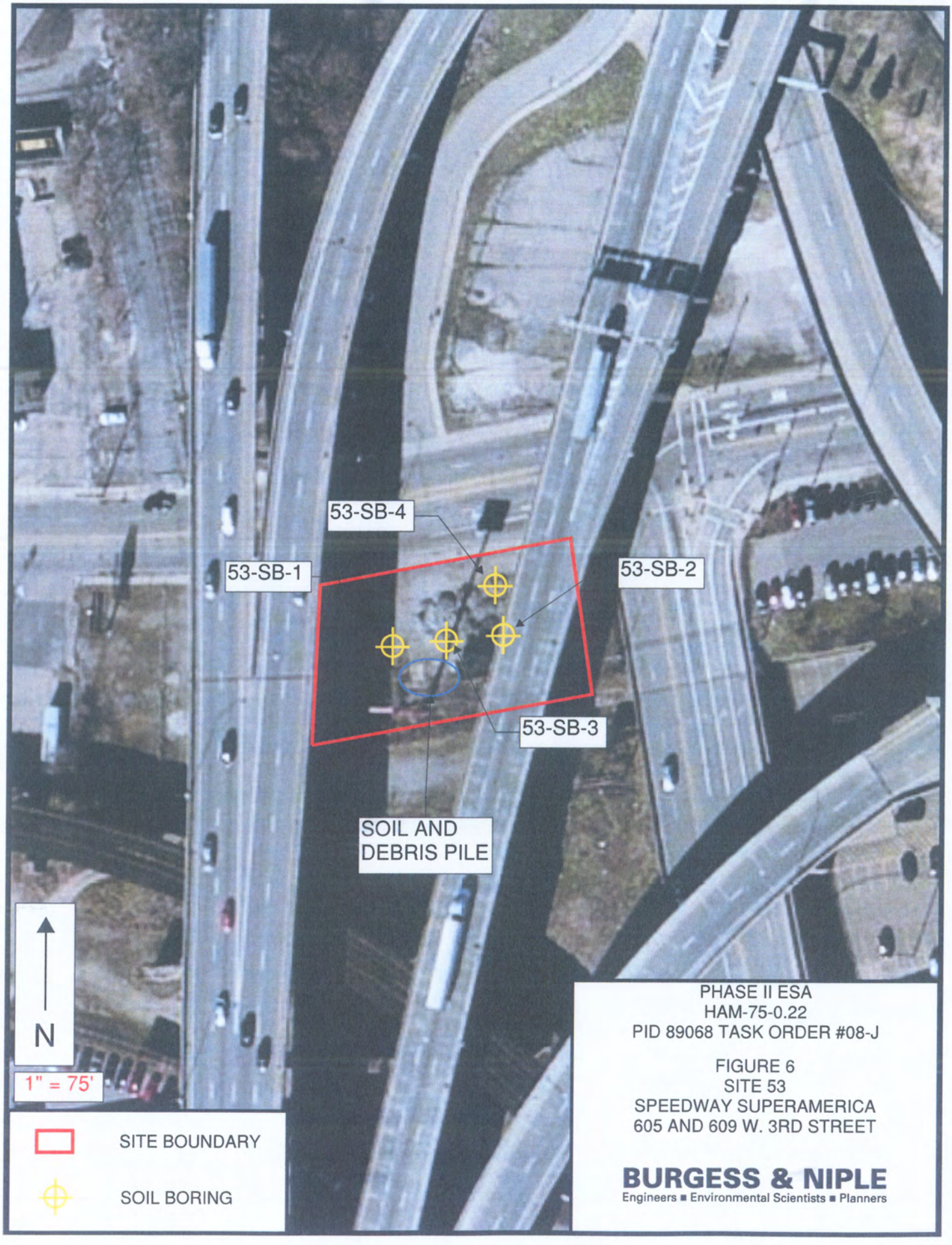
BURGESS & NIPLE
Engineers ■ Environmental Scientists ■ Planners



PHASE II ESA
HAM-75-0.22
PID 89068 TASK ORDER #08-J

FIGURE 5
SITE 51
CITY OF CINCINNATI VACANT SITE
4TH STREET AND CENTRAL AVENUE

BURGESS & NIPLE
Engineers ■ Environmental Scientists ■ Planners



PHASE II ESA
HAM-75-0.22
PID 89068 TASK ORDER #08-J

FIGURE 6
SITE 53
SPEEDWAY SUPERAMERICA
605 AND 609 W. 3RD STREET

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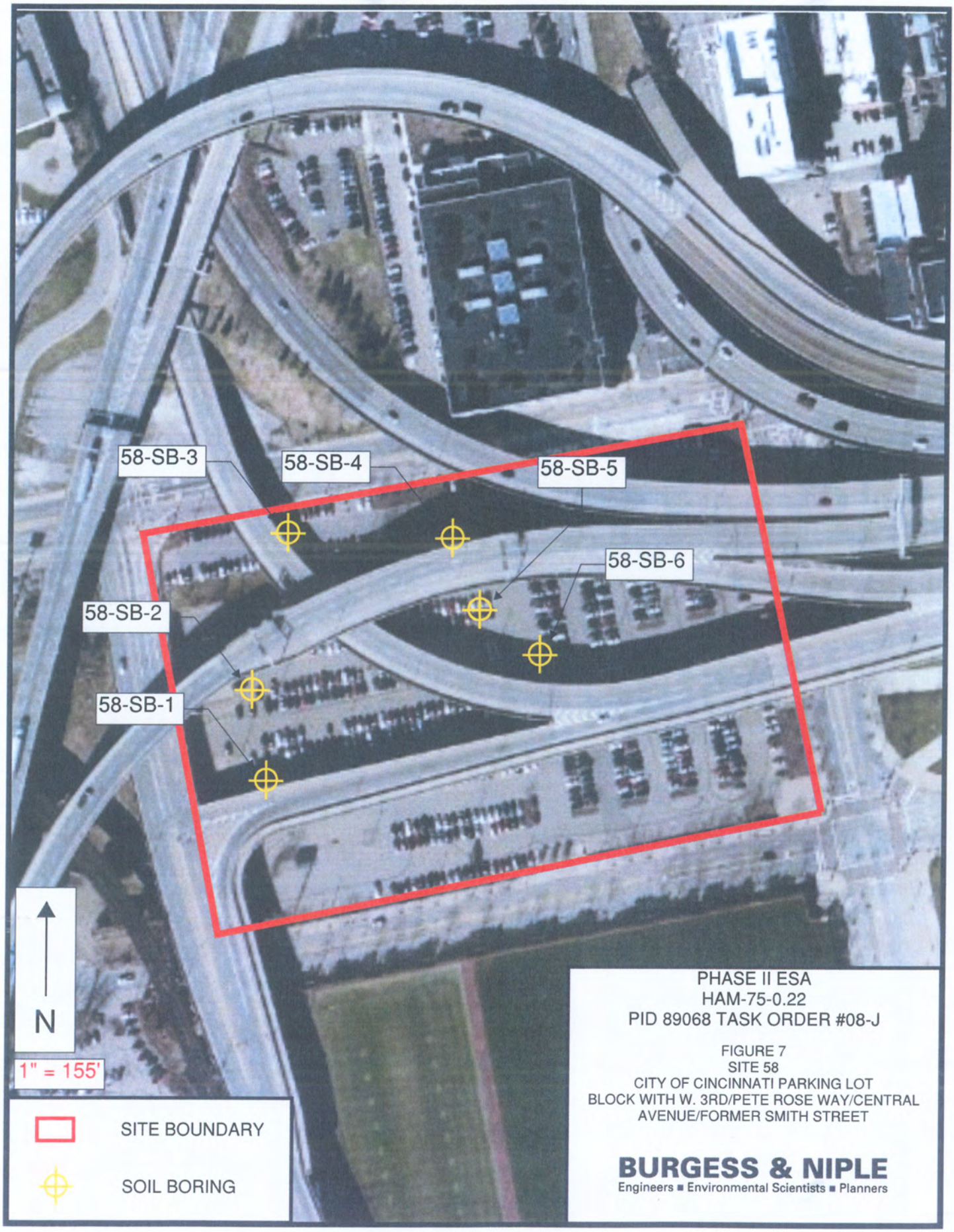
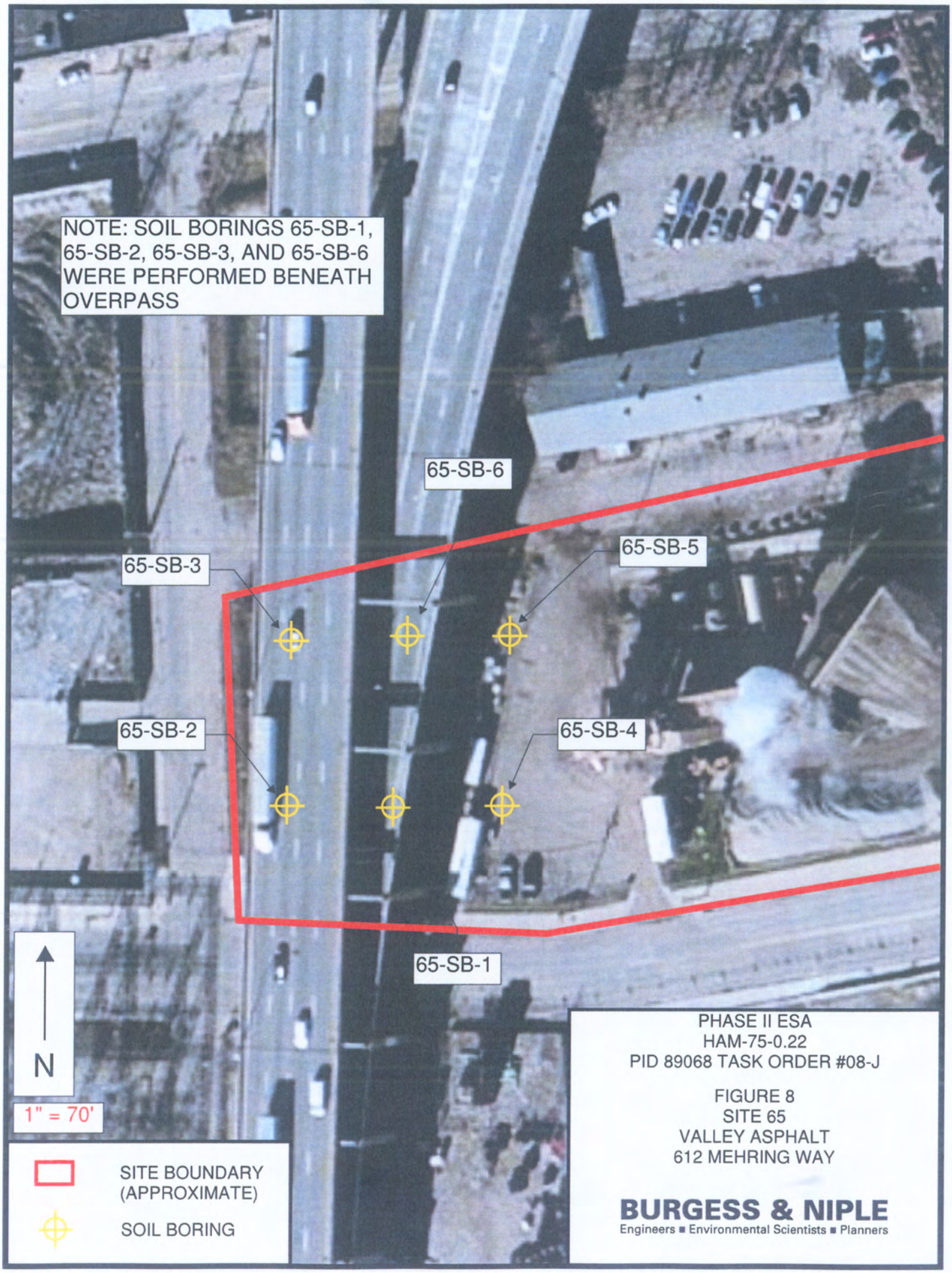


PHASE II ESA
HAM-75-0.22
PID 89068 TASK ORDER #08-J

FIGURE 7
SITE 58
CITY OF CINCINNATI PARKING LOT
BLOCK WITH W. 3RD/PETE ROSE WAY/CENTRAL AVENUE/FORMER SMITH STREET

BURGESS & NIPLE
Engineers ■ Environmental Scientists ■ Planners


NOTE: SOIL BORINGS 65-SB-1, 65-SB-2, 65-SB-3, AND 65-SB-6 WERE PERFORMED BENEATH OVERPASS
65-SB-6
65-SB-5
65-SB-3
65-SB-2
65-SB-4
65-SB-1
N
1" = 70'
SITE BOUNDARY (APPROXIMATE)
SOIL BORING
PHASE II ESA
HAM-75-0.22
PID 89068 TASK ORDER #08-J
FIGURE 8
SITE 65
VALLEY ASPHALT
612 MEHRING WAY
BURGESS & NIPLE
Engineers ■ Environmental Scientists ■ Planners

APPENDIX B

GEOPHYSICAL SURVEY REPORT

Grumman Exploration, Inc.
2309 Dorset Road
Columbus, Ohio 43221
(614) 488-7860 tel; (614) 488-8945 fax

Non-destructive Subsurface Exploration
Near-surface Geophysics

April 10, 2014

Scott Dailey
Burgess & Niple Ltd.
5085 Reed Road
Columbus, Ohio 43220

RE: Report of Geophysical Surveys at Properties for the I-71/I-75 Interchange Improvement/ Redevelopment Project in Cincinnati, Hamilton County, Ohio; GEI Project No. 01-34008; ODOT Project ID: HAM 71/75 0.00/0.22 (PID 75119)

Dear Scott:

This letter-report briefly summarizes the results and interpretations regarding the geophysical surveys using electromagnetic (EM) induction profiling and Ground-penetrating radar (GPR) surveys at these sites. Indications of possible tanks were observed at two of the former gas station properties (#'s 53 and 49). At the third site (#29), no anomalous EM or GPR responses that would suggest undocumented underground storage tanks (USTs) were noted within the investigation area.

Project Overview

Grumman Exploration, Inc. conducted geophysical surveys on March 13, 2014 at the following three properties which are part of a planned I-71/I-75 Interchange Improvement/Redevelopment project in Cincinnati, Ohio:

- Site # 53: Former Gas/Service Station, 605 W. 3rd Street;
- Site # 49: Former Gas/Service Station, 508 W. 3rd Street; and
- Site # 29: Former Gas/Service Station, 817 W. Mound Street.

The target properties are part of the planned Interstates 71 and 75 (I-71 & I-75) interchange improvement project being conducted by the Ohio Department of Transportation (ODOT). According to information available to Burgess & Niple Ltd., three of the investigation properties were occupied by gas-service stations and consequently underground storage tanks may have been used at each site. Little or no documentation exists regarding the actual number of USTs, their locations, continued presence, closure and/or removal.

Geophysical surveys using EM and/or GPR were requested to non-destructively assess subsurface conditions within designated areas at these three properties. Ground surface conditions varied among the investigation areas. Conditions included gravel, asphalt and reinforced concrete pavement and grassy areas. The 605 W. 3rd Street site (#53) was complicated by the presence of a large demolition debris fill pile. A large commercial building was located over the hypothesized position of the former gas station at the 508 W. 3rd Street site (#49). Finally, access at the 817 Mound Street site (#29) was hampered by a busy highway on-ramp and side street located on either side of the narrow investigation area. Known EM interference sources and complications at these sites included: reinforced pavement and vehicle traffic (#29); nearby building, canopy, back-up generator and loading dock (#49); and a large demolition debris pile, building, highway overpass supports and fencing (#53).

Field Procedures

Field survey grids were not established over the three investigation areas due to the limited, irregularly shaped working areas and other complications noted above. Reconnaissance-level EM scans were performed over all three investigation areas and the positions of GPR transects were referenced to fixed objects and structures at each site. Figures 1, 3 and 5 illustrate the interpreted geophysical survey results superimposed on generalized site diagrams for the investigation areas. The informal electromagnetic (EM) induction surveys were performed first followed by targeted GPR scans over EM anomalies or other locations of historical interest. The following table summarizes the survey areas and report figures.

Site ID	Investigation Targets	Location	Report Figure(s)
Site # 53:	USTs, Former Gas/Service Station	605 W. 3rd Street	1, 2
Site # 49:	USTs, Former Gas/Service Station	508 W. 3rd Street	3, 4
Site # 29:	USTs, Former Gas/Service Station	817 W. Mound Street	5

The GPR system used was a GSSI SIR-3000 in conjunction with a 400 MHz dipole antenna. The first field task involved equipment setup and the completion of several test scans to observe the GPR response and to adjust the system and survey parameters. The GPR survey was conducted using a series of regularly spaced transects based on the historical information provided and the initial EM survey findings. A survey wheel was used to acquire distance-based data at the density of approximately 10.0 GPR traces per foot (~1 trace every inch). The time window used was 80 nanoseconds (ns) and band-pass filters were applied to reduce extraneous interference. Preliminary interpretations regarding the presence of excavations,

pipes and anomalous buried structures and objects were made as the GPR data were acquired. The data were recorded electronically on an internal hard disk in the field and later transferred to a desktop PC computer and a computer workstation for subsequent processing, display and analysis.

Although some of the significant GPR features were apparent on the raw GPR field records, supplemental data processing was performed to enhance the interpretation and presentation of these features. The data processing consisted of bandpass filtering and spatial filtering (f-k) to suppress horizontal banding (antenna coupling) within the GPR records.

The EM survey instrumentation consisted of a Geophysical Survey Systems, Inc. (GSSI) GEM-300 multi-frequency electromagnetic (EM) induction profiling system. Vertical dipole quadrature-phase (proportional to conductivity) and in-phase ('metal' sensitive) measurements were observed using a single coil alignment at three frequencies (15,030 Hz and 9,810 Hz [same as used by the Geonics, Ltd. EM-31] and 4,410 Hz). Reconnaissance-level EM scans were performed at the three investigation properties to help assess the presence and extent of anomalous metallic structures.

Results and Interpretations

The preceding table summarizes the investigation areas and their associated report figures. The following paragraphs summarize the results of the geophysical surveys at the three investigation locations:

Site 53: Former Gas Station, 605 W. 3rd Street (Figures 1 and 2)

Anomalous strong EM in-phase measurements were west of the former station building. The strength and lateral extent of the strong EM 'metal' anomaly is consistent with the type of response that has been observed over USTs at similar sites throughout the United States. Historical maps available to Burgess & Niple, Ltd. show several tanks located directly west of the station building in the same position as the observed EM anomaly. A large demolition debris pile is located directly over most of extent the EM anomaly, and only the edges of the EM 'metal' anomaly could be detected. The west end of the EM 'metal anomaly appears to extend several feet beyond the fence to the west of the large debris pile. The interpreted metal structures in this area could represent multiple USTs (2 to 3) that may have been used by the former service station. Alternative explanations for the anomalous EM 'metal' response include a concentration of buried metal debris or a more deeply buried reinforced concrete structure (e.g. basement or subgrade vault, septic tank, etc.). Further invasive exploration at this location would be required to document the cause of this strong EM response. No additional anomalous strong EM 'metal' responses were noted elsewhere on site in areas away from known interference sources or obstructions.

No GPR reflections suggestive of UST(s) were noted over or in close proximity to the EM 'metal' anomaly noted above (Figures 2a and 2b). It is not uncommon for GPR to be inconclusive when various electrically conductive materials (e.g. wet clay, silt, weathered shale, etc.) are present in sufficient thickness over more deeply buried metal targets of interest including USTs. Additionally, few of the GPR scans were able to pass directly over the EM anomaly location because of the location of the debris pile. The presence of clayey soil/fill over the possible tank location decreases the likelihood that the GPR signal could detect a metallic target at this location. No additional regions of deeper, more chaotic GPR reflections that would suggest other former tank excavations was observed elsewhere within the investigation area. A large, wide pipe trench with a deeply buried pipe were visible on the GPR records in the north-central sector of the property. The east-west aligned trench appears to represent a large utility trench that crosses the entire site. The low GPR signal attenuation effects within the pipe trench suggest that the trench is backfilled with compacted sand and gravel.

Site 49: Former Gas Station, 508 W. 3rd Street (Figures 3 and 4)
Anomalous strong EM responses were observed in the region directly west of the loading dock and north of the canopy on the west side of the northwest corner of the building on site. The anomaly area is located west of the hypothesized position of the former gas station. The strength and lateral extent of the EM 'metal' response over this area is consistent with the anticipated response over metal tanks and is similar to the response observed over tanks at similar sites throughout Ohio. Alternative explanations for the anomalous EM 'metal' response at this location include a more deeply buried reinforced concrete pavement section, floor slab or loading dock ramp, large reinforced concrete vault, or a concentration of buried metal debris. Invasive subsurface exploration at the EM anomaly location may be desired to determine the source of the strong EM 'metal' response.

No anomalous GPR responses were observed over the EM anomaly area, although the shallow soil conditions appear to be unfavorable for significant GPR signal penetration at this site. No indication of former excavation or fill zones was observed within the investigation area. Indications of several shallow pipes and conduits were observed on the GPR records.

Site 29: Former Gas Station, 817 Mound Street (Figure 5)
No anomalous strong EM or GPR responses that would suggest the presence of 'metal' tanks were observed within the limited sidewalk and grassy areas that could be scanned. The pavement areas adjacent to the corner parcel both appear to be underlain by heavily reinforced concrete. Interference effects from the reinforced pavement appears to have rendered both the EM and GPR instruments ineffective and consequently inconclusive within the roadway sections of the investigation area. A region of deeper, more chaotic GPR reflections was observed in the grassy area, just west of the sidewalk. The chaotic GPR

reflections over this zone could indicate a former tank excavation, backfilled basement, construction related disturbance or general region of debris fill. No strong EM 'metal' responses were noted over this interpreted fill area. Further invasive exploration may be desired in this area to observe actual soil or fill conditions.

The overall GPR response showed moderate to strong signal attenuation effects at all three of the investigation properties. The strong GPR signal attenuation effects were probably caused by the presence of clayey silt and/or weathered shale in the shallow subsurface which is typical for region of Hamilton County, Ohio. The GPR signal penetration was probably on the order of 3-ft to 4-ft, and may have been less in areas with greater amounts of silt, clay, weathered shale or other complicating near surface conditions. GPR signal penetration was probably significantly deeper, possibly on the order of 6-ft to 8-ft, over the large pipe trench at Site #53. The depth of exploration for the GEM-300 instrumentation is on the order of 15-ft to 20-ft.

General Qualifications

The use of geophysical exploration methods, such as those described herein, should not be considered a substitute for invasive subsurface exploration such as drilling, digging or excavation. The GPR and EM data are interpreted. No warranty or statement of fact regarding actual subsurface conditions is contained herein. If questions or uncertainties exist regarding the interpreted presence or absence of subsurface conditions based on the geophysical data obtained from this site, it is recommended that supplemental subsurface explorations, such as drilling or test-pit explorations, be conducted if possible to further characterize and document actual subsurface conditions.

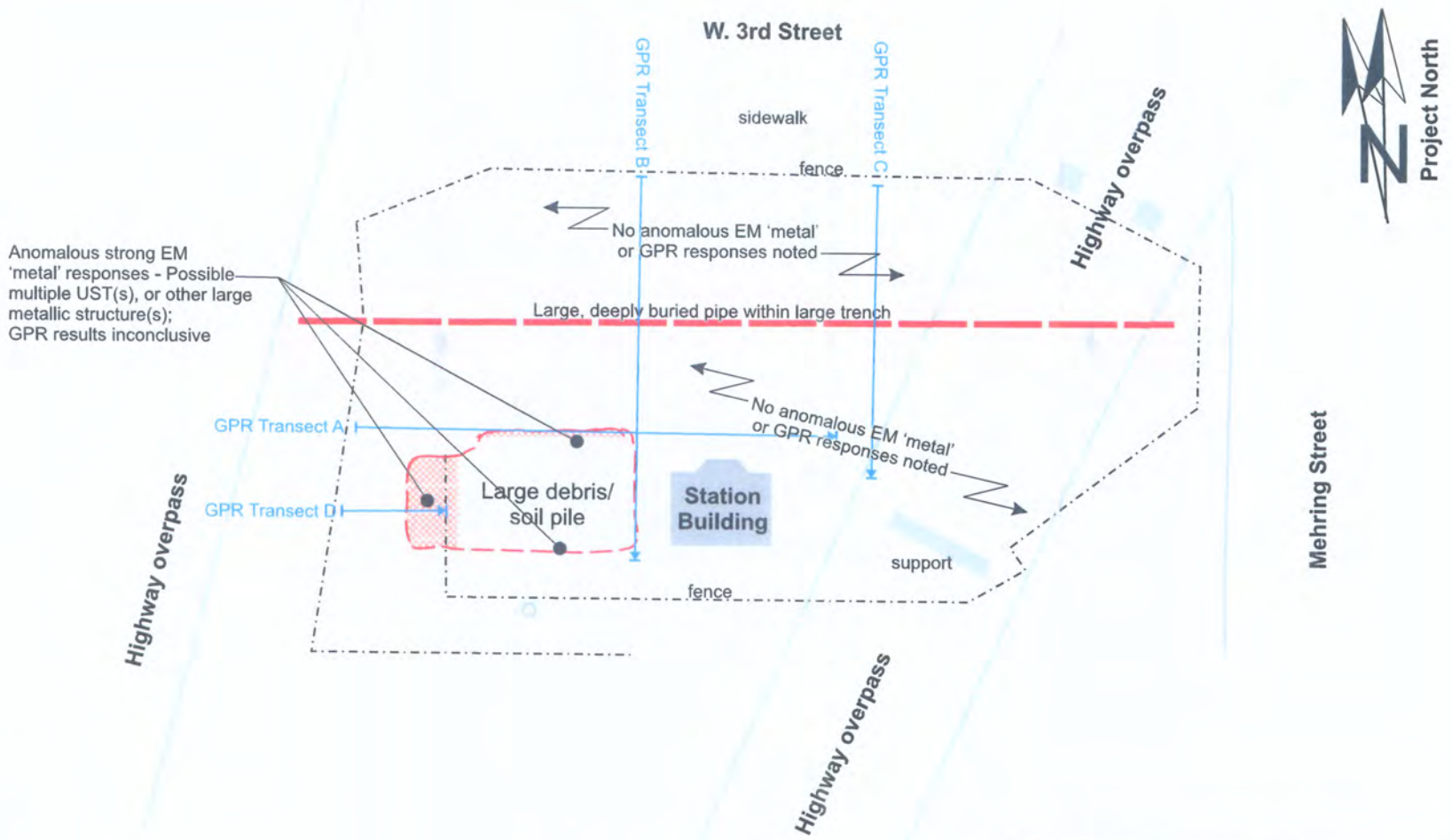
Grumman Exploration, Inc. has appreciated this opportunity to be of service again to Burgess & Niple, Ltd. If you have any questions or comments regarding this report, please feel free to contact us.

Sincerely,

Grumman Exploration, Inc.

David L. Grumman, Jr.
President/Geophysicist

Attachments:
Figures 1 – 5, Overview and Limitations of GPR



Scale: 1" = ~30-ft

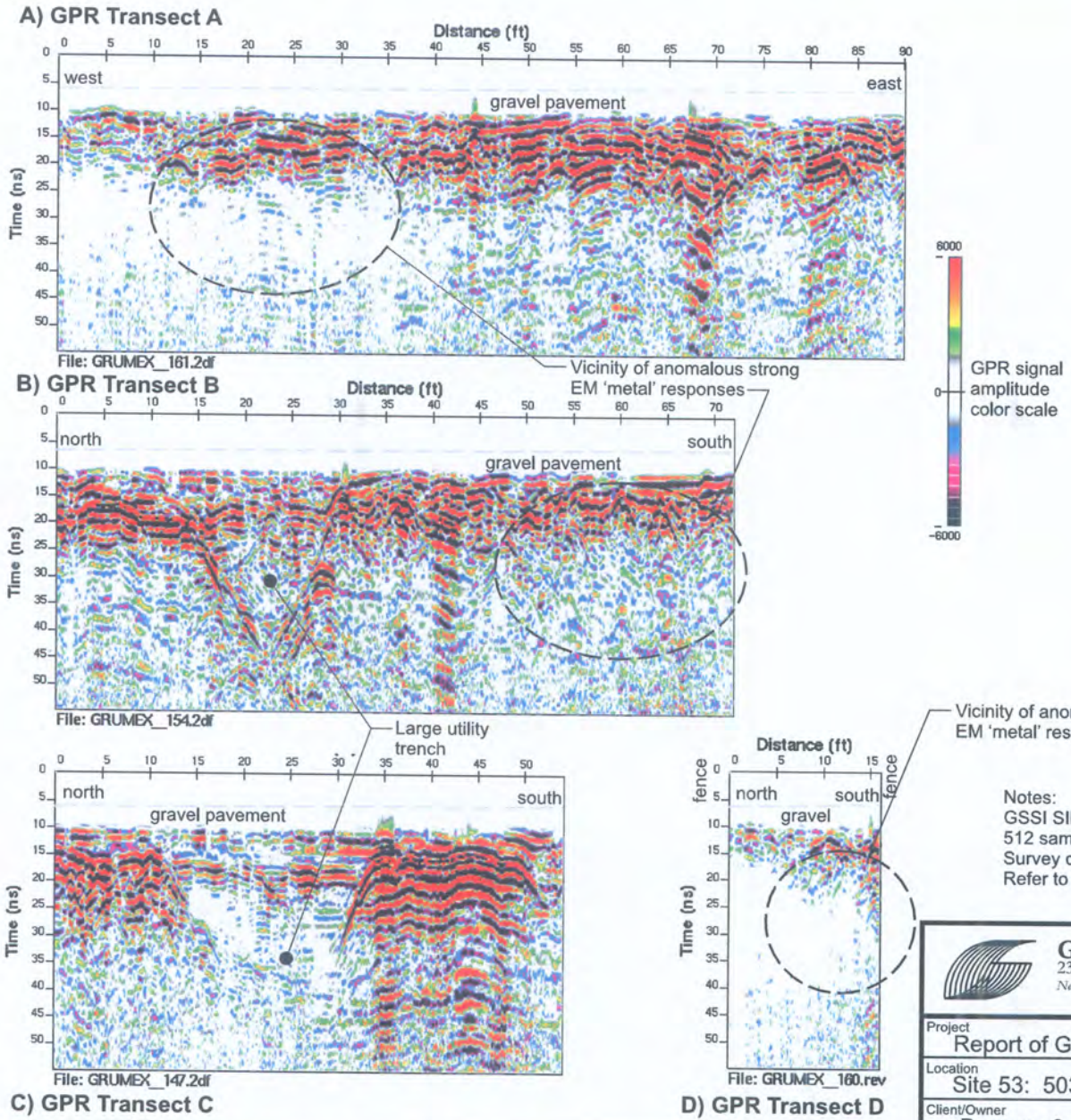
0 10 20 30 40 50

Notes:
GSSI SIR-3000 & 400 MHz antenna GPR system
GSSI GEM-300 EM Induction Profiler
Survey date: March 13, 2014
Locations of site and interpreted features, including tank and anomaly positions, are approximate.

Grumman Exploration, Inc.
2309 Dorset Road, Columbus, Ohio 43221
Near-surface Geophysics, Non-destructive Subsurface Exploration

Project: Report of Geophysical Surveys: HAM-71/75			
Location: Site 53: 503 W. 3rd Street, Cincinnati, Ohio			
Client/Owner: Burgess & Niple, Inc.	By: dlg	Date: 4/8/14	
Project No.: 01-34008	Checked:	Scale: 1"=~30-ft	

Figure 1 — Title: Site Diagram and Geophysical Survey Results - Site 53: 503 W. 3rd St., Cincinnati, OH

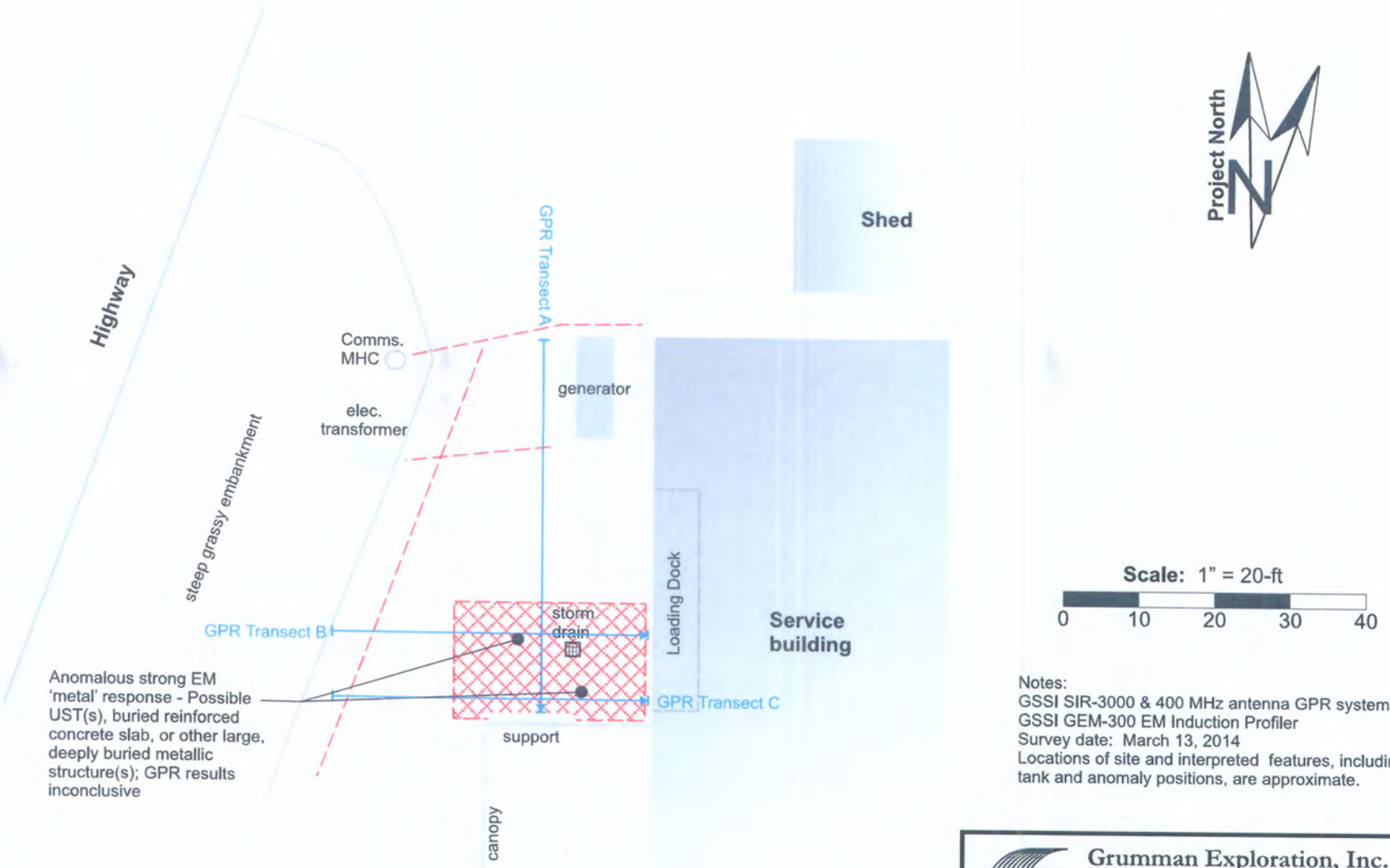


Notes:
GSSI SIR-3000 & 400 MHz antenna GPR system
512 samples/trace; ~10 traces/ft
Survey date: March 13, 2014
Refer to Figure 1 for GPR Transect locations

Grumman Exploration, Inc.
2309 Dorset Road, Columbus, Ohio 43221
Near-surface Geophysics, Non-destructive Subsurface Exploration

Project	Report of Geophysical Surveys: HAM-71/75
Location	Site 53: 503 W. 3rd Street, Cincinnati, Ohio
Client/Owner	Burgess & Niple, Inc.
By	dlg
Date	4/8/14
Project No.	01-34008
Checked	
Scale	as shown

Figure 2 — Title: Selected GPR Records - Site 53: 503 W. 3rd St., Cincinnati, OH

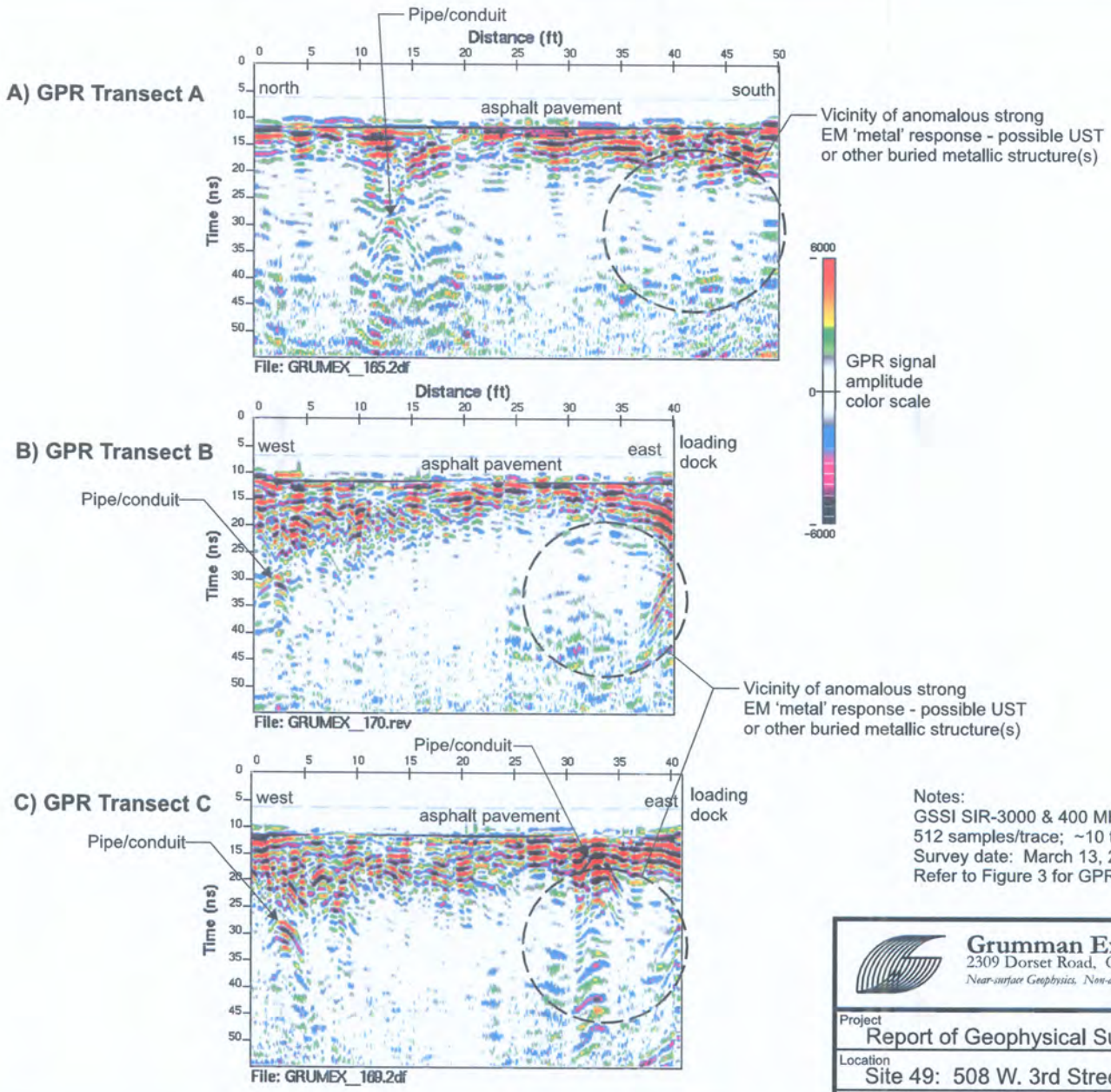


Notes:
GSSI SIR-3000 & 400 MHz antenna GPR system
GSSI GEM-300 EM Induction Profiler
Survey date: March 13, 2014
Locations of site and interpreted features, including tank and anomaly positions, are approximate.

Grumman Exploration, Inc.
2309 Dorset Road, Columbus, Ohio 43221
Near-surface Geophysics, Non-destructive Subsurface Exploration

Project	Report of Geophysical Surveys: HAM-71/75
Location	Site 49: 508 W. 3rd Street, Cincinnati, Ohio
Client/Owner	Burgess & Niple, Inc.
By	dlg
Date	4/8/14
Project No.	01-34008
Checked	
Scale	1"=~20-ft

Figure 3 — Title: Site Diagram and Geophysical Survey Results - Site 49: 508 W. 3rd St., Cincinnati, OH



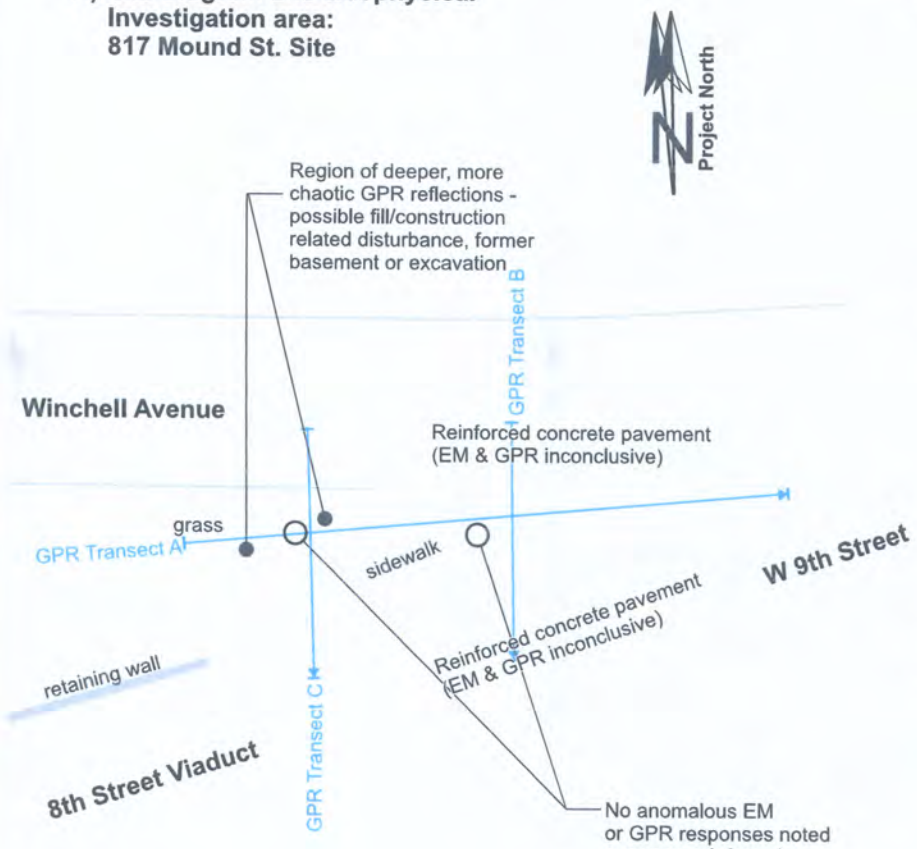
Notes:
GSSI SIR-3000 & 400 MHz antenna GPR system
512 samples/trace; ~10 traces/ft
Survey date: March 13, 2014
Refer to Figure 3 for GPR Transect locations

Grumman Exploration, Inc.
2309 Dorset Road, Columbus, Ohio 43221
Near-surface Geophysics, Non-destructive Subsurface Exploration

Project: Report of Geophysical Surveys: HAM-71/75			
Location: Site 49: 508 W. 3rd Street, Cincinnati, Ohio			
Client/Owner: Burgess & Niple, Inc.	By: dlg	Date: 4/8/14	
Project No.: 01-34008	Checked	Scale: as shown	

Figure: 4	Title: Selected GPR Records - Site 49: 508 W. 3rd St., Cincinnati, OH

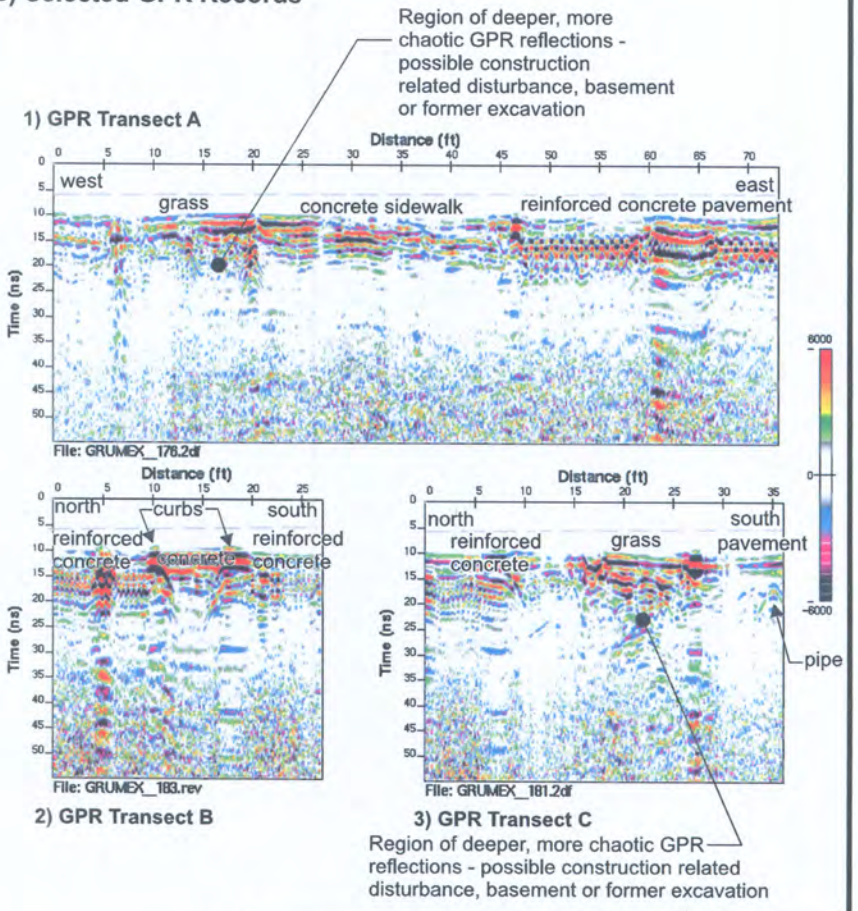
A) Site Diagram and Geophysical Investigation area: 817 Mound St. Site



Scale: 1" = 20-ft

0 10 20 30 40

B) Selected GPR Records



Notes:
GSSI SIR-3000 & 400 MHz antenna GPR system
GSSI GEM-300 EM Induction Profiler
Survey date: March 13, 2014
Locations of site and interpreted features, including tank and anomaly positions, are approximate.

Grumman Exploration, Inc.
2309 Dorset Road, Columbus, Ohio 43221
Near-surface Geophysics, Non-destructive Subsurface Exploration

Project: Report of Geophysical Surveys: HAM-71/75			
Location: Site 29: 817 Mound Street, Cincinnati, Ohio			
Client/Owner: Burgess & Niple, Inc.	By: dlg	Date: 4/8/14	
Project No.: 01-34008	Checked	Scale: 1"=~20-ft	

Figure	Title
5	Site Diagram and Geophysical Survey Results - Site 29: 817 Mound St., Cincinnati, OH

GRUMMAN EXPLORATION, INC.

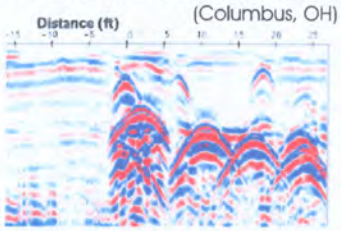
Ground-Penetrating Radar for Underground Storage Tank Exploration

Ground-Penetrating Radar (GPR) operates by transmitting and receiving microwave electromagnetic impulses. By moving a broadband, dipole antenna across the ground surface, a kind of two-dimensional cross-section of the subsurface can be displayed on the GPR system unit. Transmitted GPR signals propagate downward through the subsurface, reflect off buried target boundaries and return to the receiver antenna. Contrasts in subsurface electric permittivity and permeability will cause some of the GPR signal to reflect back toward the ground surface. Interfaces between electrically different materials such as sand and clay, backfill and steel, concrete and soil, and the water table can be detected using GPR under favorable survey conditions. GPR has been used successfully for mapping a wide variety of buried objects for several decades. Some kinds of containers are reflective GPR targets. Steel UST and utility piping can appear as strong, arc shaped GPR reflections while disturbed soils, including backfilled trenches and excavations, tend to appear on the GPR record as zones of more chaotic and irregular reflections. Grumman Exploration is a pioneer in applications using both 2D and 3D GPR. Examples of GPR for geologic and environmental site exploration at several Midwestern sites are presented below. Be aware that there are important limitations to the performance of GPR, and some of these limitations are outlined below - a combined approach using GPR in conjunction with an electromagnetic tool is strongly recommended for UST exploration.

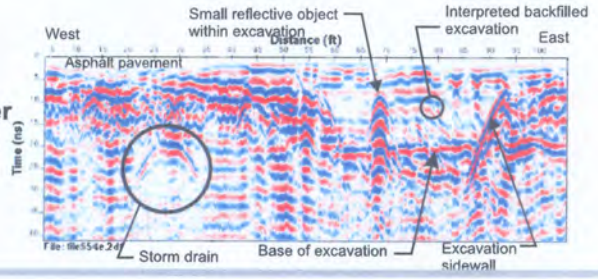
There exist several important limitations to the use of GPR. GPR signal penetration is strongly reduced by the presence of electrically conductive (lossy) subsurface materials such as clay, slag, cinder fill and materials with high water content. The detection of buried objects within the attainable depth of exploration depends in part on (1) the presence of significant electrical properties contrasts between the target object(s) and surrounding host material, (2) the signal attenuation properties of the overburden, and (3) the size, shape and depth of the target(s). Conditions that can limit and even preclude GPR data acquisition and interpretation include: surface obstructions, rough or uneven ground surface, difficult access, small or shallow buried objects, complicated overburden conditions, standing water, ambient microwave noise, and concrete slabs with dense reinforcing steel or wire mesh. The survey area must be large enough to accommodate the movement of a GPR antenna(s) across and in direct contact with the ground surface.

Please contact **Grumman Exploration, Inc.** at **(614) 488-7860** for additional information.

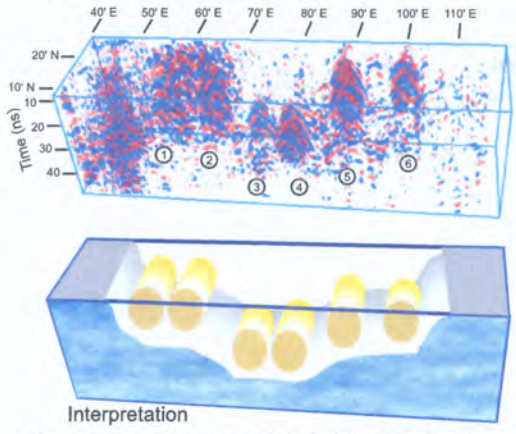
GPR Transect over four tanks



GPR Record showing backfilled former UST excavation

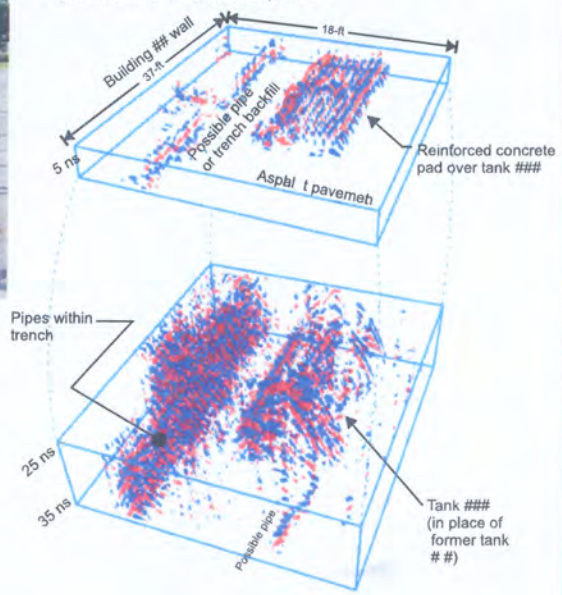


3D GPR Examples



Six underground storage tanks below asphalt pavement at a site near Cleveland, Ohio. There were no surface indications of what was present below the pavement.

Fiberglass underground storage tank below reinforced concrete pad and adjacent utility lines within trench Columbus, Ohio



Grumman Exploration, Inc.
2309 Dorset Road
Columbus, OH 43221
(614) 488-7860 grumex@att.net

APPENDIX C

SOIL BORING LOGS

Borehole Number: 17-SB-1

Project: ODOT HAM-75-0.22
Project No: 52888
Client: ODOT
Geologist: S. Dailey

Location: 845 Ezzard Charles, Cincinnati, Ohio
Drilling Contractor: Envirocore
Sampling Method: Direct push
Drill Rig Type: Geoprobe

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio, 43220
phone: (614)459-2050
fax: (614)451-1385

Depth (feet)	Lithology	Sample Description	Interval	Sample Recovery (feet)	Field Screening (ppm)	Boring Completion	Abandonment Notes
		Ground Surface					
0.0		**FILL (0.0-5.0)** 0.0-0.3 - Topsoil 0.3-3.5 - Dark brown clayey fill, dry, very hard. small gravel, brick fragments.	0-4 ft	3.0 ft	0.0		
2.0					0.0		Boring abandoned with bentonite chips.
4.0		3.5-5.0 - Brown sand and fine gravel fill, dry, weak, trace brick fragments.					
		CLAYEY SILT (ML) (5.0-10.0) Brown silt with clay, dry to moist, hard.	4-8 ft	3.2 ft	0.0		
6.0					0.0		
8.0			8-10 ft	2.0 ft	0.0		
10.0		End of Boring					
12.0							
14.0							

Northing Coordinate: --
Easting Coordinate: --
Ground Surface Elevation: --

Drill Date/Time: 3/18/14 9:00 am
Total Depth: 10 ft
Sheet: 1 of 1

Borehole Number: 17-SB-2

Project: ODOT HAM-75-0.22
Project No: 52888
Client: ODOT
Geologist: S. Dailey

Location: 845 Ezzard Charles, Cincinnati, Ohio
Drilling Contractor: Envirocore
Sampling Method: Direct push
Drill Rig Type: Geoprobe

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio, 43220
phone: (614)459-2050
fax: (614)451-1385

Depth (feet)	Lithology	Sample Description	Interval	Sample Recovery (feet)	Field Screening (ppm)	Boring Completion	Abandonment Notes
		Ground Surface					
0.0		**FILL (0.0-2.0)** 0.0-0.3 - Topsoil 0.3-2.0 - Brown clay, trace silt, small gravel, dry to moist, very hard, sporadic pulverized brick.	0-4 ft	3.0 ft	0.0		Boring abandoned with bentonite chips.
2.0		**CLAY (CL) (2.0-4.0)** Brown clay, trace silt, slightly moist, hard, trace gravel.			0.0		
4.0		**SILTY CLAY (CL) (4.0-7.0)** Brown silty clay, hard.	4-8 ft	3.4 ft	0.0		
6.0					0.0		
7.0		**SILT (ML) (7.0-8.0)** Brown silt, trace clay, moist to very moist, soft 7.0-7.2, to firm.					
8.0		**CLAYEY SAND (SC) (8.0-10.0)** Brown fine to medium sand with clay, very moist, firm.	8-10 ft	2.0 ft	0.0		
10.0		End of Boring					
12.0							
14.0							

Northing Coordinate: --
Easting Coordinate: --
Ground Surface Elevation: --

Drill Date/Time: 3/18/14 9:20 am
Total Depth: 10 ft
Sheet: 1 of 1

Borehole Number: 29-SB-1

Project: ODOT HAM-75-0.22
Project No: 52888
Client: ODOT
Geologist: S. Dailey

Location: 817 Mound Street, Cincinnati, Ohio
Drilling Contractor: Envirocore
Sampling Method: Direct push
Drill Rig Type: Geoprobe

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio, 43220
phone: (614)459-2050
fax: (614)451-1385

Depth (feet)	Lithology	Sample Description	Interval	Sample Recovery (feet)	Field Screening (ppm)	Boring Completion	Abandonment Notes
		Ground Surface					
0.0		**FILL (0.0-5.0.0)** 2-3-inches concrete, brown clay, sand, and fine gravel fill, top portion soft.	0-4 ft	1.8 ft	0.0		Boring abandoned with bentonite chips.
2.0					0.0		
4.0		3.0-5.0 - Grayish (discolored) brown clay, firm, trace small to fine gravel, hydrocarbon odor.			0.0		
		5.0-5.5 - Fine gravel, sand, with pulverized brick.	4-8 ft	3.0 ft			
6.0		**TILL (5.5-8.0)** Brown gravel, some mottled clay silt, firm.			0.0		
		6.0-6.5 - SAA, very moist and soft.					
8.0			8-10 ft	2.0 ft	0.0		
10.0		End of Boring					
12.0							
14.0							

Northing Coordinate: --
Easting Coordinate: --
Ground Surface Elevation: --

Drill Date/Time: 3/18/14 10:30 am
Total Depth: 10 ft
Sheet: 1 of 1

Borehole Number: 29-SB-2

Project: ODOT HAM-75-0.22
Project No: 52888
Client: ODOT
Geologist: S. Dailey

Location: 817 Mound Street, Cincinnati, Ohio
Drilling Contractor: Envirocore
Sampling Method: Direct push
Drill Rig Type: Geoprobe

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio, 43220
phone: (614)459-2050
fax: (614)451-1385

Depth (feet)	Lithology	Sample Description	Interval	Sample Recovery (feet)	Field Screening (ppm)	Boring Completion	Abandonment Notes
		Ground Surface					
0.0		**FILL (0.0-4.0)** 0.0-0.3 - Topsoil 0.3-3.8 - Brown clay with silt, trace gravel.	0-4 ft	3.2 ft	0.0		
2.0		3.8-4.0 - Black gravel, possible cinders, dry.			0.0		Boring abandoned with bentonite chips.
4.0		**CLAY (CL) (4.0-6.0)** Brown and gray mottled clay with silt, moist, very hard.			0.0		
6.0		**CLAYEY SILT (ML) (6.0-10.0)** Brown silt with clay, in general very hard with several very moist, soft zones between 6-8 ft and at 9.5 ft.	4-8 ft	3.2 ft	0.0		
8.0			8-10 ft	2.0 ft	0.0		
10.0		End of Boring					
12.0							
14.0							

Northing Coordinate: --
Easting Coordinate: --
Ground Surface Elevation: --

Drill Date/Time: 3/18/14 10:50 am
Total Depth: 10 ft
Sheet: 1 of 1

Borehole Number: 49-SB-1

Project: ODOT HAM-75-0.22
Project No: 52888
Client: ODOT
Geologist: S. Dailey

Location: 508 West 3rd Street
Drilling Contractor: Envirocore
Sampling Method: Direct push
Drill Rig Type: Geoprobe

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio, 43220
phone: (614)459-2050
fax: (614)451-1385

Depth (feet)	Lithology	Sample Description	Interval	Sample Recovery (feet)	Field Screening (ppm)	Boring Completion	Abandonment Notes
		Ground Surface					
0.0		**ASPHALT (0.0-0.5)** Asphalt and base fill.					
		CLAY (CL) (0.5-3.0) 0.5-2.5- Brown clay, moist, soft, medium plasticity.	0-4 ft	2.0 ft	2.7		Boring abandoned with bentonite chips.
2.0		2.5-3.0 - SAA, olive-colored.					
		LIMESTONE (3.0-8.0) Pulverized limestone erratic.					
4.0					0.0		
		Refusal at 8.0 ft.	4-8 ft	2.0 ft			
6.0					0.0		
8.0		End of Boring					
10.0							
12.0							
14.0							

Northing Coordinate: --
Easting Coordinate: --
Ground Surface Elevation: --

Drill Date/Time: 3/17/14 1:45 pm
Total Depth: 8 ft
Sheet: 1 of 1

Borehole Number: 49-SB-2

Project: ODOT HAM-75-0.22
Project No: 52888
Client: ODOT
Geologist: S. Dailey

Location: 508 West 3rd Street
Drilling Contractor: Envirocore
Sampling Method: Direct push
Drill Rig Type: Geoprobe

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio, 43220
phone: (614)459-2050
fax: (614)451-1385

Depth (feet)	Lithology	Sample Description	Interval	Sample Recovery (feet)	Field Screening (ppm)	Boring Completion	Abandonment Notes
		Ground Surface					
0.0		**ASPHALT (0.0-0.5)** Asphalt and base fill.					
		CLAY (CL) (0.5-3.0) Brown and gray clay, soft to firm, trace fine rounded gravel.	0-4 ft	2.8 ft	0.0		
2.0		2.5-3.0 - SAA, olive-colored.			0.0		Boring abandoned with bentonite chips.
4.0		**LIMESTONE (3.0-8.0)** Pulverized limestone from 3.0-8.0'. No recovery, very hard drilling. Offset and drilled second boring and observed same as initial boring.			--		
6.0			4-8 ft	0.0 ft	--		
8.0		End of Boring					
10.0							
12.0							
14.0							

Northing Coordinate: --
Easting Coordinate: --
Ground Surface Elevation: --

Drill Date/Time: 3/17/14 2:15 pm
Total Depth: 8 ft
Sheet: 1 of 1

Borehole Number: 51-SB-1

Project: ODOT HAM-75-0.22
Project No: 52888
Client: ODOT
Geologist: S. Dailey

Location: 4th St. & Central Ave., Cincinnati, Ohio
Drilling Contractor: Envirocore
Sampling Method: Direct push
Drill Rig Type: Geoprobe

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio, 43220
phone: (614)459-2050
fax: (614)451-1385

Depth (feet)	Lithology	Sample Description	Interval	Sample Recovery (feet)	Field Screening (ppm)	Boring Completion	Abandonment Notes
		Ground Surface					
0.0		**CONCRETE (0.0-0.3')** Concrete sidewalk.					
		FILL (0.3-10.0') 0.3-5.0' - Fill - brown sand and gravel, weak, moist to slightly moist.	0-4 ft	3.0 ft	0.0		
2.0					0.0		Boring abandoned with bentonite chips.
4.0		5.0-7.0' - SAA, brown clay, soft.	4-8 ft	2.5 ft	0.0		
6.0		7.0-7.2' - Brick.			0.0		
		7.2-8.0' - SAA, brown clay, soft.					
8.0		8.0-10.0' - SAA, mottled brown and olive, trace gravel.	8-10 ft	2.0 ft	0.0		
10.0		End of Boring					
12.0							
14.0							

Northing Coordinate: --
Easting Coordinate: --
Ground Surface Elevation: --

Drill Date/Time: 3/19/14 2:20 pm
Total Depth: 10 ft
Sheet: 1 of 1

Borehole Number: 51-SB-2

Project: ODOT HAM-75-0.22
Project No: 52888
Client: ODOT
Geologist: S. Dailey

Location: 4th St. & Central Ave., Cincinnati, Ohio
Drilling Contractor: Envirocore
Sampling Method: Direct push
Drill Rig Type: Geoprobe

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio, 43220
phone: (614)459-2050
fax: (614)451-1385

Depth (feet)	Lithology	Sample Description	Interval	Sample Recovery (feet)	Field Screening (ppm)	Boring Completion	Abandonment Notes
		Ground Surface					
0.0		**CONCRETE (0.0-0.3')** Concrete sidewalk.					
		FILL (0.3-10.0') 0.3-3.3' - Fill - gravel, clay, and sand. Clay was moist, firm. Sand and gravel zones were dry and weak.	0-4 ft	2.5 ft	0.0 0.0		Boring abandoned with bentonite chips.
2.0		3.3-3.5' - SAA, black cinders.					
		3.5-4.5' - SAA, brick.					
4.0		4.5-10' - SAA. brown clay with trace mottled brown and olive color, trace fine gravel and sand, moist, firm to soft, brick fragment at 9'.			0.0		
6.0			4-8 ft	3.5 ft	0.0		
8.0			8-10 ft	2.0 ft	0.0		
10.0		End of Boring					
12.0							
14.0							

Northing Coordinate: --
Easting Coordinate: --
Ground Surface Elevation: --

Drill Date/Time: 3/19/14 2:35 pm
Total Depth: 10 ft
Sheet: 1 of 1

Borehole Number: 53-SB-1

Project: ODOT HAM-75-0.22
Project No: 52888
Client: ODOT
Geologist: S. Dailey

Location: 605 West 3rd Street, Cincinnati, Ohio
Drilling Contractor: Envirocore
Sampling Method: Direct push
Drill Rig Type: Geoprobe

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio, 43220
phone: (614)459-2050
fax: (614)451-1385

Depth (feet)	Lithology	Sample Description	Interval	Sample Recovery (feet)	Field Screening (ppm)	Boring Completion	Abandonment Notes
		Ground Surface					
0.0		**FILL (0.0-2.5')** Fill - black cinders, fractured red brick, gravel, dry, loose.	0-4 ft	2.5 ft	0.0		
2.0					4.0		Boring abandoned with bentonite chips.
4.0		**SILT (ML) (2.5-8.0')** 2.5-4.0' - Light brown silt, moist, soft, trace clay. 4.0-8.0' - SAA, firm, no clay, trace fine sand at 7.9'.	4-8 ft	3.5 ft	0.0		
6.0					0.0		
8.0		**SANDY SILT (ML) (8.0-15.0')** 8.0-10.0' - Brown sandy silt, fine sand, very moist, soft. 10.0-15.0' - SAA, very moist to moist in zones.	8-12 ft	3.5 ft	0.0		
10.0					0.0		
12.0			12-16 ft	3.5 ft	0.0		
14.0					0.0		
16.0		**SAND (SW) (15.0-19.9')** 15.0-16.0' - Brown fine sand, dry to slightly moist. 16.0-19.9' - SAA, firm, moist to dry, fine gravel at 19.5'.	16-20 ft	3.5 ft	0.0		
18.0					0.0		
20.0		**CLAYEY SAND (SC) (19.9-20.0')** Gray clayey sand, moist.					
22.0		End of Boring					

Northing Coordinate: --
Easting Coordinate: --
Ground Surface Elevation: --

Drill Date/Time: 3/17/14 10:25 am
Total Depth: 20 ft
Sheet: 1 of 1

Borehole Number: 53-SB-2

Project: ODOT HAM-75-0.22
Project No: 52888
Client: ODOT
Geologist: S. Dailey

Location: 605 West 3rd Street, Cincinnati, Ohio
Drilling Contractor: Envirocore
Sampling Method: Direct push
Drill Rig Type: Geoprobe

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio, 43220
phone: (614)459-2050
fax: (614)451-1385

Depth (feet)	Lithology	Sample Description	Interval	Sample Recovery (feet)	Field Screening (ppm)	Boring Completion	Abandonment Notes
0.0		Ground Surface					
0.0		**ASPHALT (0.0-0.3')**					
		FILL (0.3-4.0') Fill - black cinders, soot, and gravel, dry, loose, brick fragment at 3.81'.	0-4 ft	2.5 ft	0.0		Boring abandoned with bentonite chips.
2.0					4.0		
4.0		**SILT (ML) (4.0-11.0')** 4.0-9.5' - Brown silt, moist, soft, trace clay.	4-8 ft	3.5 ft	0.0		
6.0		9.5-11.0' - SAA, very moist.			0.0		
8.0			8-12 ft	3.5 ft	0.0		
10.0					0.0		
12.0		**SAND (SW) (11.0-20.0')** Brown fine sand, moist, soft, trace silt/clay.	12-16 ft	2.5 ft	0.0		
14.0					0.0		
16.0			16-20 ft	3.5 ft	0.0		
18.0					0.0		
20.0		End of Boring					
22.0							

Northing Coordinate: --
Easting Coordinate: --
Ground Surface Elevation: --

Drill Date/Time: 3/17/14 11:15 am
Total Depth: 20 ft
Sheet: 1 of 1

Borehole Number: 53-SB-3

Project: ODOT HAM-75-0.22
Project No: 52888
Client: ODOT
Geologist: S. Dailey

Location: 605 West 3rd Street, Cincinnati, Ohio
Drilling Contractor: Envirocore
Sampling Method: Direct push
Drill Rig Type: Geoprobe

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio, 43220
phone: (614)459-2050
fax: (614)451-1385

Depth (feet)	Lithology	Sample Description	Interval	Sample Recovery (feet)	Field Screening (ppm)	Boring Completion	Abandonment Notes
		Ground Surface					
0.0		**FILL (0.0-7.0')**					
		0.0-2.0' - Fill - black cinders, gravel, dry, loose, trace crushed red brick.	0-4 ft	2.0 ft	0.0		
2.0		2.0-4.0' - No recovery.			--		Boring abandoned with bentonite chips.
		4.0-7.0' - SAA, red brick, trace sand and gravel, dry, loose.	4-8 ft	2.0 ft	0.0		
4.0							
6.0					0.0		
7.0		**SILT (ML) (7.0-14.0')**					
		Brown silt, very moist, soft, trace clay.	8-12 ft	3.5 ft	0.0		
8.0							
10.0					0.0		
12.0			12-16 ft	3.5 ft	0.0		
14.0		**SAND (SW) (14.0-20.0')**					
		Brown sand, fine, moist to dry, firm, trace silt.			0.0		
16.0			16-20 ft	3.0 ft	0.0		
18.0							
					0.0		
20.0		End of Boring					
22.0							

Northing Coordinate: --
Easting Coordinate: --
Ground Surface Elevation: --

Drill Date/Time: 3/17/14 11:40 am
Total Depth: 20 ft
Sheet: 1 of 1

Borehole Number: 53-SB-4

Project: ODOT HAM-75-0.22
Project No: 52888
Client: ODOT
Geologist: S. Dailey

Location: 605 West 3rd Street, Cincinnati, Ohio
Drilling Contractor: Envirocore
Sampling Method: Direct push
Drill Rig Type: Geoprobe

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio, 43220
phone: (614)459-2050
fax: (614)451-1385

Depth (feet)	Lithology	Sample Description	Interval	Sample Recovery (feet)	Field Screening (ppm)	Boring Completion	Abandonment Notes
		Ground Surface					
0.0		**FILL (0.0-6.0')**					
		0.0-0.3' - Fill - gravel.			0.0		
2.0		0.3-3.5' - SAA, black soot/cinders with gravel, dry, loose.	0-4 ft	3.0 ft	0.0		Boring abandoned with bentonite chips.
4.0		3.5-6.0' - SAA, red crushed brick, dry, loose, trace gravel.			0.0		
6.0		**CLAYEY SILT (CL/ML) (6.0-8.0')**	4-8 ft	3.0 ft	0.0		
		Brown clayey silt, moist, firm.					
8.0		**SILT (ML) (8.0-12.0')**			0.0		
		Brown silt, moist, firm, 1/4" of black discoloration/organic material at 11.5'.	8-12 ft	3.0 ft	0.0		
12.0		**SILTY SAND (SM) (12.0-19.5')**			0.0		
		Brown sand, fine, some silt, several silt zones, moist, firm.	12-16 ft	3.0 ft	0.0		
16.0					0.0		
18.0			16-20 ft	3.5 ft	0.0		
20.0		**CLAY, SAND AND GRAVEL (SC) (19.5-20.0')** Brown clay with coarse sand and gravel, moist, firm to hard.					
22.0		End of Boring					

Northing Coordinate: --
Easting Coordinate: --
Ground Surface Elevation: --

Drill Date/Time: 3/17/14 12:55 pm
Total Depth: 20 ft
Sheet: 1 of 1

Borehole Number: 58-SB-1

Project: ODOT HAM-75-0.22
Project No: 52888
Client: ODOT
Geologist: S. Dailey

Location: West 3rd St./Pete Rose Way/Central Ave./Smith St. Block
Drilling Contractor: Envirocore
Sampling Method: Direct push
Drill Rig Type: Geoprobe

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio, 43220
phone: (614)459-2050
fax: (614)451-1385

Depth (feet)	Lithology	Sample Description	Interval	Sample Recovery (feet)	Field Screening (ppm)	Boring Completion	Abandonment Notes
		Ground Surface					
0.0		**FILL (0.0-4.0')**					
		0.0-0.2' - Asphalt.			0.0		
2.0		0.2-2.8' - Fill - sand and gravel base material, dry, week.	0-4 ft	2.0 ft			Boring abandoned with bentonite chips.
		2.8-4.0' - SAA, brown clay with gravel, moist, firm.			0.0		
4.0		**CLAY (CL) (4.0-17.0')**					
		4.0-9.5' - Gray clay, moist, soft, trace silt, black organic nodule throughout.			0.0		
6.0			4-8 ft	2.0 ft			
					0.0		
8.0							
		9.5-14.0' - SAA, brown and gray mottled, moist, soft, trace silty organic material throughout.			0.0		
10.0			8-12 ft	3.5 ft			
					0.0		
12.0							
					0.0		
14.0		14.0-17.0' - SAA, brown with slight red tint, moist, soft, trace silt, no organic material observed.	12-16 ft	3.5 ft			
					0.0		
16.0							
					0.0		
18.0		**CLAYEY SILT (ML) (17.0-20.0')** Brown clayey silt, moist, soft, trace fine sand.	16-20 ft	3.0 ft			
					0.0		
20.0		End of Boring					
22.0							

Northing Coordinate: --
Easting Coordinate: --
Ground Surface Elevation: --

Drill Date/Time: 3/19/14 10:30 am
Total Depth: 20 ft
Sheet: 1 of 1

Borehole Number: 58-SB-2

Project: ODOT HAM-75-0.22
Project No: 52888
Client: ODOT
Geologist: S. Dailey

Location: West 3rd St./Pete Rose Way/Central Ave./Smith St. Block
Drilling Contractor: Envirocore
Sampling Method: Direct push
Drill Rig Type: Geoprobe

BURGESS & NIPLE
3085 Reed Road
Columbus, Ohio, 43220
phone: (614)459-2050
fax: (614)451-1385

Depth (feet)	Lithology	Sample Description	Interval	Sample Recovery (feet)	Field Screening (ppm)	Boring Completion	Abandonment Notes
0.0		Ground Surface					
		ASPHALT (0.0-0.3')					
		FILL (0.3-8.0')			0.0		
2.0		0.3-2.0' - Fill - sand and gravel subgrade material, dry.	0-4 ft	3.0 ft			Boring abandoned with bentonite chips.
		2.0-4.0' - SAA, brown clay with gravel, moist, firm, some gray to black discoloration.			0.0		
4.0							
		4.0-8.0' - SAA, brown sand, gravel, and clay, low recovery, very soft when advancing probe rods.	4-8 ft	0.8 ft	0.0		
6.0							
8.0		**CLAY (CL) (8.0-20.0')**					
		8.0-12.0' - Red brown clay, soft to firm, trace gray mottling, trace silt.			0.0		
10.0			8-12 ft	4.0 ft			
					0.0		
12.0		12.0-13.0' - SAA, gray, trace brown mottling, trace silt.					
					0.0		
		13.0-14.0' - SAA, soft.	12-16 ft	4.0 ft			
14.0		14.0-18.0' - SAA, more brown than gray.			0.0		
16.0							
					0.0		
18.0		18.0-20.0' - SAA, plastic.	16-20 ft	3.8 ft			
					0.0		
20.0		End of Boring					
22.0							

Northing Coordinate: --
Easting Coordinate: --
Ground Surface Elevation: --

Drill Date/Time: 3/19/14 11:07 am
Total Depth: 20 ft
Sheet: 1 of 1

Borehole Number: 58-SB-3

Project: ODOT HAM-75-0.22
Project No: 52888
Client: ODOT
Geologist: S. Dailey

Location: West 3rd St./Pete Rose Way/Central Ave./Smith St. Block
Drilling Contractor: Envirocore
Sampling Method: Direct push
Drill Rig Type: Geoprobe

BURGESS & NIPLE
3085 Reed Road
Columbus, Ohio, 43220
phone: (614)459-2050
fax: (614)451-1385

Depth (feet)	Lithology	Sample Description	Interval	Sample Recovery (feet)	Field Screening (ppm)	Boring Completion	Abandonment Notes
0.0		Ground Surface					
		ASPHALT (0.0-0.2')					
		FILL (0.2-13.0') 0.2-0.4' - Fill - gravel subgrade.	0-4 ft	4.0 ft	0.0		
2.0		0.4-7.0' - SAA, brown medium sand and fine gravel, dry, weak to moderate.			0.0		Boring abandoned with bentonite chips.
4.0			4-8 ft	2.2 ft	0.0		
6.0					0.0		
		7.0-13.0' - SAA, clay with trace gravel and sand, discolored black throughout, brick from 11.5-13.0'.	8-12 ft	3.8 ft	0.0		
8.0							
10.0					0.0		
12.0			12-16 ft	3.2 ft	0.0		
		CLAYEY SAND (SC) (13.0-16.0') Brown and slightly red clayey sand, fine, moist, very soft, some clay.					
14.0					0.0		
16.0		**SAND (SP) (16.0-20.0')** Brown and slightly red sand, fine, dry, weak, trace clay.	16-20 ft	3.0 ft	0.0		
18.0					0.0		
20.0		End of Boring					
22.0							

Northing Coordinate: --
Easting Coordinate: --
Ground Surface Elevation: --

Drill Date/Time: 3/19/14 11:35 am
Total Depth: 20 ft
Sheet: 1 of 1

Borehole Number: 58-SB-4

Project: ODOT HAM-75-0.22
Project No: 52888
Client: ODOT
Geologist: S. Dailey

Location: West 3rd St./Pete Rose Way/Central Ave./Smith St. Block
Drilling Contractor: Envirocore
Sampling Method: Direct push
Drill Rig Type: Geoprobe

BURGESS & NIPLE
3085 Reed Road
Columbus, Ohio, 43220
phone: (614)459-2050
fax: (614)451-1385

Depth (feet)	Lithology	Sample Description	Interval	Sample Recovery (feet)	Field Screening (ppm)	Boring Completion	Abandonment Notes
		Ground Surface					
0.0		**ASPHALT (0.0-0.3')**					
		FILL (0.3-16.0') 0.3-0.4' - Fill - sand and gravel subgrade. 0.4-16.0' - SAA, mixture of sand and gravel, clay, and brick, moist to dry, some black staining. At 15.8' black organic material similar to peat in texture was observed. From 8.0' down probe rods drove down on coarse limestone fragments.	0-4 ft	3.0 ft	1.3		
2.0					1.3		Boring abandoned with bentonite chips.
4.0			4-8 ft	3.0 ft	1.3		
6.0					1.3		
8.0			8-12 ft	1.5 ft	0.0		
10.0							
12.0			12-16 ft	1.8 ft	0.0		
14.0							
16.0		**GRAVELLY SAND (SW) (16.0-20.0')** Brown gravelly sand, very moist, moderate, limestone fragments, trace clay.	16-20 ft	2.5 ft	0.0		
18.0							
20.0		End of Boring					
22.0							

Northing Coordinate: --
Easting Coordinate: --
Ground Surface Elevation: --

Drill Date/Time: 3/19/14 12:25 pm
Total Depth: 20 ft
Sheet: 1 of 1

Borehole Number: 58-SB-5

Project: ODOT HAM-75-0.22
Project No: 52888
Client: ODOT
Geologist: S. Dailey

Location: West 3rd St./Pete Rose Way/Central Ave./Smith St. Block
Drilling Contractor: Envirocore
Sampling Method: Direct push
Drill Rig Type: Geoprobe

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio, 43220
phone: (614)459-2050
fax: (614)451-1385

Depth (feet)	Lithology	Sample Description	Interval	Sample Recovery (feet)	Field Screening (ppm)	Boring Completion	Abandonment Notes
		Ground Surface					
0.0		**ASPHALT (0.0-0.3')**					
		FILL (0.3-2.0') Fill - sand and gravel subgrade.	0-4 ft	3.0 ft	1.3		
2.0		**GRAVELLY SAND (SW) (2.0-3.5')** Brown gravelly sand, moist, strong.			1.3		Boring abandoned with bentonite chips.
4.0		**CLAY (CL) (3.5-20.0')** 3.5-4.5' - Dark gray clay with some natural organic material throughout.	4-8 ft	4.0 ft	1.3		
6.0		4.5-8.0' - SAA, red brown, slightly moist, firm, trace gray mottling, trace silt.			1.3		
8.0		8.0-16.0' - SAA, red brown.	8-12 ft	4.0 ft	0.0		
10.0					0.0		
12.0			12-16 ft	4.0 ft	0.0		
14.0					0.0		
16.0		16.0-20.0' - SAA, moist, soft.	16-20 ft	4.0 ft	0.0		
18.0					0.0		
20.0		End of Boring					
22.0							

Northing Coordinate: --
Easting Coordinate: --
Ground Surface Elevation: --

Drill Date/Time: 3/19/14 12:50 pm
Total Depth: 20 ft
Sheet: 1 of 1

Borehole Number: 58-SB-6

Project: ODOT HAM-75-0.22
Project No: 52888
Client: ODOT
Geologist: S. Dailey

Location: West 3rd St./Pete Rose Way/Central Ave./Smith St. Block
Drilling Contractor: Envirocore
Sampling Method: Direct push
Drill Rig Type: Geoprobe

BURGESS & NIPLE
3085 Reed Road
Columbus, Ohio, 43220
phone: (614)459-2050
fax: (614)451-1385

Depth (feet)	Lithology	Sample Description	Interval	Sample Recovery (feet)	Field Screening (ppm)	Boring Completion	Abandonment Notes
		Ground Surface					
0.0		**ASPHALT (0.0-0.3')**					
		FILL (0.3-15.0') 0.3-1.5' - Fill - sand and gravel subgrade, dry, weak. Hit refusal at 3.5' during two previous attempts at this location.	0-4 ft	2.5 ft	0.0 0.0		Boring abandoned with bentonite chips.
4.0		1.5-4.0' - SAA, sand and gravel, weak.					
		4.0-7.6' - SAA, sand with gravel and clay, moist, strong/hard.	4-8 ft	3.0 ft	1.3 1.3		
6.0		7.6-8.0' - SAA, black staining.					
8.0		8.0-10.0' - SAA, no staining.					
		10.0-10.5' - SAA, black silty sand, very moist.	8-12 ft	2.5 ft	0.0 0.0		
10.0		10.5-11.0' - SAA, sand with gravel and clay.					
		11.0-11.2' - SAA, brick.					
12.0		11.2-12.0' - SAA, black sand with gravel and clay.			0.0		
		12.0-15.0' - SAA, black discolored clay, moist, soft, slight septic odor.	12-16 ft	3.5 ft	0.0		
14.0		**CLAYEY SILT (CL/ML) (15.0-16.0')** Brown clayey silt, moist, soft.					
16.0		**CLAY (CL) (16.0-20.0')** Brown clay, moist, soft, trace silt.			0.0		
			16-20 ft	3.5 ft	0.0		
18.0							
20.0		End of Boring					
22.0							

Northing Coordinate: --
Easting Coordinate: --
Ground Surface Elevation: --

Drill Date/Time: 3/19/14 1:08 pm
Total Depth: 20 ft
Sheet: 1 of 1

Borehole Number: 65-SB-1

Project: ODOT HAM-75-0.22
Project No: 52888
Client: ODOT
Geologist: S. Dailey

Location: 612 Mehring Way
Drilling Contractor: Envirocore
Sampling Method: Direct push
Drill Rig Type: Geoprobe

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio, 43220
phone: (614)459-2050
fax: (614)451-1385

Depth (feet)	Lithology	Sample Description	Interval	Sample Recovery (feet)	Field Screening (ppm)	Boring Completion	Abandonment Notes
0.0		Ground Surface					
		FILL (0.0-4.5') 0.0-3.5' - Fill - sand with gravel, dry, weak.	0-4 ft	2.5 ft	0.0		Boring abandoned with bentonite chips.
2.0					0.0		
		3.5-4.5' - SAA, black soot/cinders, coal fragments, dry, weak.					
4.0		**CLAYEY SILT (CL/ML) (4.5-6.0')** Black clayey silt, discolored, wet.	4-8 ft	2.5 ft	0.0		
6.0		**SANDY SILT (ML) (6.0-8.0')** Brown sandy silt, moist, soft.			0.0		
8.0		**SILTY CLAY (CL) (8.0-11.0')** Brown silty clay, hard, two sand lenses approximatley 2" thick that were discolored black and wet.	8-12 ft	2.0 ft	0.0		
10.0					0.0		
12.0		**SILTY SAND AND GRAVEL (SM) (11.0-14.0')** Black sand and gravel with silt, wet, fluid. Probe refusal at 14'.	12-14 ft	2.0 ft	0.0		
14.0		End of Boring					
16.0							
18.0							
20.0							

Northing Coordinate: --
Easting Coordinate: --
Ground Surface Elevation: --

Drill Date/Time: 3/18/14 1:08 pm
Total Depth: 14 ft
Sheet: 1 of 1

Borehole Number: 65-SB-2

Project: ODOT HAM-75-0.22
Project No: 52888
Client: ODOT
Geologist: S. Dailey

Location: 612 Mehring Way
Drilling Contractor: Envirocore
Sampling Method: Direct push
Drill Rig Type: Geoprobe

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio, 43220
phone: (614)459-2050
fax: (614)451-1385

Depth (feet)	Lithology	Sample Description	Interval	Sample Recovery (feet)	Field Screening (ppm)	Boring Completion	Abandonment Notes
		Ground Surface					
0.0		**FILL (0.0-4.0')**					
		0.0-2.0' - Fill - brown sand and gravel with some clay, moist.	0-4 ft	2.0 ft	0.0		
2.0		2.0-4.0' - SAA, black soot/cinders and gravel, dry, weak.			0.0		Boring abandoned with bentonite chips.
4.0		**No Recovery (4.0-8.0')**	4-8 ft	0.0 ft	--		
8.0		**SILTY CLAY (8.0-20.0')**					
		8.0-10.0' - Rock inside shoe.					
10.0		10.0-17.0' - Gray silty clay with zones of more silt, moist, firm to soft, plastic.	8-12 ft	1.5 ft	0.0		
12.0			12-16 ft	3.5 ft	0.0		
14.0					0.0		
16.0			16-20 ft	4.0 ft	0.0		
		17.0-19.0' - SAA, some silt.					
18.0					0.0		
		19.0-20.0' - SAA, brown and gray mottling, moist, firm to hard, plastic, trace iron discoloration from 19.5-20.0'.					
20.0		End of Boring					
22.0							

Northing Coordinate: --
Easting Coordinate: --
Ground Surface Elevation: --

Drill Date/Time: 3/18/14 1:45 pm
Total Depth: 20 ft
Sheet: 1 of 1

Borehole Number: 65-SB-3

Project: ODOT HAM-75-0.22
Project No: 52888
Client: ODOT
Geologist: S. Dailey

Location: 612 Mehring Way
Drilling Contractor: Envirocore
Sampling Method: Direct push
Drill Rig Type: Geoprobe

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio, 43220
phone: (614)459-2050
fax: (614)451-1385

Depth (feet)	Lithology	Sample Description	Interval	Sample Recovery (feet)	Field Screening (ppm)	Boring Completion	Abandonment Notes
		Ground Surface					
0.0		**FILL (0.0-5.0')** 0.0-5.0' - Fill - sand and gravel and black cinders, dry, weak. Probe refusal at 5'. Offset two additional times and hit probe refusal at 5' and 2.5'.	0-5 ft	--	--		Boring abandoned with bentonite chips.
2.0							
4.0							
		End of Boring					
6.0							
8.0							
10.0							
12.0							
14.0							

Northing Coordinate: --
Easting Coordinate: --
Ground Surface Elevation: --

Drill Date/Time: 3/18/14 2:40 pm
Total Depth: 5 ft
Sheet: 1 of 1

Borehole Number: 65-SB-4

Project: ODOT HAM-75-0.22
Project No: 52888
Client: ODOT
Geologist: S. Dailey

Location: 612 Mehring Way
Drilling Contractor: Envirocore
Sampling Method: Direct push
Drill Rig Type: Geoprobe

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio, 43220
phone: (614)459-2050
fax: (614)451-1385

Depth (feet)	Lithology	Sample Description	Interval	Sample Recovery (feet)	Field Screening (ppm)	Boring Completion	Abandonment Notes
0.0		Ground Surface					
0.0		**FILL (0.0-11.0')** 0.0-2.0' - Fill. 2.0-4.0' - SAA, black sand with gravel, very moist, weak. 4.0-11.0' - SAA, with zones of black silty clay, wet zones at 4-5', 7-8', and 10-11'. At 10.5' red brick fragments in black sand matrix.	0-4 ft	3.5 ft	0.0		Boring abandoned with bentonite chips.
2.0					0.0		
4.0			4-8 ft	3.0 ft	0.0		
6.0					0.0		
8.0			8-12 ft	2.0 ft	0.0		
10.0					0.0		
11.0		**SILTY CLAY (ML/CL) (11.0-16.0')** 11.0-12.0' - Gray silty clay, moist, firm. 12.0-16.0' - Gray clay with silt, moist, firm to soft.	12-16 ft	3.5 ft	0.0		
12.0							
14.0					0.0		
16.0		**SANDY CLAY (SC) (16.0-20.0')** Gray clay with sand, moist, firm, some sandy zones with clay.	16-20 ft	3.2 ft	0.0		
18.0					0.0		
20.0		End of Boring					
22.0							

Northing Coordinate: --
Easting Coordinate: --
Ground Surface Elevation: --

Drill Date/Time: 3/18/14 3:15 pm
Total Depth: 20 ft
Sheet: 1 of 1

Borehole Number: 65-SB-5

Project: ODOT HAM-75-0.22
Project No: 52888
Client: ODOT
Geologist: S. Dailey

Location: 612 Mehring Way
Drilling Contractor: Envirocore
Sampling Method: Direct push
Drill Rig Type: Geoprobe

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio, 43220
phone: (614)459-2050
fax: (614)451-1385

Depth (feet)	Lithology	Sample Description	Interval	Sample Recovery (feet)	Field Screening (ppm)	Boring Completion	Abandonment Notes
0.0		Ground Surface					
0.0		**FILL (0.0-12.0')**					
		0.0-3.0' - Fill - black sand, gravel, and cinders, dry, weak.	0-4 ft	2.0 ft	0.0		
2.0					0.0		Boring abandoned with bentonite chips.
		3.0-5.0' - SAA, red brick fragments, dry, weak.					
4.0			4-8 ft	2.5 ft	0.0		
		5.0-12.0' - SAA, brown gray clay with zones of sand and gravel, dense/firm to soft in zones, moist to very moist. From 7.0-7.5' the fill was black, wet, sand and gravel.					
6.0							
8.0					0.0		
			8-12 ft	2.0 ft			
10.0					0.0		
12.0		**CLAY (CL) (12.0-20.0')**					
		12.0-14.0' - Gray clay, moist, soft to firm, trace silt.			0.0		
14.0		14.0-20.0' - SAA, moist, hard, plastic.	12-16 ft	3.5 ft			
					0.0		
16.0					0.0		
			16-20 ft	4.0 ft			
18.0					0.0		
20.0		End of Boring					
22.0							

Northing Coordinate: --
Easting Coordinate: --
Ground Surface Elevation: --

Drill Date/Time: 3/18/14 3:35 pm
Total Depth: 20 ft
Sheet: 1 of 1

Borehole Number: 65-SB-6

Project: ODOT HAM-75-0.22
Project No: 52888
Client: ODOT
Geologist: S. Dailey

Location: 612 Mehring Way
Drilling Contractor: Envirocore
Sampling Method: Direct push
Drill Rig Type: Geoprobe

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio, 43220
phone: (614)459-2050
fax: (614)451-1385

Depth (feet)	Lithology	Sample Description	Interval	Sample Recovery (feet)	Field Screening (ppm)	Boring Completion	Abandonment Notes
		Ground Surface					
0.0		**FILL (0.0-13.0')**					
		0.0-6.0' - Fill - black sand and gravel with cinders. Probe refusal in initial boring at 6'. Offset south 10' to advance second boring to 20'.	0-4 ft	1.5 ft	0.0		Boring abandoned with bentonite chips.
2.0					0.0		
4.0			4-8 ft	3.0 ft	0.0		
6.0		6.0-10.0' - SAA, very black, wet.			0.0		
8.0			8-12 ft	3.2 ft	0.0		
10.0		10.0-13.0' - SAA, sporadic red brick fragments in gray clay matrix with black staining, moist.			0.0		
12.0			12-16 ft	3.0 ft	0.0		
		CLAY (13.0-20.0')					
14.0		13.0-14.0' - Black clay, moist.			0.0		
		14.0-20.0' - SAA, gray, moist, hard, plastic.					
16.0			16-20 ft	4.0 ft	0.0		
18.0					0.0		
20.0		End of Boring					
22.0							

Northing Coordinate: --
Easting Coordinate: --
Ground Surface Elevation: --

Drill Date/Time: 3/18/14 4:10 pm
Total Depth: 20 ft
Sheet: 1 of 1

APPENDIX D

LABORATORY REPORTS
CHAIN-OF-CUSTODY FORMS,
AND
CERTIFICATION REPORTS

Pace Analytical Services, Inc.
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(614)486-5421

Pace Analytical Services, Inc.
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

March 28, 2014

Mr. Scott Dailey
Burgess & Niple (OH)
5085 Reed Road
Columbus, OH 43220

RE: Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095059

Dear Mr. Dailey:
Enclosed are the analytical results for sample(s) received by the laboratory on March 21, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kenneth Hunt
kenneth.hunt@pacelabs.com
Project Manager

Enclosures

REPORT OF LABORATORY ANALYSIS

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7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

CERTIFICATIONS

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095059

Indiana Certification IDs
7726 Moller Road, Indianapolis, IN 46268
Illinois Certification #: 200074
Indiana Certification #: C-49-06
Kansas Certification #: E-10247
Kentucky UST Certification #: 0042
Louisiana/NELAP Certification #: 04076
Ohio VAP Certification #: CL-0065
Pennsylvania Certification #: 68-04991
West Virginia Certification #: 330

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(317)228-3100

SAMPLE SUMMARY

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095059

Lab ID	Sample ID	Matrix	Date Collected	Date Received
5095059001	53-SB-1 2-4'	Solid	03/17/14 10:25	03/21/14 12:35
5095059002	53-SB-2 6-8'	Solid	03/17/14 11:15	03/21/14 12:35
5095059003	53-SB-3 8-10'	Solid	03/17/14 11:40	03/21/14 12:35
5095059004	53-SB-4 6-8'	Solid	03/17/14 12:55	03/21/14 12:35
5095059005	49-SB-1 0-3'	Solid	03/17/14 13:45	03/21/14 12:35
5095059006	49-SB-2 2-4'	Solid	03/17/14 14:15	03/21/14 12:35
5095059007	17-SB-1 4-6'	Solid	03/18/14 09:00	03/21/14 12:35
5095059008	17-SB-2 8-10'	Solid	03/18/14 09:20	03/21/14 12:35
5095059009	29-SB-1 2-4'	Solid	03/18/14 10:30	03/21/14 12:35
5095059010	29-SB-2 4-6'	Solid	03/18/14 10:50	03/21/14 12:35
5095059011	51-SB-1 8-10'	Solid	03/19/14 14:20	03/21/14 12:35
5095059012	51-SB-2 2-4'	Solid	03/19/14 14:35	03/21/14 12:35

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SAMPLE ANALYTE COUNT

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095059

Lab ID	Sample ID	Method	Analysts	Analytes Reported
5095059001	**53-SB-1 2-4'**	EPA 8015 Mod Ext	CEM	4
		EPA 8015 Mod Pur	PTH	2
		EPA 8270 by SIM	CEM	18
		EPA 8260	BJG	73
		ASTM D2974-87	ZM	1
5095059002	**53-SB-2 6-8'**	EPA 8015 Mod Ext	CEM	4
		EPA 8015 Mod Pur	PTH	2
		EPA 8270 by SIM	CEM	18
		EPA 8260	BJG	73
		ASTM D2974-87	ZM	1
5095059003	**53-SB-3 8-10'**	EPA 8015 Mod Ext	CEM	4
		EPA 8015 Mod Pur	PTH	2
		EPA 8270 by SIM	CEM	18
		EPA 8260	BJG	73
		ASTM D2974-87	ZM	1
5095059004	**53-SB-4 6-8'**	EPA 8015 Mod Ext	CEM	4
		EPA 8015 Mod Pur	PTH	2
		EPA 8270 by SIM	CEM	18
		EPA 8260	BJG	73
		ASTM D2974-87	ZM	1
5095059005	**49-SB-1 0-3'**	EPA 8015 Mod Ext	CEM	3
		EPA 8015 Mod Pur	PTH	2
		EPA 8260	BJG	8
		ASTM D2974-87	ZM	1
5095059006	**49-SB-2 2-4'**	EPA 8015 Mod Ext	CEM	3
		EPA 8015 Mod Pur	PTH	2
		EPA 8260	BJG	8
		ASTM D2974-87	ZM	1
5095059007	**17-SB-1 4-6'**	EPA 8015 Mod Ext	CEM	3
		EPA 8015 Mod Pur	PTH	2
		EPA 8260	BJG	8
		ASTM D2974-87	ZM	1
5095059008	**17-SB-2 8-10'**	EPA 8015 Mod Ext	CEM	3
		EPA 8015 Mod Pur	PTH	2
		EPA 8260	BJG	8
		ASTM D2974-87	ZM	1
5095059009	**29-SB-1 2-4'**	EPA 8015 Mod Ext	CEM	3

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095059

Lab ID	Sample ID	Method	Analysts	Analytes Reported
		EPA 8015 Mod Pur	PTH	2
		EPA 8260	BJG	8
		ASTM D2974-87	ZM	1
5095059010	**29-SB-2 4-6'**	EPA 8015 Mod Ext	CEM	3
		EPA 8015 Mod Pur	PTH	2
		EPA 8260	BJG	8
		ASTM D2974-87	ZM	1
5095059011	**51-SB-1 8-10'**	EPA 8015 Mod Ext	CEM	3
		EPA 8015 Mod Pur	PTH	2
		EPA 8260	BJG	8
		ASTM D2974-87	ZM	1
5095059012	**51-SB-2 2-4'**	EPA 8015 Mod Ext	CEM	3
		EPA 8015 Mod Pur	PTH	2
		EPA 8260	BJG	8
		ASTM D2974-87	ZM	1

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ANALYTICAL RESULTS

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095059

Sample: 53-SB-1 2-4' **Lab ID: 5095059001** Collected: 03/17/14 10:25 Received: 03/21/14 12:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 TPH Ohio Microwave	Analytical Method: EPA 8015 Mod Ext Preparation Method: EPA 3546							
Total Petroleum Hydrocarbons	**<23.5**	mg/kg	23.5	1	03/25/14 09:25	03/27/14 12:17		
TPH (C10-C20)	**<11.7**	mg/kg	11.7	1	03/25/14 09:25	03/27/14 12:17		
TPH (C20-C34)	**<11.7**	mg/kg	11.7	1	03/25/14 09:25	03/27/14 12:17		
Surrogates								
n-Pentacosane (S)	55	%.	30-153	1	03/25/14 09:25	03/27/14 12:17	629-99-2	
8015 Gasoline Range Organics	Analytical Method: EPA 8015 Mod Pur							
TPH (C06-C12)	**<1.2**	mg/kg	1.2	1		03/25/14 20:05		
Surrogates								
4-Bromofluorobenzene (S)	102	%.	38-163	1		03/25/14 20:05	460-00-4	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546							
Acenaphthene	**<0.0058**	mg/kg	0.0058	1	03/24/14 10:55	03/26/14 04:45	83-32-9	
Acenaphthylene	**<0.0058**	mg/kg	0.0058	1	03/24/14 10:55	03/26/14 04:45	208-96-8	
Anthracene	**<0.0058**	mg/kg	0.0058	1	03/24/14 10:55	03/26/14 04:45	120-12-7	
Benzo(a)anthracene	**<0.0058**	mg/kg	0.0058	1	03/24/14 10:55	03/26/14 04:45	56-55-3	
Benzo(a)pyrene	**<0.0058**	mg/kg	0.0058	1	03/24/14 10:55	03/26/14 04:45	50-32-8	
Benzo(b)fluoranthene	**<0.0058**	mg/kg	0.0058	1	03/24/14 10:55	03/26/14 04:45	205-99-2	
Benzo(g,h,i)perylene	**<0.0058**	mg/kg	0.0058	1	03/24/14 10:55	03/26/14 04:45	191-24-2	
Benzo(k)fluoranthene	**<0.0058**	mg/kg	0.0058	1	03/24/14 10:55	03/26/14 04:45	207-08-9	
Chrysene	**<0.0058**	mg/kg	0.0058	1	03/24/14 10:55	03/26/14 04:45	218-01-9	
Dibenz(a,h)anthracene	**<0.0058**	mg/kg	0.0058	1	03/24/14 10:55	03/26/14 04:45	53-70-3	
Fluoranthene	**<0.0058**	mg/kg	0.0058	1	03/24/14 10:55	03/26/14 04:45	206-44-0	
Fluorene	**<0.0058**	mg/kg	0.0058	1	03/24/14 10:55	03/26/14 04:45	86-73-7	
Indeno(1,2,3-cd)pyrene	**<0.0058**	mg/kg	0.0058	1	03/24/14 10:55	03/26/14 04:45	193-39-5	
Naphthalene	**<0.0058**	mg/kg	0.0058	1	03/24/14 10:55	03/26/14 04:45	91-20-3	
Phenanthrene	**<0.0058**	mg/kg	0.0058	1	03/24/14 10:55	03/26/14 04:45	85-01-8	
Pyrene	**<0.0058**	mg/kg	0.0058	1	03/24/14 10:55	03/26/14 04:45	129-00-0	
Surrogates								
2-Fluorobiphenyl (S)	85	%.	38-110	1	03/24/14 10:55	03/26/14 04:45	321-60-8	
p-Terphenyl-d14 (S)	91	%.	32-111	1	03/24/14 10:55	03/26/14 04:45	1718-51-0	
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
Acetone	**<0.12**	mg/kg	0.12	1		03/27/14 06:14	67-64-1	
Acrolein	**<0.12**	mg/kg	0.12	1		03/27/14 06:14	107-02-8	
Acrylonitrile	**<0.12**	mg/kg	0.12	1		03/27/14 06:14	107-13-1	
Benzene	**<0.0059**	mg/kg	0.0059	1		03/27/14 06:14	71-43-2	
Bromobenzene	**<0.0059**	mg/kg	0.0059	1		03/27/14 06:14	108-86-1	
Bromochloromethane	**<0.0059**	mg/kg	0.0059	1		03/27/14 06:14	74-97-5	
Bromodichloromethane	**<0.0059**	mg/kg	0.0059	1		03/27/14 06:14	75-27-4	
Bromoform	**<0.0059**	mg/kg	0.0059	1		03/27/14 06:14	75-25-2	
Bromomethane	**<0.0059**	mg/kg	0.0059	1		03/27/14 06:14	74-83-9	
2-Butanone (MEK)	**<0.029**	mg/kg	0.029	1		03/27/14 06:14	78-93-3	
n-Butylbenzene	**<0.0059**	mg/kg	0.0059	1		03/27/14 06:14	104-51-8	
sec-Butylbenzene	**<0.0059**	mg/kg	0.0059	1		03/27/14 06:14	135-98-8	
tert-Butylbenzene	**<0.0059**	mg/kg	0.0059	1		03/27/14 06:14	98-06-6	

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ANALYTICAL RESULTS

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095059

Sample: 53-SB-1 2-4' **Lab ID: 5095059001** Collected: 03/17/14 10:25 Received: 03/21/14 12:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
Carbon disulfide	**<0.012**	mg/kg	0.012	1		03/27/14 06:14	75-15-0	
Carbon tetrachloride	**<0.0059**	mg/kg	0.0059	1		03/27/14 06:14	56-23-5	
Chlorobenzene	**<0.0059**	mg/kg	0.0059	1		03/27/14 06:14	108-90-7	
Chloroethane	**<0.0059**	mg/kg	0.0059	1		03/27/14 06:14	75-00-3	
Chloroform	**<0.0059**	mg/kg	0.0059	1		03/27/14 06:14	67-66-3	
Chloromethane	**<0.0059**	mg/kg	0.0059	1		03/27/14 06:14	74-87-3	
2-Chlorotoluene	**<0.0059**	mg/kg	0.0059	1		03/27/14 06:14	95-49-8	
4-Chlorotoluene	**<0.0059**	mg/kg	0.0059	1		03/27/14 06:14	106-43-4	
Dibromochloromethane	**<0.0059**	mg/kg	0.0059	1		03/27/14 06:14	124-48-1	
1,2-Dibromoethane (EDB)	**<0.0059**	mg/kg	0.0059	1		03/27/14 06:14	106-93-4	
Dibromomethane	**<0.0059**	mg/kg	0.0059	1		03/27/14 06:14	74-95-3	
1,2-Dichlorobenzene	**<0.0059**	mg/kg	0.0059	1		03/27/14 06:14	95-50-1	
1,3-Dichlorobenzene	**<0.0059**	mg/kg	0.0059	1		03/27/14 06:14	541-73-1	
1,4-Dichlorobenzene	**<0.0059**	mg/kg	0.0059	1		03/27/14 06:14	106-46-7	
trans-1,4-Dichloro-2-butene	**<0.12**	mg/kg	0.12	1		03/27/14 06:14	110-57-6	
Dichlorodifluoromethane	**<0.0059**	mg/kg	0.0059	1		03/27/14 06:14	75-71-8	
1,1-Dichloroethane	**<0.0059**	mg/kg	0.0059	1		03/27/14 06:14	75-34-3	
1,2-Dichloroethane	**<0.0059**	mg/kg	0.0059	1		03/27/14 06:14	107-06-2	
1,1-Dichloroethene	**<0.0059**	mg/kg	0.0059	1		03/27/14 06:14	75-35-4	
cis-1,2-Dichloroethene	**<0.0059**	mg/kg	0.0059	1		03/27/14 06:14	156-59-2	
trans-1,2-Dichloroethene	**<0.0059**	mg/kg	0.0059	1		03/27/14 06:14	156-60-5	
1,2-Dichloropropane	**<0.0059**	mg/kg	0.0059	1		03/27/14 06:14	78-87-5	
1,3-Dichloropropane	**<0.0059**	mg/kg	0.0059	1		03/27/14 06:14	142-28-9	
2,2-Dichloropropane	**<0.0059**	mg/kg	0.0059	1		03/27/14 06:14	594-20-7	
1,1-Dichloropropene	**<0.0059**	mg/kg	0.0059	1		03/27/14 06:14	563-58-6	
cis-1,3-Dichloropropene	**<0.0059**	mg/kg	0.0059	1		03/27/14 06:14	10061-01-5	
trans-1,3-Dichloropropene	**<0.0059**	mg/kg	0.0059	1		03/27/14 06:14	10061-02-6	
Ethylbenzene	**<0.0059**	mg/kg	0.0059	1		03/27/14 06:14	100-41-4	
Ethyl methacrylate	**<0.12**	mg/kg	0.12	1		03/27/14 06:14	97-63-2	
Hexachloro-1,3-butadiene	**<0.0059**	mg/kg	0.0059	1		03/27/14 06:14	87-68-3	
n-Hexane	**<0.0059**	mg/kg	0.0059	1		03/27/14 06:14	110-54-3	N2
2-Hexanone	**<0.12**	mg/kg	0.12	1		03/27/14 06:14	591-78-6	
Iodomethane	**<0.12**	mg/kg	0.12	1		03/27/14 06:14	74-88-4	
Isopropylbenzene (Cumene)	**<0.0059**	mg/kg	0.0059	1		03/27/14 06:14	98-82-8	
p-Isopropyltoluene	**<0.0059**	mg/kg	0.0059	1		03/27/14 06:14	99-87-6	
Methylene Chloride	**<0.024**	mg/kg	0.024	1		03/27/14 06:14	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<0.029**	mg/kg	0.029	1		03/27/14 06:14	108-10-1	
Methyl-tert-butyl ether	**<0.0059**	mg/kg	0.0059	1		03/27/14 06:14	1634-04-4	
Naphthalene	**<0.0059**	mg/kg	0.0059	1		03/27/14 06:14	91-20-3	
n-Propylbenzene	**<0.0059**	mg/kg	0.0059	1		03/27/14 06:14	103-65-1	
Styrene	**<0.0059**	mg/kg	0.0059	1		03/27/14 06:14	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.0059**	mg/kg	0.0059	1		03/27/14 06:14	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.0059**	mg/kg	0.0059	1		03/27/14 06:14	79-34-5	
Tetrachloroethene	**<0.0059**	mg/kg	0.0059	1		03/27/14 06:14	127-18-4	
Toluene	**<0.0059**	mg/kg	0.0059	1		03/27/14 06:14	108-88-3	
1,2,3-Trichlorobenzene	**<0.0059**	mg/kg	0.0059	1		03/27/14 06:14	87-61-6	

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ANALYTICAL RESULTS

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095059

Sample: 53-SB-1 2-4' **Lab ID: 5095059001** Collected: 03/17/14 10:25 Received: 03/21/14 12:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
1,2,4-Trichlorobenzene	**<0.0059**	mg/kg	0.0059	1		03/27/14 06:14	120-82-1	
1,1,1-Trichloroethane	**<0.0059**	mg/kg	0.0059	1		03/27/14 06:14	71-55-6	
1,1,2-Trichloroethane	**<0.0059**	mg/kg	0.0059	1		03/27/14 06:14	79-00-5	
Trichloroethene	**<0.0059**	mg/kg	0.0059	1		03/27/14 06:14	79-01-6	
Trichlorofluoromethane	**<0.0059**	mg/kg	0.0059	1		03/27/14 06:14	75-69-4	
1,2,3-Trichloropropane	**<0.0059**	mg/kg	0.0059	1		03/27/14 06:14	96-18-4	
1,2,4-Trimethylbenzene	**<0.0059**	mg/kg	0.0059	1		03/27/14 06:14	95-63-6	
1,3,5-Trimethylbenzene	**<0.0059**	mg/kg	0.0059	1		03/27/14 06:14	108-67-8	
Vinyl acetate	**<0.12**	mg/kg	0.12	1		03/27/14 06:14	108-05-4	
Vinyl chloride	**<0.0059**	mg/kg	0.0059	1		03/27/14 06:14	75-01-4	
Xylene (Total)	**<0.012**	mg/kg	0.012	1		03/27/14 06:14	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	104	%.	85-118	1		03/27/14 06:14	1868-53-7	
Toluene-d8 (S)	94	%.	71-128	1		03/27/14 06:14	2037-26-5	
4-Bromofluorobenzene (S)	94	%.	56-144	1		03/27/14 06:14	460-00-4	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**15.0**	%	0.10	1		03/24/14 16:02		

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ANALYTICAL RESULTS

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095059

Sample: 53-SB-2 6-8' **Lab ID: 5095059002** Collected: 03/17/14 11:15 Received: 03/21/14 12:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 TPH Ohio Microwave	Analytical Method: EPA 8015 Mod Ext Preparation Method: EPA 3546							
Total Petroleum Hydrocarbons	**<23.9**	mg/kg	23.9	1	03/25/14 09:25	03/27/14 12:39		
TPH (C10-C20)	**<12.0**	mg/kg	12.0	1	03/25/14 09:25	03/27/14 12:39		
TPH (C20-C34)	**<12.0**	mg/kg	12.0	1	03/25/14 09:25	03/27/14 12:39		
Surrogates								
n-Pentacosane (S)	55	%.	30-153	1	03/25/14 09:25	03/27/14 12:39	629-99-2	
8015 Gasoline Range Organics	Analytical Method: EPA 8015 Mod Pur							
TPH (C06-C12)	**<1.2**	mg/kg	1.2	1		03/25/14 20:31		
Surrogates								
4-Bromofluorobenzene (S)	102	%.	38-163	1		03/25/14 20:31	460-00-4	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546							
Acenaphthene	**<0.0060**	mg/kg	0.0060	1	03/24/14 10:55	03/26/14 05:38	83-32-9	
Acenaphthylene	**<0.0060**	mg/kg	0.0060	1	03/24/14 10:55	03/26/14 05:38	208-96-8	
Anthracene	**<0.0060**	mg/kg	0.0060	1	03/24/14 10:55	03/26/14 05:38	120-12-7	
Benzo(a)anthracene	**<0.0060**	mg/kg	0.0060	1	03/24/14 10:55	03/26/14 05:38	56-55-3	
Benzo(a)pyrene	**<0.0060**	mg/kg	0.0060	1	03/24/14 10:55	03/26/14 05:38	50-32-8	
Benzo(b)fluoranthene	**<0.0060**	mg/kg	0.0060	1	03/24/14 10:55	03/26/14 05:38	205-99-2	
Benzo(g,h,i)perylene	**<0.0060**	mg/kg	0.0060	1	03/24/14 10:55	03/26/14 05:38	191-24-2	
Benzo(k)fluoranthene	**<0.0060**	mg/kg	0.0060	1	03/24/14 10:55	03/26/14 05:38	207-08-9	
Chrysene	**<0.0060**	mg/kg	0.0060	1	03/24/14 10:55	03/26/14 05:38	218-01-9	
Dibenz(a,h)anthracene	**<0.0060**	mg/kg	0.0060	1	03/24/14 10:55	03/26/14 05:38	53-70-3	
Fluoranthene	**<0.0060**	mg/kg	0.0060	1	03/24/14 10:55	03/26/14 05:38	206-44-0	
Fluorene	**<0.0060**	mg/kg	0.0060	1	03/24/14 10:55	03/26/14 05:38	86-73-7	
Indeno(1,2,3-cd)pyrene	**<0.0060**	mg/kg	0.0060	1	03/24/14 10:55	03/26/14 05:38	193-39-5	
Naphthalene	**<0.0060**	mg/kg	0.0060	1	03/24/14 10:55	03/26/14 05:38	91-20-3	
Phenanthrene	**<0.0060**	mg/kg	0.0060	1	03/24/14 10:55	03/26/14 05:38	85-01-8	
Pyrene	**<0.0060**	mg/kg	0.0060	1	03/24/14 10:55	03/26/14 05:38	129-00-0	
Surrogates								
2-Fluorobiphenyl (S)	75	%.	38-110	1	03/24/14 10:55	03/26/14 05:38	321-60-8	
p-Terphenyl-d14 (S)	83	%.	32-111	1	03/24/14 10:55	03/26/14 05:38	1718-51-0	
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
Acetone	**<0.12**	mg/kg	0.12	1		03/27/14 08:12	67-64-1	
Acrolein	**<0.12**	mg/kg	0.12	1		03/27/14 08:12	107-02-8	
Acrylonitrile	**<0.12**	mg/kg	0.12	1		03/27/14 08:12	107-13-1	
Benzene	**<0.0061**	mg/kg	0.0061	1		03/27/14 08:12	71-43-2	
Bromobenzene	**<0.0061**	mg/kg	0.0061	1		03/27/14 08:12	108-86-1	
Bromochloromethane	**<0.0061**	mg/kg	0.0061	1		03/27/14 08:12	74-97-5	
Bromodichloromethane	**<0.0061**	mg/kg	0.0061	1		03/27/14 08:12	75-27-4	
Bromoform	**<0.0061**	mg/kg	0.0061	1		03/27/14 08:12	75-25-2	
Bromomethane	**<0.0061**	mg/kg	0.0061	1		03/27/14 08:12	74-83-9	
2-Butanone (MEK)	**<0.030**	mg/kg	0.030	1		03/27/14 08:12	78-93-3	
n-Butylbenzene	**<0.0061**	mg/kg	0.0061	1		03/27/14 08:12	104-51-8	
sec-Butylbenzene	**<0.0061**	mg/kg	0.0061	1		03/27/14 08:12	135-98-8	
tert-Butylbenzene	**<0.0061**	mg/kg	0.0061	1		03/27/14 08:12	98-06-6	

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ANALYTICAL RESULTS

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095059

Sample: 53-SB-2 6-8' **Lab ID: 5095059002** Collected: 03/17/14 11:15 Received: 03/21/14 12:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
Carbon disulfide	**<0.012**	mg/kg	0.012	1		03/27/14 08:12	75-15-0	
Carbon tetrachloride	**<0.0061**	mg/kg	0.0061	1		03/27/14 08:12	56-23-5	
Chlorobenzene	**<0.0061**	mg/kg	0.0061	1		03/27/14 08:12	108-90-7	
Chloroethane	**<0.0061**	mg/kg	0.0061	1		03/27/14 08:12	75-00-3	
Chloroform	**<0.0061**	mg/kg	0.0061	1		03/27/14 08:12	67-66-3	
Chloromethane	**<0.0061**	mg/kg	0.0061	1		03/27/14 08:12	74-87-3	
2-Chlorotoluene	**<0.0061**	mg/kg	0.0061	1		03/27/14 08:12	95-49-8	
4-Chlorotoluene	**<0.0061**	mg/kg	0.0061	1		03/27/14 08:12	106-43-4	
Dibromochloromethane	**<0.0061**	mg/kg	0.0061	1		03/27/14 08:12	124-48-1	
1,2-Dibromoethane (EDB)	**<0.0061**	mg/kg	0.0061	1		03/27/14 08:12	106-93-4	
Dibromomethane	**<0.0061**	mg/kg	0.0061	1		03/27/14 08:12	74-95-3	
1,2-Dichlorobenzene	**<0.0061**	mg/kg	0.0061	1		03/27/14 08:12	95-50-1	
1,3-Dichlorobenzene	**<0.0061**	mg/kg	0.0061	1		03/27/14 08:12	541-73-1	
1,4-Dichlorobenzene	**<0.0061**	mg/kg	0.0061	1		03/27/14 08:12	106-46-7	
trans-1,4-Dichloro-2-butene	**<0.12**	mg/kg	0.12	1		03/27/14 08:12	110-57-6	
Dichlorodifluoromethane	**<0.0061**	mg/kg	0.0061	1		03/27/14 08:12	75-71-8	
1,1-Dichloroethane	**<0.0061**	mg/kg	0.0061	1		03/27/14 08:12	75-34-3	
1,2-Dichloroethane	**<0.0061**	mg/kg	0.0061	1		03/27/14 08:12	107-06-2	
1,1-Dichloroethene	**<0.0061**	mg/kg	0.0061	1		03/27/14 08:12	75-35-4	
cis-1,2-Dichloroethene	**<0.0061**	mg/kg	0.0061	1		03/27/14 08:12	156-59-2	
trans-1,2-Dichloroethene	**<0.0061**	mg/kg	0.0061	1		03/27/14 08:12	156-60-5	
1,2-Dichloropropane	**<0.0061**	mg/kg	0.0061	1		03/27/14 08:12	78-87-5	
1,3-Dichloropropane	**<0.0061**	mg/kg	0.0061	1		03/27/14 08:12	142-28-9	
2,2-Dichloropropane	**<0.0061**	mg/kg	0.0061	1		03/27/14 08:12	594-20-7	
1,1-Dichloropropene	**<0.0061**	mg/kg	0.0061	1		03/27/14 08:12	563-58-6	
cis-1,3-Dichloropropene	**<0.0061**	mg/kg	0.0061	1		03/27/14 08:12	10061-01-5	
trans-1,3-Dichloropropene	**<0.0061**	mg/kg	0.0061	1		03/27/14 08:12	10061-02-6	
Ethylbenzene	**<0.0061**	mg/kg	0.0061	1		03/27/14 08:12	100-41-4	
Ethyl methacrylate	**<0.12**	mg/kg	0.12	1		03/27/14 08:12	97-63-2	
Hexachloro-1,3-butadiene	**<0.0061**	mg/kg	0.0061	1		03/27/14 08:12	87-68-3	
n-Hexane	**<0.0061**	mg/kg	0.0061	1		03/27/14 08:12	110-54-3	N2
2-Hexanone	**<0.12**	mg/kg	0.12	1		03/27/14 08:12	591-78-6	
Iodomethane	**<0.12**	mg/kg	0.12	1		03/27/14 08:12	74-88-4	
Isopropylbenzene (Cumene)	**<0.0061**	mg/kg	0.0061	1		03/27/14 08:12	98-82-8	
p-Isopropyltoluene	**<0.0061**	mg/kg	0.0061	1		03/27/14 08:12	99-87-6	
Methylene Chloride	**<0.024**	mg/kg	0.024	1		03/27/14 08:12	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<0.030**	mg/kg	0.030	1		03/27/14 08:12	108-10-1	
Methyl-tert-butyl ether	**<0.0061**	mg/kg	0.0061	1		03/27/14 08:12	1634-04-4	
Naphthalene	**<0.0061**	mg/kg	0.0061	1		03/27/14 08:12	91-20-3	
n-Propylbenzene	**<0.0061**	mg/kg	0.0061	1		03/27/14 08:12	103-65-1	
Styrene	**<0.0061**	mg/kg	0.0061	1		03/27/14 08:12	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.0061**	mg/kg	0.0061	1		03/27/14 08:12	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.0061**	mg/kg	0.0061	1		03/27/14 08:12	79-34-5	
Tetrachloroethene	**<0.0061**	mg/kg	0.0061	1		03/27/14 08:12	127-18-4	
Toluene	**<0.0061**	mg/kg	0.0061	1		03/27/14 08:12	108-88-3	
1,2,3-Trichlorobenzene	**<0.0061**	mg/kg	0.0061	1		03/27/14 08:12	87-61-6	

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ANALYTICAL RESULTS

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095059

Sample: 53-SB-2 6-8' **Lab ID: 5095059002** Collected: 03/17/14 11:15 Received: 03/21/14 12:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
1,2,4-Trichlorobenzene	**<0.0061**	mg/kg	0.0061	1		03/27/14 08:12	120-82-1	
1,1,1-Trichloroethane	**<0.0061**	mg/kg	0.0061	1		03/27/14 08:12	71-55-6	
1,1,2-Trichloroethane	**<0.0061**	mg/kg	0.0061	1		03/27/14 08:12	79-00-5	
Trichloroethene	**<0.0061**	mg/kg	0.0061	1		03/27/14 08:12	79-01-6	
Trichlorofluoromethane	**<0.0061**	mg/kg	0.0061	1		03/27/14 08:12	75-69-4	
1,2,3-Trichloropropane	**<0.0061**	mg/kg	0.0061	1		03/27/14 08:12	96-18-4	
1,2,4-Trimethylbenzene	**<0.0061**	mg/kg	0.0061	1		03/27/14 08:12	95-63-6	
1,3,5-Trimethylbenzene	**<0.0061**	mg/kg	0.0061	1		03/27/14 08:12	108-67-8	
Vinyl acetate	**<0.12**	mg/kg	0.12	1		03/27/14 08:12	108-05-4	
Vinyl chloride	**<0.0061**	mg/kg	0.0061	1		03/27/14 08:12	75-01-4	
Xylene (Total)	**<0.012**	mg/kg	0.012	1		03/27/14 08:12	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	101	%.	85-118	1		03/27/14 08:12	1868-53-7	
Toluene-d8 (S)	95	%.	71-128	1		03/27/14 08:12	2037-26-5	
4-Bromofluorobenzene (S)	98	%.	56-144	1		03/27/14 08:12	460-00-4	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**17.6**	%	0.10	1		03/24/14 16:02		

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ANALYTICAL RESULTS

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095059

Sample: 53-SB-3 8-10' **Lab ID: 5095059003** Collected: 03/17/14 11:40 Received: 03/21/14 12:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 TPH Ohio Microwave	Analytical Method: EPA 8015 Mod Ext Preparation Method: EPA 3546							
Total Petroleum Hydrocarbons	**<24.7**	mg/kg	24.7	1	03/25/14 09:25	03/27/14 12:46		
TPH (C10-C20)	**<12.4**	mg/kg	12.4	1	03/25/14 09:25	03/27/14 12:46		
TPH (C20-C34)	**<12.4**	mg/kg	12.4	1	03/25/14 09:25	03/27/14 12:46		
Surrogates								
n-Pentacosane (S)	48	%.	30-153	1	03/25/14 09:25	03/27/14 12:46	629-99-2	
8015 Gasoline Range Organics	Analytical Method: EPA 8015 Mod Pur							
TPH (C06-C12)	**<1.2**	mg/kg	1.2	1		03/25/14 20:56		
Surrogates								
4-Bromofluorobenzene (S)	97	%.	38-163	1		03/25/14 20:56	460-00-4	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546							
Acenaphthene	**<0.0061**	mg/kg	0.0061	1	03/24/14 10:55	03/26/14 05:56	83-32-9	
Acenaphthylene	**<0.0061**	mg/kg	0.0061	1	03/24/14 10:55	03/26/14 05:56	208-96-8	
Anthracene	**<0.0061**	mg/kg	0.0061	1	03/24/14 10:55	03/26/14 05:56	120-12-7	
Benzo(a)anthracene	**<0.0061**	mg/kg	0.0061	1	03/24/14 10:55	03/26/14 05:56	56-55-3	
Benzo(a)pyrene	**<0.0061**	mg/kg	0.0061	1	03/24/14 10:55	03/26/14 05:56	50-32-8	
Benzo(b)fluoranthene	**<0.0061**	mg/kg	0.0061	1	03/24/14 10:55	03/26/14 05:56	205-99-2	
Benzo(g,h,i)perylene	**<0.0061**	mg/kg	0.0061	1	03/24/14 10:55	03/26/14 05:56	191-24-2	
Benzo(k)fluoranthene	**<0.0061**	mg/kg	0.0061	1	03/24/14 10:55	03/26/14 05:56	207-08-9	
Chrysene	**<0.0061**	mg/kg	0.0061	1	03/24/14 10:55	03/26/14 05:56	218-01-9	
Dibenz(a,h)anthracene	**<0.0061**	mg/kg	0.0061	1	03/24/14 10:55	03/26/14 05:56	53-70-3	
Fluoranthene	**<0.0061**	mg/kg	0.0061	1	03/24/14 10:55	03/26/14 05:56	206-44-0	
Fluorene	**<0.0061**	mg/kg	0.0061	1	03/24/14 10:55	03/26/14 05:56	86-73-7	
Indeno(1,2,3-cd)pyrene	**<0.0061**	mg/kg	0.0061	1	03/24/14 10:55	03/26/14 05:56	193-39-5	
Naphthalene	**<0.0061**	mg/kg	0.0061	1	03/24/14 10:55	03/26/14 05:56	91-20-3	
Phenanthrene	**<0.0061**	mg/kg	0.0061	1	03/24/14 10:55	03/26/14 05:56	85-01-8	
Pyrene	**<0.0061**	mg/kg	0.0061	1	03/24/14 10:55	03/26/14 05:56	129-00-0	
Surrogates								
2-Fluorobiphenyl (S)	74	%.	38-110	1	03/24/14 10:55	03/26/14 05:56	321-60-8	
p-Terphenyl-d14 (S)	72	%.	32-111	1	03/24/14 10:55	03/26/14 05:56	1718-51-0	
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
Acetone	**<0.12**	mg/kg	0.12	1		03/27/14 08:51	67-64-1	
Acrolein	**<0.12**	mg/kg	0.12	1		03/27/14 08:51	107-02-8	
Acrylonitrile	**<0.12**	mg/kg	0.12	1		03/27/14 08:51	107-13-1	
Benzene	**<0.0062**	mg/kg	0.0062	1		03/27/14 08:51	71-43-2	
Bromobenzene	**<0.0062**	mg/kg	0.0062	1		03/27/14 08:51	108-86-1	
Bromochloromethane	**<0.0062**	mg/kg	0.0062	1		03/27/14 08:51	74-97-5	
Bromodichloromethane	**<0.0062**	mg/kg	0.0062	1		03/27/14 08:51	75-27-4	
Bromoform	**<0.0062**	mg/kg	0.0062	1		03/27/14 08:51	75-25-2	
Bromomethane	**<0.0062**	mg/kg	0.0062	1		03/27/14 08:51	74-83-9	
2-Butanone (MEK)	**<0.031**	mg/kg	0.031	1		03/27/14 08:51	78-93-3	
n-Butylbenzene	**<0.0062**	mg/kg	0.0062	1		03/27/14 08:51	104-51-8	
sec-Butylbenzene	**<0.0062**	mg/kg	0.0062	1		03/27/14 08:51	135-98-8	
tert-Butylbenzene	**<0.0062**	mg/kg	0.0062	1		03/27/14 08:51	98-06-6	

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ANALYTICAL RESULTS

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095059

Sample: 53-SB-3 8-10' **Lab ID: 5095059003** Collected: 03/17/14 11:40 Received: 03/21/14 12:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
Carbon disulfide	**<0.012**	mg/kg	0.012	1		03/27/14 08:51	75-15-0	
Carbon tetrachloride	**<0.0062**	mg/kg	0.0062	1		03/27/14 08:51	56-23-5	
Chlorobenzene	**<0.0062**	mg/kg	0.0062	1		03/27/14 08:51	108-90-7	
Chloroethane	**<0.0062**	mg/kg	0.0062	1		03/27/14 08:51	75-00-3	
Chloroform	**<0.0062**	mg/kg	0.0062	1		03/27/14 08:51	67-66-3	
Chloromethane	**<0.0062**	mg/kg	0.0062	1		03/27/14 08:51	74-87-3	
2-Chlorotoluene	**<0.0062**	mg/kg	0.0062	1		03/27/14 08:51	95-49-8	
4-Chlorotoluene	**<0.0062**	mg/kg	0.0062	1		03/27/14 08:51	106-43-4	
Dibromochloromethane	**<0.0062**	mg/kg	0.0062	1		03/27/14 08:51	124-48-1	
1,2-Dibromoethane (EDB)	**<0.0062**	mg/kg	0.0062	1		03/27/14 08:51	106-93-4	
Dibromomethane	**<0.0062**	mg/kg	0.0062	1		03/27/14 08:51	74-95-3	
1,2-Dichlorobenzene	**<0.0062**	mg/kg	0.0062	1		03/27/14 08:51	95-50-1	
1,3-Dichlorobenzene	**<0.0062**	mg/kg	0.0062	1		03/27/14 08:51	541-73-1	
1,4-Dichlorobenzene	**<0.0062**	mg/kg	0.0062	1		03/27/14 08:51	106-46-7	
trans-1,4-Dichloro-2-butene	**<0.12**	mg/kg	0.12	1		03/27/14 08:51	110-57-6	
Dichlorodifluoromethane	**<0.0062**	mg/kg	0.0062	1		03/27/14 08:51	75-71-8	
1,1-Dichloroethane	**<0.0062**	mg/kg	0.0062	1		03/27/14 08:51	75-34-3	
1,2-Dichloroethane	**<0.0062**	mg/kg	0.0062	1		03/27/14 08:51	107-06-2	
1,1-Dichloroethene	**<0.0062**	mg/kg	0.0062	1		03/27/14 08:51	75-35-4	
cis-1,2-Dichloroethene	**<0.0062**	mg/kg	0.0062	1		03/27/14 08:51	156-59-2	
trans-1,2-Dichloroethene	**<0.0062**	mg/kg	0.0062	1		03/27/14 08:51	156-60-5	
1,2-Dichloropropane	**<0.0062**	mg/kg	0.0062	1		03/27/14 08:51	78-87-5	
1,3-Dichloropropane	**<0.0062**	mg/kg	0.0062	1		03/27/14 08:51	142-28-9	
2,2-Dichloropropane	**<0.0062**	mg/kg	0.0062	1		03/27/14 08:51	594-20-7	
1,1-Dichloropropene	**<0.0062**	mg/kg	0.0062	1		03/27/14 08:51	563-58-6	
cis-1,3-Dichloropropene	**<0.0062**	mg/kg	0.0062	1		03/27/14 08:51	10061-01-5	
trans-1,3-Dichloropropene	**<0.0062**	mg/kg	0.0062	1		03/27/14 08:51	10061-02-6	
Ethylbenzene	**<0.0062**	mg/kg	0.0062	1		03/27/14 08:51	100-41-4	
Ethyl methacrylate	**<0.12**	mg/kg	0.12	1		03/27/14 08:51	97-63-2	
Hexachloro-1,3-butadiene	**<0.0062**	mg/kg	0.0062	1		03/27/14 08:51	87-68-3	
n-Hexane	**<0.0062**	mg/kg	0.0062	1		03/27/14 08:51	110-54-3	N2
2-Hexanone	**<0.12**	mg/kg	0.12	1		03/27/14 08:51	591-78-6	
Iodomethane	**<0.12**	mg/kg	0.12	1		03/27/14 08:51	74-88-4	
Isopropylbenzene (Cumene)	**<0.0062**	mg/kg	0.0062	1		03/27/14 08:51	98-82-8	
p-Isopropyltoluene	**<0.0062**	mg/kg	0.0062	1		03/27/14 08:51	99-87-6	
Methylene Chloride	**<0.025**	mg/kg	0.025	1		03/27/14 08:51	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<0.031**	mg/kg	0.031	1		03/27/14 08:51	108-10-1	
Methyl-tert-butyl ether	**<0.0062**	mg/kg	0.0062	1		03/27/14 08:51	1634-04-4	
Naphthalene	**<0.0062**	mg/kg	0.0062	1		03/27/14 08:51	91-20-3	
n-Propylbenzene	**<0.0062**	mg/kg	0.0062	1		03/27/14 08:51	103-65-1	
Styrene	**<0.0062**	mg/kg	0.0062	1		03/27/14 08:51	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.0062**	mg/kg	0.0062	1		03/27/14 08:51	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.0062**	mg/kg	0.0062	1		03/27/14 08:51	79-34-5	
Tetrachloroethene	**<0.0062**	mg/kg	0.0062	1		03/27/14 08:51	127-18-4	
Toluene	**<0.0062**	mg/kg	0.0062	1		03/27/14 08:51	108-88-3	
1,2,3-Trichlorobenzene	**<0.0062**	mg/kg	0.0062	1		03/27/14 08:51	87-61-6	

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ANALYTICAL RESULTS

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095059

Sample: 53-SB-3 8-10' **Lab ID: 5095059003** Collected: 03/17/14 11:40 Received: 03/21/14 12:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
1,2,4-Trichlorobenzene	**<0.0062**	mg/kg	0.0062	1		03/27/14 08:51	120-82-1	
1,1,1-Trichloroethane	**<0.0062**	mg/kg	0.0062	1		03/27/14 08:51	71-55-6	
1,1,2-Trichloroethane	**<0.0062**	mg/kg	0.0062	1		03/27/14 08:51	79-00-5	
Trichloroethene	**<0.0062**	mg/kg	0.0062	1		03/27/14 08:51	79-01-6	
Trichlorofluoromethane	**<0.0062**	mg/kg	0.0062	1		03/27/14 08:51	75-69-4	
1,2,3-Trichloropropane	**<0.0062**	mg/kg	0.0062	1		03/27/14 08:51	96-18-4	
1,2,4-Trimethylbenzene	**<0.0062**	mg/kg	0.0062	1		03/27/14 08:51	95-63-6	
1,3,5-Trimethylbenzene	**<0.0062**	mg/kg	0.0062	1		03/27/14 08:51	108-67-8	
Vinyl acetate	**<0.12**	mg/kg	0.12	1		03/27/14 08:51	108-05-4	
Vinyl chloride	**<0.0062**	mg/kg	0.0062	1		03/27/14 08:51	75-01-4	
Xylene (Total)	**<0.012**	mg/kg	0.012	1		03/27/14 08:51	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	102	%.	85-118	1		03/27/14 08:51	1868-53-7	
Toluene-d8 (S)	97	%.	71-128	1		03/27/14 08:51	2037-26-5	
4-Bromofluorobenzene (S)	94	%.	56-144	1		03/27/14 08:51	460-00-4	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**19.3**	%	0.10	1		03/24/14 16:02		

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ANALYTICAL RESULTS

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095059

Sample: 53-SB-4 6-8' **Lab ID: 5095059004** Collected: 03/17/14 12:55 Received: 03/21/14 12:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 TPH Ohio Microwave	Analytical Method: EPA 8015 Mod Ext Preparation Method: EPA 3546							
Total Petroleum Hydrocarbons	**<24.0**	mg/kg	24.0	1	03/25/14 09:25	03/27/14 12:53		
TPH (C10-C20)	**<12.0**	mg/kg	12.0	1	03/25/14 09:25	03/27/14 12:53		
TPH (C20-C34)	**<12.0**	mg/kg	12.0	1	03/25/14 09:25	03/27/14 12:53		
Surrogates								
n-Pentacosane (S)	54	%.	30-153	1	03/25/14 09:25	03/27/14 12:53	629-99-2	
8015 Gasoline Range Organics	Analytical Method: EPA 8015 Mod Pur							
TPH (C06-C12)	**<1.2**	mg/kg	1.2	1		03/25/14 21:22		
Surrogates								
4-Bromofluorobenzene (S)	98	%.	38-163	1		03/25/14 21:22	460-00-4	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546							
Acenaphthene	**<0.0061**	mg/kg	0.0061	1	03/24/14 10:55	03/26/14 06:13	83-32-9	
Acenaphthylene	**<0.0061**	mg/kg	0.0061	1	03/24/14 10:55	03/26/14 06:13	208-96-8	
Anthracene	**<0.0061**	mg/kg	0.0061	1	03/24/14 10:55	03/26/14 06:13	120-12-7	
Benzo(a)anthracene	**<0.0061**	mg/kg	0.0061	1	03/24/14 10:55	03/26/14 06:13	56-55-3	
Benzo(a)pyrene	**<0.0061**	mg/kg	0.0061	1	03/24/14 10:55	03/26/14 06:13	50-32-8	
Benzo(b)fluoranthene	**<0.0061**	mg/kg	0.0061	1	03/24/14 10:55	03/26/14 06:13	205-99-2	
Benzo(g,h,i)perylene	**<0.0061**	mg/kg	0.0061	1	03/24/14 10:55	03/26/14 06:13	191-24-2	
Benzo(k)fluoranthene	**<0.0061**	mg/kg	0.0061	1	03/24/14 10:55	03/26/14 06:13	207-08-9	
Chrysene	**<0.0061**	mg/kg	0.0061	1	03/24/14 10:55	03/26/14 06:13	218-01-9	
Dibenz(a,h)anthracene	**<0.0061**	mg/kg	0.0061	1	03/24/14 10:55	03/26/14 06:13	53-70-3	
Fluoranthene	**<0.0061**	mg/kg	0.0061	1	03/24/14 10:55	03/26/14 06:13	206-44-0	
Fluorene	**<0.0061**	mg/kg	0.0061	1	03/24/14 10:55	03/26/14 06:13	86-73-7	
Indeno(1,2,3-cd)pyrene	**<0.0061**	mg/kg	0.0061	1	03/24/14 10:55	03/26/14 06:13	193-39-5	
Naphthalene	**<0.0061**	mg/kg	0.0061	1	03/24/14 10:55	03/26/14 06:13	91-20-3	
Phenanthrene	**<0.0061**	mg/kg	0.0061	1	03/24/14 10:55	03/26/14 06:13	85-01-8	
Pyrene	**<0.0061**	mg/kg	0.0061	1	03/24/14 10:55	03/26/14 06:13	129-00-0	
Surrogates								
2-Fluorobiphenyl (S)	76	%.	38-110	1	03/24/14 10:55	03/26/14 06:13	321-60-8	
p-Terphenyl-d14 (S)	69	%.	32-111	1	03/24/14 10:55	03/26/14 06:13	1718-51-0	
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
Acetone	**<0.12**	mg/kg	0.12	1		03/27/14 09:31	67-64-1	
Acrolein	**<0.12**	mg/kg	0.12	1		03/27/14 09:31	107-02-8	
Acrylonitrile	**<0.12**	mg/kg	0.12	1		03/27/14 09:31	107-13-1	
Benzene	**<0.0061**	mg/kg	0.0061	1		03/27/14 09:31	71-43-2	
Bromobenzene	**<0.0061**	mg/kg	0.0061	1		03/27/14 09:31	108-86-1	
Bromochloromethane	**<0.0061**	mg/kg	0.0061	1		03/27/14 09:31	74-97-5	
Bromodichloromethane	**<0.0061**	mg/kg	0.0061	1		03/27/14 09:31	75-27-4	
Bromoform	**<0.0061**	mg/kg	0.0061	1		03/27/14 09:31	75-25-2	
Bromomethane	**<0.0061**	mg/kg	0.0061	1		03/27/14 09:31	74-83-9	
2-Butanone (MEK)	**<0.030**	mg/kg	0.030	1		03/27/14 09:31	78-93-3	
n-Butylbenzene	**<0.0061**	mg/kg	0.0061	1		03/27/14 09:31	104-51-8	
sec-Butylbenzene	**<0.0061**	mg/kg	0.0061	1		03/27/14 09:31	135-98-8	
tert-Butylbenzene	**<0.0061**	mg/kg	0.0061	1		03/27/14 09:31	98-06-6	

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ANALYTICAL RESULTS

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095059

Sample: 53-SB-4 6-8' **Lab ID: 5095059004** Collected: 03/17/14 12:55 Received: 03/21/14 12:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
Carbon disulfide	**<0.012**	mg/kg	0.012	1		03/27/14 09:31	75-15-0	
Carbon tetrachloride	**<0.0061**	mg/kg	0.0061	1		03/27/14 09:31	56-23-5	
Chlorobenzene	**<0.0061**	mg/kg	0.0061	1		03/27/14 09:31	108-90-7	
Chloroethane	**<0.0061**	mg/kg	0.0061	1		03/27/14 09:31	75-00-3	
Chloroform	**<0.0061**	mg/kg	0.0061	1		03/27/14 09:31	67-66-3	
Chloromethane	**<0.0061**	mg/kg	0.0061	1		03/27/14 09:31	74-87-3	
2-Chlorotoluene	**<0.0061**	mg/kg	0.0061	1		03/27/14 09:31	95-49-8	
4-Chlorotoluene	**<0.0061**	mg/kg	0.0061	1		03/27/14 09:31	106-43-4	
Dibromochloromethane	**<0.0061**	mg/kg	0.0061	1		03/27/14 09:31	124-48-1	
1,2-Dibromoethane (EDB)	**<0.0061**	mg/kg	0.0061	1		03/27/14 09:31	106-93-4	
Dibromomethane	**<0.0061**	mg/kg	0.0061	1		03/27/14 09:31	74-95-3	
1,2-Dichlorobenzene	**<0.0061**	mg/kg	0.0061	1		03/27/14 09:31	95-50-1	
1,3-Dichlorobenzene	**<0.0061**	mg/kg	0.0061	1		03/27/14 09:31	541-73-1	
1,4-Dichlorobenzene	**<0.0061**	mg/kg	0.0061	1		03/27/14 09:31	106-46-7	
trans-1,4-Dichloro-2-butene	**<0.12**	mg/kg	0.12	1		03/27/14 09:31	110-57-6	
Dichlorodifluoromethane	**<0.0061**	mg/kg	0.0061	1		03/27/14 09:31	75-71-8	
1,1-Dichloroethane	**<0.0061**	mg/kg	0.0061	1		03/27/14 09:31	75-34-3	
1,2-Dichloroethane	**<0.0061**	mg/kg	0.0061	1		03/27/14 09:31	107-06-2	
1,1-Dichloroethene	**<0.0061**	mg/kg	0.0061	1		03/27/14 09:31	75-35-4	
cis-1,2-Dichloroethene	**<0.0061**	mg/kg	0.0061	1		03/27/14 09:31	156-59-2	
trans-1,2-Dichloroethene	**<0.0061**	mg/kg	0.0061	1		03/27/14 09:31	156-60-5	
1,2-Dichloropropane	**<0.0061**	mg/kg	0.0061	1		03/27/14 09:31	78-87-5	
1,3-Dichloropropane	**<0.0061**	mg/kg	0.0061	1		03/27/14 09:31	142-28-9	
2,2-Dichloropropane	**<0.0061**	mg/kg	0.0061	1		03/27/14 09:31	594-20-7	
1,1-Dichloropropene	**<0.0061**	mg/kg	0.0061	1		03/27/14 09:31	563-58-6	
cis-1,3-Dichloropropene	**<0.0061**	mg/kg	0.0061	1		03/27/14 09:31	10061-01-5	
trans-1,3-Dichloropropene	**<0.0061**	mg/kg	0.0061	1		03/27/14 09:31	10061-02-6	
Ethylbenzene	**<0.0061**	mg/kg	0.0061	1		03/27/14 09:31	100-41-4	
Ethyl methacrylate	**<0.12**	mg/kg	0.12	1		03/27/14 09:31	97-63-2	
Hexachloro-1,3-butadiene	**<0.0061**	mg/kg	0.0061	1		03/27/14 09:31	87-68-3	
n-Hexane	**<0.0061**	mg/kg	0.0061	1		03/27/14 09:31	110-54-3	N2
2-Hexanone	**<0.12**	mg/kg	0.12	1		03/27/14 09:31	591-78-6	
Iodomethane	**<0.12**	mg/kg	0.12	1		03/27/14 09:31	74-88-4	
Isopropylbenzene (Cumene)	**<0.0061**	mg/kg	0.0061	1		03/27/14 09:31	98-82-8	
p-Isopropyltoluene	**<0.0061**	mg/kg	0.0061	1		03/27/14 09:31	99-87-6	
Methylene Chloride	**<0.024**	mg/kg	0.024	1		03/27/14 09:31	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<0.030**	mg/kg	0.030	1		03/27/14 09:31	108-10-1	
Methyl-tert-butyl ether	**<0.0061**	mg/kg	0.0061	1		03/27/14 09:31	1634-04-4	
Naphthalene	**<0.0061**	mg/kg	0.0061	1		03/27/14 09:31	91-20-3	
n-Propylbenzene	**<0.0061**	mg/kg	0.0061	1		03/27/14 09:31	103-65-1	
Styrene	**<0.0061**	mg/kg	0.0061	1		03/27/14 09:31	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.0061**	mg/kg	0.0061	1		03/27/14 09:31	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.0061**	mg/kg	0.0061	1		03/27/14 09:31	79-34-5	
Tetrachloroethene	**<0.0061**	mg/kg	0.0061	1		03/27/14 09:31	127-18-4	
Toluene	**<0.0061**	mg/kg	0.0061	1		03/27/14 09:31	108-88-3	
1,2,3-Trichlorobenzene	**<0.0061**	mg/kg	0.0061	1		03/27/14 09:31	87-61-6	

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ANALYTICAL RESULTS

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095059

Sample: 53-SB-4 6-8' **Lab ID: 5095059004** Collected: 03/17/14 12:55 Received: 03/21/14 12:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
1,2,4-Trichlorobenzene	**<0.0061**	mg/kg	0.0061	1		03/27/14 09:31	120-82-1	
1,1,1-Trichloroethane	**<0.0061**	mg/kg	0.0061	1		03/27/14 09:31	71-55-6	
1,1,2-Trichloroethane	**<0.0061**	mg/kg	0.0061	1		03/27/14 09:31	79-00-5	
Trichloroethene	**<0.0061**	mg/kg	0.0061	1		03/27/14 09:31	79-01-6	
Trichlorofluoromethane	**<0.0061**	mg/kg	0.0061	1		03/27/14 09:31	75-69-4	
1,2,3-Trichloropropane	**<0.0061**	mg/kg	0.0061	1		03/27/14 09:31	96-18-4	
1,2,4-Trimethylbenzene	**<0.0061**	mg/kg	0.0061	1		03/27/14 09:31	95-63-6	
1,3,5-Trimethylbenzene	**<0.0061**	mg/kg	0.0061	1		03/27/14 09:31	108-67-8	
Vinyl acetate	**<0.12**	mg/kg	0.12	1		03/27/14 09:31	108-05-4	
Vinyl chloride	**<0.0061**	mg/kg	0.0061	1		03/27/14 09:31	75-01-4	
Xylene (Total)	**<0.012**	mg/kg	0.012	1		03/27/14 09:31	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	107	%.	85-118	1		03/27/14 09:31	1868-53-7	
Toluene-d8 (S)	96	%.	71-128	1		03/27/14 09:31	2037-26-5	
4-Bromofluorobenzene (S)	93	%.	56-144	1		03/27/14 09:31	460-00-4	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**17.6**	%	0.10	1		03/24/14 16:02		

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ANALYTICAL RESULTS

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095059

Sample: 49-SB-1 0-3' **Lab ID: 5095059005** Collected: 03/17/14 13:45 Received: 03/21/14 12:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 TPH Ohio Microwave	Analytical Method: EPA 8015 Mod Ext Preparation Method: EPA 3546							
Total Petroleum Hydrocarbons	**<23.4**	mg/kg	23.4	1	03/25/14 09:25	03/27/14 13:00		
TPH (C10-C20)	**<11.7**	mg/kg	11.7	1	03/25/14 09:25	03/27/14 13:00		
Surrogates								
n-Pentacosane (S)	71	%.	30-153	1	03/25/14 09:25	03/27/14 13:00	629-99-2	
8015 Gasoline Range Organics	Analytical Method: EPA 8015 Mod Pur							
TPH (C06-C12)	**<1.2**	mg/kg	1.2	1		03/25/14 21:48		
Surrogates								
4-Bromofluorobenzene (S)	97	%.	38-163	1		03/25/14 21:48	460-00-4	
8260 MSV UST Low Level	Analytical Method: EPA 8260							
Benzene	**<0.0059**	mg/kg	0.0059	1		03/27/14 05:15	71-43-2	
Ethylbenzene	**<0.0059**	mg/kg	0.0059	1		03/27/14 05:15	100-41-4	
Methyl-tert-butyl ether	**<0.0059**	mg/kg	0.0059	1		03/27/14 05:15	1634-04-4	
Toluene	**<0.0059**	mg/kg	0.0059	1		03/27/14 05:15	108-88-3	
Xylene (Total)	**<0.012**	mg/kg	0.012	1		03/27/14 05:15	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	115	%.	85-118	1		03/27/14 05:15	1868-53-7	
Toluene-d8 (S)	92	%.	71-128	1		03/27/14 05:15	2037-26-5	
4-Bromofluorobenzene (S)	98	%.	56-144	1		03/27/14 05:15	460-00-4	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**14.7**	%	0.10	1		03/24/14 16:02		

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ANALYTICAL RESULTS

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095059

Sample: 49-SB-2 2-4' **Lab ID: 5095059006** Collected: 03/17/14 14:15 Received: 03/21/14 12:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 TPH Ohio Microwave	Analytical Method: EPA 8015 Mod Ext Preparation Method: EPA 3546							
Total Petroleum Hydrocarbons	**<24.3**	mg/kg	24.3	1	03/25/14 09:25	03/27/14 13:07		
TPH (C10-C20)	**<12.2**	mg/kg	12.2	1	03/25/14 09:25	03/27/14 13:07		
Surrogates								
n-Pentacosane (S)	63	%.	30-153	1	03/25/14 09:25	03/27/14 13:07	629-99-2	
8015 Gasoline Range Organics	Analytical Method: EPA 8015 Mod Pur							
TPH (C06-C12)	**<1.2**	mg/kg	1.2	1		03/25/14 22:14		
Surrogates								
4-Bromofluorobenzene (S)	92	%.	38-163	1		03/25/14 22:14	460-00-4	
8260 MSV UST Low Level	Analytical Method: EPA 8260							
Benzene	**<0.0061**	mg/kg	0.0061	1		03/27/14 05:54	71-43-2	
Ethylbenzene	**<0.0061**	mg/kg	0.0061	1		03/27/14 05:54	100-41-4	
Methyl-tert-butyl ether	**<0.0061**	mg/kg	0.0061	1		03/27/14 05:54	1634-04-4	
Toluene	**<0.0061**	mg/kg	0.0061	1		03/27/14 05:54	108-88-3	
Xylene (Total)	**<0.012**	mg/kg	0.012	1		03/27/14 05:54	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	116	%.	85-118	1		03/27/14 05:54	1868-53-7	
Toluene-d8 (S)	111	%.	71-128	1		03/27/14 05:54	2037-26-5	
4-Bromofluorobenzene (S)	81	%.	56-144	1		03/27/14 05:54	460-00-4	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**18.3**	%	0.10	1		03/24/14 16:03		

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ANALYTICAL RESULTS

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095059

Sample: 17-SB-1 4-6' **Lab ID: 5095059007** Collected: 03/18/14 09:00 Received: 03/21/14 12:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 TPH Ohio Microwave	Analytical Method: EPA 8015 Mod Ext Preparation Method: EPA 3546							
Total Petroleum Hydrocarbons	**<28.4**	mg/kg	28.4	1	03/25/14 09:25	03/27/14 13:14		
TPH (C10-C20)	**<14.2**	mg/kg	14.2	1	03/25/14 09:25	03/27/14 13:14		
Surrogates								
n-Pentacosane (S)	46	%.	30-153	1	03/25/14 09:25	03/27/14 13:14	629-99-2	
8015 Gasoline Range Organics	Analytical Method: EPA 8015 Mod Pur							
TPH (C06-C12)	**<1.4**	mg/kg	1.4	1		03/25/14 23:32		
Surrogates								
4-Bromofluorobenzene (S)	96	%.	38-163	1		03/25/14 23:32	460-00-4	
8260 MSV UST Low Level	Analytical Method: EPA 8260							
Benzene	**<0.0072**	mg/kg	0.0072	1		03/27/14 06:34	71-43-2	
Ethylbenzene	**<0.0072**	mg/kg	0.0072	1		03/27/14 06:34	100-41-4	
Methyl-tert-butyl ether	**<0.0072**	mg/kg	0.0072	1		03/27/14 06:34	1634-04-4	
Toluene	**<0.0072**	mg/kg	0.0072	1		03/27/14 06:34	108-88-3	
Xylene (Total)	**<0.014**	mg/kg	0.014	1		03/27/14 06:34	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	112	%.	85-118	1		03/27/14 06:34	1868-53-7	
Toluene-d8 (S)	94	%.	71-128	1		03/27/14 06:34	2037-26-5	
4-Bromofluorobenzene (S)	101	%.	56-144	1		03/27/14 06:34	460-00-4	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**30.3**	%	0.10	1		03/24/14 16:03		

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ANALYTICAL RESULTS

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095059

Sample: 17-SB-2 8-10' **Lab ID: 5095059008** Collected: 03/18/14 09:20 Received: 03/21/14 12:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 TPH Ohio Microwave	Analytical Method: EPA 8015 Mod Ext Preparation Method: EPA 3546							
Total Petroleum Hydrocarbons	**<24.3**	mg/kg	24.3	1	03/25/14 09:25	03/27/14 13:22		
TPH (C10-C20)	**<12.1**	mg/kg	12.1	1	03/25/14 09:25	03/27/14 13:22		
Surrogates								
n-Pentacosane (S)	58	%.	30-153	1	03/25/14 09:25	03/27/14 13:22	629-99-2	
8015 Gasoline Range Organics	Analytical Method: EPA 8015 Mod Pur							
TPH (C06-C12)	**<1.2**	mg/kg	1.2	1		03/25/14 22:40		
Surrogates								
4-Bromofluorobenzene (S)	101	%.	38-163	1		03/25/14 22:40	460-00-4	
8260 MSV UST Low Level	Analytical Method: EPA 8260							
Benzene	**<0.0061**	mg/kg	0.0061	1		03/27/14 07:13	71-43-2	
Ethylbenzene	**<0.0061**	mg/kg	0.0061	1		03/27/14 07:13	100-41-4	
Methyl-tert-butyl ether	**<0.0061**	mg/kg	0.0061	1		03/27/14 07:13	1634-04-4	
Toluene	**<0.0061**	mg/kg	0.0061	1		03/27/14 07:13	108-88-3	
Xylene (Total)	**<0.012**	mg/kg	0.012	1		03/27/14 07:13	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	115	%.	85-118	1		03/27/14 07:13	1868-53-7	
Toluene-d8 (S)	97	%.	71-128	1		03/27/14 07:13	2037-26-5	
4-Bromofluorobenzene (S)	98	%.	56-144	1		03/27/14 07:13	460-00-4	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**18.2**	%	0.10	1		03/24/14 16:03		

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ANALYTICAL RESULTS

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095059

Sample: 29-SB-1 2-4' **Lab ID: 5095059009** Collected: 03/18/14 10:30 Received: 03/21/14 12:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 TPH Ohio Microwave	Analytical Method: EPA 8015 Mod Ext Preparation Method: EPA 3546							
Total Petroleum Hydrocarbons	**43.2**	mg/kg	24.9	1	03/25/14 09:25	03/27/14 13:29		
TPH (C10-C20)	**43.2**	mg/kg	12.5	1	03/25/14 09:25	03/27/14 13:29		
Surrogates								
n-Pentacosane (S)	90	%.	30-153	1	03/25/14 09:25	03/27/14 13:29	629-99-2	
8015 Gasoline Range Organics	Analytical Method: EPA 8015 Mod Pur							
TPH (C06-C12)	**<1.3**	mg/kg	1.3	1		03/26/14 00:49		
Surrogates								
4-Bromofluorobenzene (S)	96	%.	38-163	1		03/26/14 00:49	460-00-4	
8260 MSV UST Low Level	Analytical Method: EPA 8260							
Benzene	**<0.0063**	mg/kg	0.0063	1		03/27/14 07:52	71-43-2	
Ethylbenzene	**<0.0063**	mg/kg	0.0063	1		03/27/14 07:52	100-41-4	
Methyl-tert-butyl ether	**<0.0063**	mg/kg	0.0063	1		03/27/14 07:52	1634-04-4	
Toluene	**<0.0063**	mg/kg	0.0063	1		03/27/14 07:52	108-88-3	
Xylene (Total)	**<0.013**	mg/kg	0.013	1		03/27/14 07:52	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	109	%.	85-118	1		03/27/14 07:52	1868-53-7	
Toluene-d8 (S)	96	%.	71-128	1		03/27/14 07:52	2037-26-5	
4-Bromofluorobenzene (S)	95	%.	56-144	1		03/27/14 07:52	460-00-4	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**20.0**	%	0.10	1		03/24/14 16:03		

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ANALYTICAL RESULTS

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095059

Sample: 29-SB-2 4-6' **Lab ID: 5095059010** Collected: 03/18/14 10:50 Received: 03/21/14 12:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 TPH Ohio Microwave	Analytical Method: EPA 8015 Mod Ext Preparation Method: EPA 3546							
Total Petroleum Hydrocarbons	**<24.2**	mg/kg	24.2	1	03/25/14 09:25	03/27/14 13:36		
TPH (C10-C20)	**<12.1**	mg/kg	12.1	1	03/25/14 09:25	03/27/14 13:36		
Surrogates								
n-Pentacosane (S)	59	%.	30-153	1	03/25/14 09:25	03/27/14 13:36	629-99-2	
8015 Gasoline Range Organics	Analytical Method: EPA 8015 Mod Pur							
TPH (C06-C12)	**<1.2**	mg/kg	1.2	1		03/26/14 01:15		
Surrogates								
4-Bromofluorobenzene (S)	100	%.	38-163	1		03/26/14 01:15	460-00-4	
8260 MSV UST Low Level	Analytical Method: EPA 8260							
Benzene	**<0.0061**	mg/kg	0.0061	1		03/27/14 08:32	71-43-2	
Ethylbenzene	**<0.0061**	mg/kg	0.0061	1		03/27/14 08:32	100-41-4	
Methyl-tert-butyl ether	**<0.0061**	mg/kg	0.0061	1		03/27/14 08:32	1634-04-4	
Toluene	**<0.0061**	mg/kg	0.0061	1		03/27/14 08:32	108-88-3	
Xylene (Total)	**<0.012**	mg/kg	0.012	1		03/27/14 08:32	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	105	%.	85-118	1		03/27/14 08:32	1868-53-7	
Toluene-d8 (S)	95	%.	71-128	1		03/27/14 08:32	2037-26-5	
4-Bromofluorobenzene (S)	100	%.	56-144	1		03/27/14 08:32	460-00-4	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**18.5**	%	0.10	1		03/24/14 16:03		

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ANALYTICAL RESULTS

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095059

Sample: 51-SB-1 8-10' **Lab ID: 5095059011** Collected: 03/19/14 14:20 Received: 03/21/14 12:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 TPH Ohio Microwave	Analytical Method: EPA 8015 Mod Ext Preparation Method: EPA 3546							
Total Petroleum Hydrocarbons	**<23.6**	mg/kg	23.6	1	03/25/14 09:25	03/27/14 13:43		
TPH (C10-C20)	**<11.8**	mg/kg	11.8	1	03/25/14 09:25	03/27/14 13:43		
Surrogates								
n-Pentacosane (S)	60	%.	30-153	1	03/25/14 09:25	03/27/14 13:43	629-99-2	
8015 Gasoline Range Organics	Analytical Method: EPA 8015 Mod Pur							
TPH (C06-C12)	**<1.2**	mg/kg	1.2	1		03/26/14 01:41		
Surrogates								
4-Bromofluorobenzene (S)	93	%.	38-163	1		03/26/14 01:41	460-00-4	
8260 MSV UST Low Level	Analytical Method: EPA 8260							
Benzene	**<0.0059**	mg/kg	0.0059	1		03/27/14 09:11	71-43-2	
Ethylbenzene	**<0.0059**	mg/kg	0.0059	1		03/27/14 09:11	100-41-4	
Methyl-tert-butyl ether	**<0.0059**	mg/kg	0.0059	1		03/27/14 09:11	1634-04-4	
Toluene	**<0.0059**	mg/kg	0.0059	1		03/27/14 09:11	108-88-3	
Xylene (Total)	**<0.012**	mg/kg	0.012	1		03/27/14 09:11	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	110	%.	85-118	1		03/27/14 09:11	1868-53-7	
Toluene-d8 (S)	95	%.	71-128	1		03/27/14 09:11	2037-26-5	
4-Bromofluorobenzene (S)	99	%.	56-144	1		03/27/14 09:11	460-00-4	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**15.9**	%	0.10	1		03/24/14 16:03		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095059

Sample: 51-SB-2 2-4' **Lab ID: 5095059012** Collected: 03/19/14 14:35 Received: 03/21/14 12:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 TPH Ohio Microwave	Analytical Method: EPA 8015 Mod Ext Preparation Method: EPA 3546							
Total Petroleum Hydrocarbons	**<109**	mg/kg	109	5	03/25/14 09:25	03/27/14 13:50		1d
TPH (C10-C20)	**<54.3**	mg/kg	54.3	5	03/25/14 09:25	03/27/14 13:50		
Surrogates								
n-Pentacosane (S)	0	%.	30-153	5	03/25/14 09:25	03/27/14 13:50	629-99-2	S4
8015 Gasoline Range Organics	Analytical Method: EPA 8015 Mod Pur							
TPH (C06-C12)	**<1.1**	mg/kg	1.1	1		03/26/14 02:06		
Surrogates								
4-Bromofluorobenzene (S)	88	%.	38-163	1		03/26/14 02:06	460-00-4	
8260 MSV UST Low Level	Analytical Method: EPA 8260							
Benzene	**<0.0055**	mg/kg	0.0055	1		03/27/14 09:50	71-43-2	
Ethylbenzene	**<0.0055**	mg/kg	0.0055	1		03/27/14 09:50	100-41-4	
Methyl-tert-butyl ether	**<0.0055**	mg/kg	0.0055	1		03/27/14 09:50	1634-04-4	
Toluene	**<0.0055**	mg/kg	0.0055	1		03/27/14 09:50	108-88-3	
Xylene (Total)	**<0.011**	mg/kg	0.011	1		03/27/14 09:50	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	111	%.	85-118	1		03/27/14 09:50	1868-53-7	
Toluene-d8 (S)	104	%.	71-128	1		03/27/14 09:50	2037-26-5	
4-Bromofluorobenzene (S)	83	%.	56-144	1		03/27/14 09:50	460-00-4	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**9.2**	%	0.10	1		03/24/14 16:03		

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QUALITY CONTROL DATA

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095059

QC Batch: GCV/17838 Analysis Method: EPA 8015 Mod Pur
QC Batch Method: EPA 8015 Mod Pur Analysis Description: 8015 Solid GCV
Associated Lab Samples: 5095059001, 5095059002, 5095059003, 5095059004, 5095059005, 5095059006, 5095059007, 5095059008, 5095059009, 5095059010, 5095059011, 5095059012

METHOD BLANK: 1067665 Matrix: Solid
Associated Lab Samples: 5095059001, 5095059002, 5095059003, 5095059004, 5095059005, 5095059006, 5095059007, 5095059008, 5095059009, 5095059010, 5095059011, 5095059012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
TPH (C06-C12)	mg/kg	<1.0	1.0	03/25/14 19:13	
4-Bromofluorobenzene (S)	%.	94	38-163	03/25/14 19:13	

LABORATORY CONTROL SAMPLE: 1067666

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
TPH (C06-C12)	mg/kg	10	9.5	95	75-139	
4-Bromofluorobenzene (S)	%.			101	38-163	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1067667 1067668

Parameter	Units	5095059007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
TPH (C06-C12)	mg/kg	<1.4	14.4	14.4	10	10.5	69	73	10-151	5	20	
4-Bromofluorobenzene (S)	%.						106	107	38-163			

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QUALITY CONTROL DATA

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095059

QC Batch: MSV/62938 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV 5030 Low
Associated Lab Samples: 5095059001, 5095059002, 5095059003, 5095059004

METHOD BLANK: 1068542 Matrix: Solid
Associated Lab Samples: 5095059001, 5095059002, 5095059003, 5095059004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	mg/kg	<0.0050	0.0050	03/27/14 01:38	
1,1,1-Trichloroethane	mg/kg	<0.0050	0.0050	03/27/14 01:38	
1,1,2,2-Tetrachloroethane	mg/kg	<0.0050	0.0050	03/27/14 01:38	
1,1,2-Trichloroethane	mg/kg	<0.0050	0.0050	03/27/14 01:38	
1,1-Dichloroethane	mg/kg	<0.0050	0.0050	03/27/14 01:38	
1,1-Dichloroethene	mg/kg	<0.0050	0.0050	03/27/14 01:38	
1,1-Dichloropropene	mg/kg	<0.0050	0.0050	03/27/14 01:38	
1,2,3-Trichlorobenzene	mg/kg	<0.0050	0.0050	03/27/14 01:38	
1,2,3-Trichloropropane	mg/kg	<0.0050	0.0050	03/27/14 01:38	
1,2,4-Trichlorobenzene	mg/kg	<0.0050	0.0050	03/27/14 01:38	
1,2,4-Trimethylbenzene	mg/kg	<0.0050	0.0050	03/27/14 01:38	
1,2-Dibromoethane (EDB)	mg/kg	<0.0050	0.0050	03/27/14 01:38	
1,2-Dichlorobenzene	mg/kg	<0.0050	0.0050	03/27/14 01:38	
1,2-Dichloroethane	mg/kg	<0.0050	0.0050	03/27/14 01:38	
1,2-Dichloropropane	mg/kg	<0.0050	0.0050	03/27/14 01:38	
1,3,5-Trimethylbenzene	mg/kg	<0.0050	0.0050	03/27/14 01:38	
1,3-Dichlorobenzene	mg/kg	<0.0050	0.0050	03/27/14 01:38	
1,3-Dichloropropane	mg/kg	<0.0050	0.0050	03/27/14 01:38	
1,4-Dichlorobenzene	mg/kg	<0.0050	0.0050	03/27/14 01:38	
2,2-Dichloropropane	mg/kg	<0.0050	0.0050	03/27/14 01:38	
2-Butanone (MEK)	mg/kg	<0.025	0.025	03/27/14 01:38	
2-Chlorotoluene	mg/kg	<0.0050	0.0050	03/27/14 01:38	
2-Hexanone	mg/kg	<0.10	0.10	03/27/14 01:38	
4-Chlorotoluene	mg/kg	<0.0050	0.0050	03/27/14 01:38	
4-Methyl-2-pentanone (MIBK)	mg/kg	<0.025	0.025	03/27/14 01:38	
Acetone	mg/kg	<0.10	0.10	03/27/14 01:38	
Acrolein	mg/kg	<0.10	0.10	03/27/14 01:38	
Acrylonitrile	mg/kg	<0.10	0.10	03/27/14 01:38	
Benzene	mg/kg	<0.0050	0.0050	03/27/14 01:38	
Bromobenzene	mg/kg	<0.0050	0.0050	03/27/14 01:38	
Bromochloromethane	mg/kg	<0.0050	0.0050	03/27/14 01:38	
Bromodichloromethane	mg/kg	<0.0050	0.0050	03/27/14 01:38	
Bromoform	mg/kg	<0.0050	0.0050	03/27/14 01:38	
Bromomethane	mg/kg	<0.0050	0.0050	03/27/14 01:38	
Carbon disulfide	mg/kg	<0.010	0.010	03/27/14 01:38	
Carbon tetrachloride	mg/kg	<0.0050	0.0050	03/27/14 01:38	
Chlorobenzene	mg/kg	<0.0050	0.0050	03/27/14 01:38	
Chloroethane	mg/kg	<0.0050	0.0050	03/27/14 01:38	
Chloroform	mg/kg	<0.0050	0.0050	03/27/14 01:38	
Chloromethane	mg/kg	<0.0050	0.0050	03/27/14 01:38	
cis-1,2-Dichloroethene	mg/kg	<0.0050	0.0050	03/27/14 01:38	
cis-1,3-Dichloropropene	mg/kg	<0.0050	0.0050	03/27/14 01:38	
Dibromochloromethane	mg/kg	<0.0050	0.0050	03/27/14 01:38	

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QUALITY CONTROL DATA

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095059

METHOD BLANK: 1068542 Matrix: Solid
Associated Lab Samples: 5095059001, 5095059002, 5095059003, 5095059004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dibromomethane	mg/kg	<0.0050	0.0050	03/27/14 01:38	
Dichlorodifluoromethane	mg/kg	<0.0050	0.0050	03/27/14 01:38	
Ethyl methacrylate	mg/kg	<0.10	0.10	03/27/14 01:38	
Ethylbenzene	mg/kg	<0.0050	0.0050	03/27/14 01:38	
Hexachloro-1,3-butadiene	mg/kg	<0.0050	0.0050	03/27/14 01:38	
Iodomethane	mg/kg	<0.10	0.10	03/27/14 01:38	
Isopropylbenzene (Cumene)	mg/kg	<0.0050	0.0050	03/27/14 01:38	
Methyl-tert-butyl ether	mg/kg	<0.0050	0.0050	03/27/14 01:38	
Methylene Chloride	mg/kg	<0.020	0.020	03/27/14 01:38	
n-Butylbenzene	mg/kg	<0.0050	0.0050	03/27/14 01:38	
n-Hexane	mg/kg	<0.0050	0.0050	03/27/14 01:38	N2
n-Propylbenzene	mg/kg	<0.0050	0.0050	03/27/14 01:38	
Naphthalene	mg/kg	<0.0050	0.0050	03/27/14 01:38	
p-Isopropyltoluene	mg/kg	<0.0050	0.0050	03/27/14 01:38	
sec-Butylbenzene	mg/kg	<0.0050	0.0050	03/27/14 01:38	
Styrene	mg/kg	<0.0050	0.0050	03/27/14 01:38	
tert-Butylbenzene	mg/kg	<0.0050	0.0050	03/27/14 01:38	
Tetrachloroethene	mg/kg	<0.0050	0.0050	03/27/14 01:38	
Toluene	mg/kg	<0.0050	0.0050	03/27/14 01:38	
trans-1,2-Dichloroethene	mg/kg	<0.0050	0.0050	03/27/14 01:38	
trans-1,3-Dichloropropene	mg/kg	<0.0050	0.0050	03/27/14 01:38	
trans-1,4-Dichloro-2-butene	mg/kg	<0.10	0.10	03/27/14 01:38	
Trichloroethene	mg/kg	<0.0050	0.0050	03/27/14 01:38	
Trichlorofluoromethane	mg/kg	<0.0050	0.0050	03/27/14 01:38	
Vinyl acetate	mg/kg	<0.10	0.10	03/27/14 01:38	
Vinyl chloride	mg/kg	<0.0050	0.0050	03/27/14 01:38	
Xylene (Total)	mg/kg	<0.010	0.010	03/27/14 01:38	
4-Bromofluorobenzene (S)	%.	97	56-144	03/27/14 01:38	
Dibromofluoromethane (S)	%.	102	85-118	03/27/14 01:38	
Toluene-d8 (S)	%.	97	71-128	03/27/14 01:38	

LABORATORY CONTROL SAMPLE: 1068543

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	mg/kg	.05	0.043	86	62-123	
1,1,1-Trichloroethane	mg/kg	.05	0.048	96	70-123	
1,1,2,2-Tetrachloroethane	mg/kg	.05	0.043	86	65-124	
1,1,2-Trichloroethane	mg/kg	.05	0.044	87	74-129	
1,1-Dichloroethane	mg/kg	.05	0.046	91	73-130	
1,1-Dichloroethene	mg/kg	.05	0.043	87	66-126	
1,1-Dichloropropene	mg/kg	.05	0.044	88	78-125	
1,2,3-Trichlorobenzene	mg/kg	.05	0.035	69	66-131	
1,2,3-Trichloropropane	mg/kg	.05	0.043	87	44-157	
1,2,4-Trichlorobenzene	mg/kg	.05	0.033	66	68-129	L0
1,2,4-Trimethylbenzene	mg/kg	.05	0.040	81	67-126	

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QUALITY CONTROL DATA

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095059

LABORATORY CONTROL SAMPLE: 1068543

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dibromoethane (EDB)	mg/kg	.05	0.043	87	74-120	
1,2-Dichlorobenzene	mg/kg	.05	0.038	77	73-122	
1,2-Dichloroethane	mg/kg	.05	0.044	89	73-127	
1,2-Dichloropropane	mg/kg	.05	0.045	90	75-118	
1,3,5-Trimethylbenzene	mg/kg	.05	0.039	78	65-127	
1,3-Dichlorobenzene	mg/kg	.05	0.038	75	73-121	
1,3-Dichloropropane	mg/kg	.05	0.043	86	72-121	
1,4-Dichlorobenzene	mg/kg	.05	0.038	76	75-119	
2,2-Dichloropropane	mg/kg	.05	0.049	98	63-122	
2-Butanone (MEK)	mg/kg	.25	0.25	101	59-139	
2-Chlorotoluene	mg/kg	.05	0.038	77	72-121	
2-Hexanone	mg/kg	.25	0.26	103	56-139	
4-Chlorotoluene	mg/kg	.05	0.039	77	75-123	
4-Methyl-2-pentanone (MIBK)	mg/kg	.25	0.24	97	63-136	
Acetone	mg/kg	.25	0.24	97	46-156	
Acrolein	mg/kg	1	0.61	61	47-200	
Acrylonitrile	mg/kg	1	0.83	83	67-130	
Benzene	mg/kg	.05	0.045	90	74-119	
Bromobenzene	mg/kg	.05	0.040	81	69-129	
Bromochloromethane	mg/kg	.05	0.044	88	67-129	
Bromodichloromethane	mg/kg	.05	0.045	90	68-121	
Bromoform	mg/kg	.05	0.044	89	49-124	
Bromomethane	mg/kg	.05	0.047	95	44-142	
Carbon disulfide	mg/kg	.1	0.083	83	61-129	
Carbon tetrachloride	mg/kg	.05	0.048	96	58-127	
Chlorobenzene	mg/kg	.05	0.040	80	77-122	
Chloroethane	mg/kg	.05	0.049	98	59-141	
Chloroform	mg/kg	.05	0.045	91	75-124	
Chloromethane	mg/kg	.05	0.050	100	46-133	
cis-1,2-Dichloroethene	mg/kg	.05	0.046	92	72-122	
cis-1,3-Dichloropropene	mg/kg	.05	0.041	82	68-115	
Dibromochloromethane	mg/kg	.05	0.045	90	60-121	
Dibromomethane	mg/kg	.05	0.046	92	72-124	
Dichlorodifluoromethane	mg/kg	.05	0.056	113	26-186	
Ethyl methacrylate	mg/kg	.2	0.19	93	63-130	
Ethylbenzene	mg/kg	.05	0.043	85	72-123	
Hexachloro-1,3-butadiene	mg/kg	.05	0.035	70	55-139	
Iodomethane	mg/kg	.1	<0.10	78	38-149	
Isopropylbenzene (Cumene)	mg/kg	.05	0.043	86	65-123	
Methyl-tert-butyl ether	mg/kg	.1	0.090	90	68-120	
Methylene Chloride	mg/kg	.05	0.043	87	57-142	
n-Butylbenzene	mg/kg	.05	0.037	74	68-125	
n-Hexane	mg/kg	.05	0.038	76	57-117	N2
n-Propylbenzene	mg/kg	.05	0.040	80	68-122	
Naphthalene	mg/kg	.05	0.037	74	67-131	
p-Isopropyltoluene	mg/kg	.05	0.040	79	66-133	
sec-Butylbenzene	mg/kg	.05	0.038	77	64-131	
Styrene	mg/kg	.05	0.043	86	70-126	

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QUALITY CONTROL DATA

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095059

LABORATORY CONTROL SAMPLE: 1068543

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
tert-Butylbenzene	mg/kg	.05	0.037	75	46-124	
Tetrachloroethene	mg/kg	.05	0.041	82	72-126	
Toluene	mg/kg	.05	0.043	86	71-121	
trans-1,2-Dichloroethene	mg/kg	.05	0.041	83	69-123	
trans-1,3-Dichloropropene	mg/kg	.05	0.040	81	66-114	
trans-1,4-Dichloro-2-butene	mg/kg	.2	0.16	79	61-124	
Trichloroethene	mg/kg	.05	0.045	90	74-123	
Trichlorofluoromethane	mg/kg	.05	0.053	106	72-146	
Vinyl acetate	mg/kg	.2	0.20	98	57-131	
Vinyl chloride	mg/kg	.05	0.051	102	55-128	
Xylene (Total)	mg/kg	.15	0.13	87	66-124	
4-Bromofluorobenzene (S)	%.			103	56-144	
Dibromofluoromethane (S)	%.			100	85-118	
Toluene-d8 (S)	%.			96	71-128	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1068544 1068545

Parameter	Units	5095059001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1,1,2-Tetrachloroethane	mg/kg	<0.0059	.059	.059	0.046	0.038	78	65	10-129	18	20	
1,1,1-Trichloroethane	mg/kg	<0.0059	.059	.059	0.054	0.052	91	88	26-143	4	20	
1,1,2,2-Tetrachloroethane	mg/kg	<0.0059	.059	.059	0.041	0.044	70	74	10-156	6	20	
1,1,2-Trichloroethane	mg/kg	<0.0059	.059	.059	0.044	0.046	74	78	13-156	6	20	
1,1-Dichloroethane	mg/kg	<0.0059	.059	.059	0.050	0.047	86	80	36-150	7	20	
1,1-Dichloroethene	mg/kg	<0.0059	.059	.059	0.050	0.050	85	84	31-146	1	20	
1,1-Dichloropropene	mg/kg	<0.0059	.059	.059	0.050	0.042	85	72	26-145	17	20	
1,2,3-Trichlorobenzene	mg/kg	<0.0059	.059	.059	0.034	0.018	58	31	10-119	62	20	
1,2,3-Trichloropropane	mg/kg	<0.0059	.059	.059	0.042	0.047	72	79	10-168	10	20	
1,2,4-Trichlorobenzene	mg/kg	<0.0059	.059	.059	0.034	0.016	57	27	10-122	71	20	
1,2,4-Trimethylbenzene	mg/kg	<0.0059	.059	.059	0.044	0.017	74	29	10-139	89	20	
1,2-Dibromoethane (EDB)	mg/kg	<0.0059	.059	.059	0.042	0.042	72	72	15-136	0	20	
1,2-Dichlorobenzene	mg/kg	<0.0059	.059	.059	0.040	0.021	68	36	10-132	60	20	
1,2-Dichloroethane	mg/kg	<0.0059	.059	.059	0.046	0.049	78	83	30-140	6	20	
1,2-Dichloropropane	mg/kg	<0.0059	.059	.059	0.048	0.046	81	78	29-135	4	20	
1,3,5-Trimethylbenzene	mg/kg	<0.0059	.059	.059	0.043	0.017	74	30	10-143	85	20	
1,3-Dichlorobenzene	mg/kg	<0.0059	.059	.059	0.040	0.018	68	31	10-130	74	20	
1,3-Dichloropropane	mg/kg	<0.0059	.059	.059	0.043	0.044	72	75	17-139	3	20	
1,4-Dichlorobenzene	mg/kg	<0.0059	.059	.059	0.041	0.018	69	31	10-128	77	20	
2,2-Dichloropropane	mg/kg	<0.0059	.059	.059	0.048	0.053	82	90	29-136	9	20	
2-Butanone (MEK)	mg/kg	<0.029	.29	.29	0.24	0.28	82	94	22-176	14	20	
2-Chlorotoluene	mg/kg	<0.0059	.059	.059	0.042	0.020	72	34	10-146	71	20	
2-Hexanone	mg/kg	<0.12	.29	.29	0.24	0.27	81	92	12-165	12	20	
4-Chlorotoluene	mg/kg	<0.0059	.059	.059	0.042	0.018	72	31	10-138	79	20	
4-Methyl-2-pentanone (MIBK)	mg/kg	<0.029	.29	.29	0.22	0.27	76	92	22-155	20	20	
Acetone	mg/kg	<0.12	.29	.29	0.26	0.28	88	95	11-200	8	20	
Acrolein	mg/kg	<0.12	1.2	1.2	0.45	0.53	38	45	10-200	17	20	
Acrylonitrile	mg/kg	<0.12	1.2	1.2	0.80	0.96	68	81	20-150	18	20	

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QUALITY CONTROL DATA

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095059

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1068544 1068545

Parameter	Units	5095059001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Benzene	mg/kg	<0.0059	.059	.059	0.051	0.047	87	80	27-140	9	20	
Bromobenzene	mg/kg	<0.0059	.059	.059	0.042	0.026	72	45	10-133	46	20	
Bromochloromethane	mg/kg	<0.0059	.059	.059	0.045	0.047	76	80	28-142	5	20	
Bromodichloromethane	mg/kg	<0.0059	.059	.059	0.047	0.046	79	78	13-139	1	20	
Bromoform	mg/kg	<0.0059	.059	.059	0.043	0.043	73	73	10-122	1	20	
Bromomethane	mg/kg	<0.0059	.059	.059	0.051	0.053	87	90	10-154	3	20	
Carbon disulfide	mg/kg	<0.012	.12	.12	0.096	0.089	82	75	20-142	8	20	
Carbon tetrachloride	mg/kg	<0.0059	.059	.059	0.054	0.049	93	84	19-135	10	20	
Chlorobenzene	mg/kg	<0.0059	.059	.059	0.044	0.029	74	49	10-136	41	20	
Chloroethane	mg/kg	<0.0059	.059	.059	0.057	0.058	96	99	24-161	3	20	
Chloroform	mg/kg	<0.0059	.059	.059	0.049	0.048	84	82	36-138	2	20	
Chloromethane	mg/kg	<0.0059	.059	.059	0.058	0.060	99	102	28-143	3	20	
cis-1,2-Dichloroethene	mg/kg	<0.0059	.059	.059	0.048	0.047	82	81	29-136	1	20	
cis-1,3-Dichloropropene	mg/kg	<0.0059	.059	.059	0.041	0.038	70	65	10-130	7	20	
Dibromochloromethane	mg/kg	<0.0059	.059	.059	0.044	0.043	76	73	10-124	3	20	
Dibromomethane	mg/kg	<0.0059	.059	.059	0.046	0.048	78	82	24-136	5	20	
Dichlorodifluoromethane	mg/kg	<0.0059	.059	.059	0.068	0.069	116	118	15-187	2	20	
Ethyl methacrylate	mg/kg	<0.12	.24	.24	0.17	0.18	71	75	10-147	5	20	
Ethylbenzene	mg/kg	<0.0059	.059	.059	0.047	0.026	80	44	10-144	58	20	
Hexachloro-1,3-butadiene	mg/kg	<0.0059	.059	.059	0.038	0.0063	64	11	10-136	143	20	
Iodomethane	mg/kg	<0.12	.12	.12	<0.12	<0.12	69	73	10-155		20	
Isopropylbenzene (Cumene)	mg/kg	<0.0059	.059	.059	0.048	0.022	82	38	10-134	73	20	
Methyl-tert-butyl ether	mg/kg	<0.0059	.12	.12	0.091	0.11	78	91	30-147	16	20	
Methylene Chloride	mg/kg	<0.024	.059	.059	0.047	0.051	76	83	23-150	9	20	
n-Butylbenzene	mg/kg	<0.0059	.059	.059	0.042	0.0089	72	15	10-141	131	20	
n-Hexane	mg/kg	<0.0059	.059	.059	0.046	0.044	78	75	10-140	4	20	N2
n-Propylbenzene	mg/kg	<0.0059	.059	.059	0.045	0.017	76	29	10-143	89	20	
Naphthalene	mg/kg	<0.0059	.059	.059	0.033	0.025	57	42	10-130	29	20	
p-Isopropyltoluene	mg/kg	<0.0059	.059	.059	0.044	0.013	75	22	10-146	111	20	
sec-Butylbenzene	mg/kg	<0.0059	.059	.059	0.043	0.014	73	24	10-150	100	20	
Styrene	mg/kg	<0.0059	.059	.059	0.045	0.027	76	45	10-138	51	20	
tert-Butylbenzene	mg/kg	<0.0059	.059	.059	0.042	0.017	72	29	10-135	86	20	
Tetrachloroethene	mg/kg	<0.0059	.059	.059	0.048	0.030	82	51	10-153	48	20	
Toluene	mg/kg	<0.0059	.059	.059	0.047	0.036	80	62	10-140	26	20	
trans-1,2-Dichloroethene	mg/kg	<0.0059	.059	.059	0.049	0.044	83	74	28-139	10	20	
trans-1,3-Dichloropropene	mg/kg	<0.0059	.059	.059	0.040	0.037	68	64	10-126	6	20	
trans-1,4-Dichloro-2-butene	mg/kg	<0.12	.24	.24	0.14	0.14	59	58	10-132	2	20	
Trichloroethene	mg/kg	<0.0059	.059	.059	0.053	0.043	90	72	17-148	21	20	
Trichlorofluoromethane	mg/kg	<0.0059	.059	.059	0.062	0.063	105	107	31-177	2	20	
Vinyl acetate	mg/kg	<0.12	.24	.24	<0.12	<0.12	11	4	10-131		20	M0
Vinyl chloride	mg/kg	<0.0059	.059	.059	0.060	0.059	102	100	30-145	1	20	
Xylene (Total)	mg/kg	<0.012	.18	.18	0.15	0.078	82	44	10-143	60	20	
4-Bromofluorobenzene (S)	%.						105	103	56-144			
Dibromofluoromethane (S)	%.						100	103	85-118			3d
Toluene-d8 (S)	%.						97	99	71-128			

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QUALITY CONTROL DATA

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095059

QC Batch: MSV/62939 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV UST Low Level
Associated Lab Samples: 5095059005, 5095059006, 5095059007, 5095059008, 5095059009, 5095059010, 5095059011, 5095059012

METHOD BLANK: 1068546 Matrix: Solid
Associated Lab Samples: 5095059005, 5095059006, 5095059007, 5095059008, 5095059009, 5095059010, 5095059011, 5095059012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	mg/kg	<0.0050	0.0050	03/27/14 00:39	
Ethylbenzene	mg/kg	<0.0050	0.0050	03/27/14 00:39	
Methyl-tert-butyl ether	mg/kg	<0.0050	0.0050	03/27/14 00:39	
Toluene	mg/kg	<0.0050	0.0050	03/27/14 00:39	
Xylene (Total)	mg/kg	<0.010	0.010	03/27/14 00:39	
4-Bromofluorobenzene (S)	%.	101	56-144	03/27/14 00:39	
Dibromofluoromethane (S)	%.	106	85-118	03/27/14 00:39	
Toluene-d8 (S)	%.	96	71-128	03/27/14 00:39	

LABORATORY CONTROL SAMPLE: 1068547

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	mg/kg	.05	0.052	104	74-119	
Ethylbenzene	mg/kg	.05	0.050	99	72-123	
Methyl-tert-butyl ether	mg/kg	.1	0.11	107	68-120	
Toluene	mg/kg	.05	0.050	100	71-121	
Xylene (Total)	mg/kg	.15	0.15	99	66-124	
4-Bromofluorobenzene (S)	%.			101	56-144	
Dibromofluoromethane (S)	%.			99	85-118	
Toluene-d8 (S)	%.			100	71-128	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1068548 1068549

Parameter	Units	5094903004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Benzene	mg/kg	ND	.064	.064	0.053	0.059	83	92	27-140	11	20	
Ethylbenzene	mg/kg	ND	.064	.064	0.036	0.052	57	82	10-144	36	20	
Methyl-tert-butyl ether	mg/kg	ND	.13	.13	0.11	0.12	87	97	30-147	10	20	
Toluene	mg/kg	ND	.064	.064	0.044	0.056	69	88	10-140	24	20	
Xylene (Total)	mg/kg	ND	.19	.19	0.10	0.16	54	82	10-143	40	20	
4-Bromofluorobenzene (S)	%.						100	98	56-144		20	
Dibromofluoromethane (S)	%.						98	98	85-118		20	2d
Toluene-d8 (S)	%.						97	99	71-128		20	

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QUALITY CONTROL DATA

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095059

QC Batch: OEXT/35364 Analysis Method: EPA 8015 Mod Ext
QC Batch Method: EPA 3546 Analysis Description: EPA 8015 TPH Ohio
Associated Lab Samples: 5095059001, 5095059002, 5095059003, 5095059004, 5095059005, 5095059006, 5095059007, 5095059008, 5095059009, 5095059010, 5095059011, 5095059012

METHOD BLANK: 1067208 Matrix: Solid
Associated Lab Samples: 5095059001, 5095059002, 5095059003, 5095059004, 5095059005, 5095059006, 5095059007, 5095059008, 5095059009, 5095059010, 5095059011, 5095059012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/kg	<20.0	20.0	03/27/14 12:03	
TPH (C10-C20)	mg/kg	<10.0	10.0	03/27/14 12:03	
TPH (C20-C34)	mg/kg	<10.0	10.0	03/27/14 12:03	
n-Pentacosane (S)	%.	64	30-153	03/27/14 12:03	

LABORATORY CONTROL SAMPLE: 1067209

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/kg	83.3	43.5	52	43-88	
n-Pentacosane (S)	%.			58	30-153	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1067210 1067211

Parameter	Units	5095059001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Total Petroleum Hydrocarbons	mg/kg	<23.5	97.8	96.8	49.9	53.4	49	53	10-136	7	20	
n-Pentacosane (S)	%.						61	65	30-153			

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QUALITY CONTROL DATA

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095059

QC Batch: OEXT/35351 Analysis Method: EPA 8270 by SIM
QC Batch Method: EPA 3546 Analysis Description: 8270 MSSV PAH by SIM
Associated Lab Samples: 5095059001, 5095059002, 5095059003, 5095059004

METHOD BLANK: 1066668 Matrix: Solid
Associated Lab Samples: 5095059001, 5095059002, 5095059003, 5095059004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Acenaphthene	mg/kg	<0.0050	0.0050	03/26/14 02:40	
Acenaphthylene	mg/kg	<0.0050	0.0050	03/26/14 02:40	
Anthracene	mg/kg	<0.0050	0.0050	03/26/14 02:40	
Benzo(a)anthracene	mg/kg	<0.0050	0.0050	03/26/14 02:40	
Benzo(a)pyrene	mg/kg	<0.0050	0.0050	03/26/14 02:40	
Benzo(b)fluoranthene	mg/kg	<0.0050	0.0050	03/26/14 02:40	
Benzo(g,h,i)perylene	mg/kg	<0.0050	0.0050	03/26/14 02:40	
Benzo(k)fluoranthene	mg/kg	<0.0050	0.0050	03/26/14 02:40	
Chrysene	mg/kg	<0.0050	0.0050	03/26/14 02:40	
Dibenz(a,h)anthracene	mg/kg	<0.0050	0.0050	03/26/14 02:40	
Fluoranthene	mg/kg	<0.0050	0.0050	03/26/14 02:40	
Fluorene	mg/kg	<0.0050	0.0050	03/26/14 02:40	
Indeno(1,2,3-cd)pyrene	mg/kg	<0.0050	0.0050	03/26/14 02:40	
Naphthalene	mg/kg	<0.0050	0.0050	03/26/14 02:40	
Phenanthrene	mg/kg	<0.0050	0.0050	03/26/14 02:40	
Pyrene	mg/kg	<0.0050	0.0050	03/26/14 02:40	
2-Fluorobiphenyl (S)	%.	62	38-110	03/26/14 02:40	
p-Terphenyl-d14 (S)	%.	83	32-111	03/26/14 02:40	

LABORATORY CONTROL SAMPLE: 1066669

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Acenaphthene	mg/kg	.33	0.26	77	43-108	
Acenaphthylene	mg/kg	.33	0.27	80	44-110	
Anthracene	mg/kg	.33	0.28	84	44-112	
Benzo(a)anthracene	mg/kg	.33	0.28	85	43-124	
Benzo(a)pyrene	mg/kg	.33	0.30	89	44-124	
Benzo(b)fluoranthene	mg/kg	.33	0.30	89	44-123	
Benzo(g,h,i)perylene	mg/kg	.33	0.32	95	44-118	
Benzo(k)fluoranthene	mg/kg	.33	0.29	87	42-122	
Chrysene	mg/kg	.33	0.29	86	44-124	
Dibenz(a,h)anthracene	mg/kg	.33	0.33	100	44-119	
Fluoranthene	mg/kg	.33	0.28	85	45-119	
Fluorene	mg/kg	.33	0.27	80	44-113	
Indeno(1,2,3-cd)pyrene	mg/kg	.33	0.32	97	44-119	
Naphthalene	mg/kg	.33	0.25	75	42-103	
Phenanthrene	mg/kg	.33	0.27	80	44-113	
Pyrene	mg/kg	.33	0.27	82	45-123	
2-Fluorobiphenyl (S)	%.			76	38-110	
p-Terphenyl-d14 (S)	%.			86	32-111	

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QUALITY CONTROL DATA

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095059

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1066670 1066671

Parameter	Units	5095052002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Acenaphthene	mg/kg	ND	.39	.39	0.30	0.29	75	73	25-117	3	20	
Acenaphthylene	mg/kg	ND	.39	.39	0.30	0.29	76	74	27-123	2	20	
Anthracene	mg/kg	ND	.39	.39	0.30	0.29	77	74	20-123	3	20	
Benzo(a)anthracene	mg/kg	ND	.39	.39	0.28	0.27	71	69	23-124	3	20	
Benzo(a)pyrene	mg/kg	ND	.39	.39	0.28	0.28	72	69	23-120	3	20	
Benzo(b)fluoranthene	mg/kg	ND	.39	.39	0.28	0.28	70	69	24-117	2	20	
Benzo(g,h,i)perylene	mg/kg	ND	.39	.39	0.29	0.28	73	71	12-122	2	20	
Benzo(k)fluoranthene	mg/kg	ND	.39	.39	0.28	0.27	70	67	14-123	4	20	
Chrysene	mg/kg	6.1 ug/kg	.39	.39	0.29	0.28	73	69	22-124	5	20	
Dibenz(a,h)anthracene	mg/kg	ND	.39	.39	0.31	0.30	80	77	26-113	3	20	
Fluoranthene	mg/kg	9.8 ug/kg	.39	.39	0.29	0.28	71	70	21-125	2	20	
Fluorene	mg/kg	ND	.39	.39	0.30	0.30	76	75	19-127	1	20	
Indeno(1,2,3-cd)pyrene	mg/kg	ND	.39	.39	0.30	0.29	75	73	15-121	2	20	
Naphthalene	mg/kg	6.7 ug/kg	.39	.39	0.31	0.30	79	75	15-125	3	20	
Phenanthrene	mg/kg	10.1 ug/kg	.39	.39	0.30	0.30	75	74	10-139	1	20	
Pyrene	mg/kg	7.0 ug/kg	.39	.39	0.28	0.28	70	68	17-132	2	20	
2-Fluorobiphenyl (S)	%.						63	61	38-110			
p-Terphenyl-d14 (S)	%.						48	45	32-111			

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QUALITY CONTROL DATA

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095059

QC Batch: PMST/9266 Analysis Method: ASTM D2974-87
QC Batch Method: ASTM D2974-87 Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 5095059001, 5095059002, 5095059003, 5095059004, 5095059005, 5095059006, 5095059007, 5095059008, 5095059009, 5095059010, 5095059011, 5095059012

SAMPLE DUPLICATE: 1067022

Parameter	Units	5095059008 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	18.2	19.3	6	5	R1

SAMPLE DUPLICATE: 1067023

Parameter	Units	5095059010 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	18.5	18.9	2	5	

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QUALIFIERS

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095059

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

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TNI - The NELAC Institute.

ANALYTE QUALIFIERS

1d	Due to the extract's physical characteristics, the analysis was performed at dilution. CEM 03/28/14
2d	Multiple compounds have a RPD greater than the RPD max refer to the LCS for system control. BJG 03-27-14.
3d	Multiple compounds have a RPD outside of the RPD max refer to the LCS for system control. BJG 03-27-14.
L0	Analyte recovery in the laboratory control sample (LCS) was outside QC limits.
M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
N2	The lab does not hold TNI accreditation for this parameter.
R1	RPD value was outside control limits.
S4	Surrogate recovery not evaluated against control limits due to sample dilution.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095059

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
5095059001	53-SB-1 2-4'	EPA 3546	OEXT/35364	EPA 8015 Mod Ext	GCSV/12271
5095059002	53-SB-2 6-8'	EPA 3546	OEXT/35364	EPA 8015 Mod Ext	GCSV/12271
5095059003	53-SB-3 8-10'	EPA 3546	OEXT/35364	EPA 8015 Mod Ext	GCSV/12271
5095059004	53-SB-4 6-8'	EPA 3546	OEXT/35364	EPA 8015 Mod Ext	GCSV/12271
5095059005	49-SB-1 0-3'	EPA 3546	OEXT/35364	EPA 8015 Mod Ext	GCSV/12271
5095059006	49-SB-2 2-4'	EPA 3546	OEXT/35364	EPA 8015 Mod Ext	GCSV/12271
5095059007	17-SB-1 4-6'	EPA 3546	OEXT/35364	EPA 8015 Mod Ext	GCSV/12271
5095059008	17-SB-2 8-10'	EPA 3546	OEXT/35364	EPA 8015 Mod Ext	GCSV/12271
5095059009	29-SB-1 2-4'	EPA 3546	OEXT/35364	EPA 8015 Mod Ext	GCSV/12271
5095059010	29-SB-2 4-6'	EPA 3546	OEXT/35364	EPA 8015 Mod Ext	GCSV/12271
5095059011	51-SB-1 8-10'	EPA 3546	OEXT/35364	EPA 8015 Mod Ext	GCSV/12271
5095059012	51-SB-2 2-4'	EPA 3546	OEXT/35364	EPA 8015 Mod Ext	GCSV/12271
5095059001	53-SB-1 2-4'	EPA 8015 Mod Pur	GCV/17838		
5095059002	53-SB-2 6-8'	EPA 8015 Mod Pur	GCV/17838		
5095059003	53-SB-3 8-10'	EPA 8015 Mod Pur	GCV/17838		
5095059004	53-SB-4 6-8'	EPA 8015 Mod Pur	GCV/17838		
5095059005	49-SB-1 0-3'	EPA 8015 Mod Pur	GCV/17838		
5095059006	49-SB-2 2-4'	EPA 8015 Mod Pur	GCV/17838		
5095059007	17-SB-1 4-6'	EPA 8015 Mod Pur	GCV/17838		
5095059008	17-SB-2 8-10'	EPA 8015 Mod Pur	GCV/17838		
5095059009	29-SB-1 2-4'	EPA 8015 Mod Pur	GCV/17838		
5095059010	29-SB-2 4-6'	EPA 8015 Mod Pur	GCV/17838		
5095059011	51-SB-1 8-10'	EPA 8015 Mod Pur	GCV/17838		
5095059012	51-SB-2 2-4'	EPA 8015 Mod Pur	GCV/17838		
5095059001	53-SB-1 2-4'	EPA 3546	OEXT/35351	EPA 8270 by SIM	MSSV/14855
5095059002	53-SB-2 6-8'	EPA 3546	OEXT/35351	EPA 8270 by SIM	MSSV/14855
5095059003	53-SB-3 8-10'	EPA 3546	OEXT/35351	EPA 8270 by SIM	MSSV/14855
5095059004	53-SB-4 6-8'	EPA 3546	OEXT/35351	EPA 8270 by SIM	MSSV/14855
5095059001	53-SB-1 2-4'	EPA 8260	MSV/62938		
5095059002	53-SB-2 6-8'	EPA 8260	MSV/62938		
5095059003	53-SB-3 8-10'	EPA 8260	MSV/62938		
5095059004	53-SB-4 6-8'	EPA 8260	MSV/62938		
5095059005	49-SB-1 0-3'	EPA 8260	MSV/62939		
5095059006	49-SB-2 2-4'	EPA 8260	MSV/62939		
5095059007	17-SB-1 4-6'	EPA 8260	MSV/62939		
5095059008	17-SB-2 8-10'	EPA 8260	MSV/62939		
5095059009	29-SB-1 2-4'	EPA 8260	MSV/62939		
5095059010	29-SB-2 4-6'	EPA 8260	MSV/62939		
5095059011	51-SB-1 8-10'	EPA 8260	MSV/62939		
5095059012	51-SB-2 2-4'	EPA 8260	MSV/62939		
5095059001	53-SB-1 2-4'	ASTM D2974-87	PMST/9266		
5095059002	53-SB-2 6-8'	ASTM D2974-87	PMST/9266		
5095059003	53-SB-3 8-10'	ASTM D2974-87	PMST/9266		
5095059004	53-SB-4 6-8'	ASTM D2974-87	PMST/9266		
5095059005	49-SB-1 0-3'	ASTM D2974-87	PMST/9266		
5095059006	49-SB-2 2-4'	ASTM D2974-87	PMST/9266		

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7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095059

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
5095059007	**17-SB-1 4-6'**	ASTM D2974-87	PMST/9266		
5095059008	**17-SB-2 8-10'**	ASTM D2974-87	PMST/9266		
5095059009	**29-SB-1 2-4'**	ASTM D2974-87	PMST/9266		
5095059010	**29-SB-2 4-6'**	ASTM D2974-87	PMST/9266		
5095059011	**51-SB-1 8-10'**	ASTM D2974-87	PMST/9266		
5095059012	**51-SB-2 2-4'**	ASTM D2974-87	PMST/9266		

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 1 of 2

1705835

Section A Required Client Information:

Company: Burgess + Niple, Inc.
Address: 5085 Reed Road
Columbus, OH 43220
Email To: scottdailey@burgessniple.com
Phone: 614 459-7272 Fax:
Requested Due Date/TAT: 3/28/14

Section B Required Project Information:

Report To: Scott Dailey
Copy To:
Purchase Order No.: 52888
Project Name: ODOT HAM-75-0.22
Project Number: 52888

Section C Invoice Information:

Attention:
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager:
Pace Profile #:

JMW

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☑ UST ☐ RCRA ☐ OTHER VAP

Site Location STATE: OH

Section D Required Client Information

SAMPLE ID (A-Z, 0-9 / ,) Sample IDs MUST BE UNIQUE

Matrix Codes (MATRIX / CODE): Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

ITEM #	SAMPLE ID		MATRIX CODE	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test ↓	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	53-SB-1	2-4'	SL	G	3-17-14	10:25				2	✓									5096059
2	53-SB-2	6-8'				11:15														BUSTR Standard-001
3	53-SB-3	8-10'				11:40														-002
4	53-SB-4	6-8'				12:55														-003
5	49-SB-1	0-3'				11:45														-004
6	49-SB-2	2-4'				2:15														-005
7	17-SB-1	4-6'			3-18-14	9:00				2	✓									-006
8	17-SB-2	8-10'				9:30														-007
9	21-SB-1	2-4				10:30														-008
10	21-SB-2	4-6				10:50														-009
11	65-SB-1	10-12'				1:08														-010
12	65-SB-2	9-12'				1145														VAP Standard
																				VAP "

Requested Analysis Filtered (Y/N): BTEX/MTBE; GRO/DRO; GRO/DRO/BTEX; VOCs; SVOCs; PAHs; MTBE

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	Scott Dailey / B+N	3/20/14	1:33		3/20/14	1333	

@Pace Indy MB 3/21/14 12:35 1.1°C
Fedex w/ice
5680 5235 5837

Page 1 of 2

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Scott Dailey

SIGNATURE of SAMPLER: Scott Dailey

DATE Signed (MM/DD/YY): 3/20/14

Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-May-2007

CHAIN-OF-CUSTODY / Analytical Request Document

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The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A Required Client Information:

- Company: Burgess+Niple
- Address: 5085 Reed R.
- Columbus, OH
- Email To: scott.dailey@burgessniple.com
- Phone: 614/459-2272
- Fax:
- Requested Due Date/TAT:

Section B Required Project Information:

- Report To: Scott Dailey
- Copy To:
- Purchase Order No.: 52888
- Project Name: ODOT HAM-75-0.22
- Project Number: 5288

Section C Invoice Information:

- Attention:
- Company Name:
- Address:
- Pace Quote Reference:
- Pace Project Manager:
- Pace Profile #:

Page: 2 of 2

1705836

REGULATORY AGENCY

- ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
- ☑ UST ☐ RCRA ☑ OTHER VAP
- Site Location STATE: OH
- VAP+BUSTR

Section D Required Client Information

Matrix Codes MATRIX / CODE: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Tissue TS, Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE (G=GRAB C=COMP)	Composite Start DATE	Composite Start TIME	Composite End/Grab DATE	Composite End/Grab TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test	Grv/Inter	Gas/DRO	Diesel/DRO/ORO	VOC	SVOC	PAHs	MTBE	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	65-SB-4 4-6'	SL	G	3-18-14	3:15				2	✓											✓	✓	✓				VAP Standard
2	65-SB-5 4-8'	↓	↓	↓	3:35				↓	✓											✓	✓	✓				↓
3	65-SB-6 8-10'	↓	↓	↓	4:10				↓	✓											✓	✓	✓				↓
4	58-SB-1 2-4'	↓	↓	3-19-14	10:30				↓	✓											✓	✓	✓				↓
5	58-SB-2 2-4'	↓	↓	↓	11:07				↓	✓											✓	✓	✓				↓
6	58-SB-3 6-8'	↓	↓	↓	11:35				↓	✓											✓	✓	✓				↓
7	58-SB-4 2-4'	↓	↓	↓	12:25				↓	✓											✓	✓	✓				↓
8	58-SB-5 4-6'	↓	↓	↓	12:50				↓	✓											✓	✓	✓				↓
9	58-SB-6 6-8'	↓	↓	↓	1:08				↓	✓											✓	✓	✓				↓
10	51-SB-1 8-10'	↓	↓	↓	2:20				↓	✓									✓	✓							BUSTR Standards -011
11	51-SB-2 2-4'	↓	↓	↓	2:35				↓	✓									✓	✓							" " -012
12																											

5095059

logged separate

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	Scott Dailey / B+N	3/20/14	1:33	[signature]	3/20/14	1333	

ORIGINAL

SAMPLER NAME AND SIGNATURE

- PRINT Name of SAMPLER: Scott Dailey
- SIGNATURE of SAMPLER: J Scott Dailey
- DATE Signed (MM/DD/YY): 3/20/14

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-May-2007

Sample Condition Upon Receipt

Pace Analytical

Client Name: Burgess + Niple Project # 5095059

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____

Tracking #: 568052355837

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals Intact: ☑ yes ☐ no

Date/Time 5035A kits placed in freezer: _____

Packing Material: ☑ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other Ziploc

Thermometer Used: 1 2 3 4 5 A B C D (E) Type of Ice: (Wet) Blue None ☑ Samples on ice, cooling process has begun

Cooler Temperature (Corrected, if applicable): 1.1°C Ice Visible in Sample Containers: ☐ yes ☑ no

Temp should be above freezing to 6°C

Date and Initials of person examining contents: MB 3/21/14

				Comments:
Chain of Custody Present:	☑Yes	☐No	☐N/A	1.
Chain of Custody Filled Out:	☑Yes	☐No	☐N/A	2.
Chain of Custody Relinquished:	☑Yes	☐No	☐N/A	3.
Sampler Name & Signature on COC:	☑Yes	☐No	☐N/A	4.
Short Hold Time Analysis (<72hr):	☐Yes	☐No	☑N/A	5.
Rush Turn Around Time Requested:	☐Yes	☑No	☐N/A	6. 3/28/14
Containers Intact:	☑Yes	☐No	☐N/A	7.
Sample Labels match COC: -Includes date/time/ID/Analysis	☐Yes	☑No	☐N/A	8. 2 vials recv w/ custody seal but no sample ID MB
All containers needing acid/base pres. have been checked? exceptions: VOA, coliform, TOC, O&G	☐Yes	☐No	☑N/A	9. (Circle) HNO3 H2SO4 NaOH HCl
All containers needing preservation are found to be in compliance with EPA recommendation (<2, >9, >12) unless otherwise noted.				
Headspace in VOA Vials (>6mm):	☐Yes	☑No	☐N/A	10.
Trip Blank Present:	☐Yes	☐No	☑N/A	11.
Trip Blank Custody Seals Present	☐Yes	☐No	☑N/A	
Samples Arrived within Hold Time:	☑Yes	☐No	☐N/A	12.
Sufficient Volume:	☑Yes	☐No	☐N/A	13.
Correct Containers Used:	☑Yes	☐No	☐N/A	14.

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: 2 Vials recv were not custody sealed by Pace Indy MB 3/21/14

Project Manager Review: Kenneth Hunt Date: 3/21/14

Sample Container Count

CLIENT: Burgess & Niple

COC PAGE 1 of 2
COC ID# 1705835

Project # 50950189

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Sample Line Item	DG9H	AG1U	WGFU	AG0U	R	4/6	BP2N	BP2U	BP2S	BP3N	BP3U	BP3S	AG3S	AG1H	BP3C	BP1U	SPST	202	pH <2	pH>12	Comments
1			1															1			
2			1															1			
3			1															1			
4			1															1			
5			1															1			
6			1															1			
7			1															1			
8			1															1			
9			1															1			
10			1															1			
11			1															1			
12			1															1			

Container Codes

DG9H	40mL HCL amber voa vial	AG0U	100mL unpreserved amber gl	BP1N	1 liter HNO3 plastic	DG9P	40mL TSP amber vial
AG1U	1liter unpreserved amber gla	AG1H	1 liter HCL amber glass	BP1S	1 liter H2SO4 plastic	DG9S	40mL H2SO4 amber vial
WGFU	4oz clear soil jar	AG1S	1 liter H2SO4 amber glass	BP1U	1 liter unpreserved plastic	DG9T	40mL Na Thio amber vial
R	terra core kit	AG1T	1 liter Na Thiosulfate amber g	BP1Z	1 liter NaOH, Zn, Ac	DG9U	40mL unpreserved amber vial
BP2N	500mL HNO3 plastic	AG2N	500mL HNO3 amber glass	BP2A	500mL NaOH, Asc Acid plastic	I	Wipe/Swab
BP2U	500mL unpreserved plastic	AG2S	500mL H2SO4 amber glass	BP2O	500mL NaOH plastic	JGFU	4oz unpreserved amber wide
BP2S	500mL H2SO4 plastic	AG2U	500mL unpreserved amber g	BP2Z	500mL NaOH, Zn Ac	U	Summa Can
BP3N	250mL HNO3 plastic	AG3U	250mL unpreserved amber g	AF	Air Filter	VG9H	40mL HCL clear vial
BP3U	250mL unpreserved plastic	BG1H	1 liter HCL clear glass	BP3C	250mL NaOH plastic	VG9T	40mL Na Thio. clear vial
BP3S	250mL H2SO4 plastic	BG1S	1 liter H2SO4 clear glass	BP3Z	250mL NaOH, Zn Ac plastic	VG9U	40mL unpreserved clear vial
AG3S	250mL H2SO4 glass amber	BG1T	1 liter Na Thiosulfate clear gl	C	Air Cassettes	VSG	Headspace septa vial & HCL
AG1S	1 liter H2SO4 amber glass	BG1U	1 liter unpreserved glass	DG9B	40mL Na Bisulfate amber vial	WGFX	4oz wide jar w/hexane wipe
BP1U	1 liter unpreserved plastic	BP1A	1 liter NaOH, Asc Acid plastic	DG9M	40mL MeOH clear vial	ZPLC	Ziploc Bag

Sample Container Count

CLIENT: Burgess & Niple

COC PAGE 2 of 2
COC ID# 1705836

Project # 92915059

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Sample Line Item	DG9H	AG1U	WGFU	AG0U	R	4 / 6	BP2N	BP2U	BP2S	BP3N	BP3U	BP3S	AG3S	AG1H	BP3C	BP1U	SPST	2oz	pH <2	pH>12	Comments
1			1															1			
2			1															1			
3			1															1			
4			1															1			
5			1															1			
6			1															1			
7			1															1			
8			1															1			
9			1															1			
10			1															1			
11			1															1			
12	2																				See SCURF MB 3/21/14

Container Codes

DG9H	40mL HCL amber voa vial	AG0U	100mL unpreserved amber gl	BP1N	1 liter HNO3 plastic	DG9P	40mL TSP amber vial
AG1U	1liter unpreserved amber gl	AG1H	1 liter HCL amber glass	BP1S	1 liter H2SO4 plastic	DG9S	40mL H2SO4 amber vial
WGFU	4oz clear soil jar	AG1S	1 liter H2SO4 amber glass	BP1U	1 liter unpreserved plastic	DG9T	40mL Na Thio amber vial
R	terra core kit	AG1T	1 liter Na Thiosulfate amber	BP1Z	1 liter NaOH, Zn, Ac	DG9U	40mL unpreserved amber vial
BP2N	500mL HNO3 plastic	AG2N	500mL HNO3 amber glass	BP2A	500mL NaOH, Asc Acid plastic	I	Wipe/Swab
BP2U	500mL unpreserved plastic	AG2S	500mL H2SO4 amber glass	BP2O	500mL NaOH plastic	JGFU	4oz unpreserved amber wide
BP2S	500mL H2SO4 plastic	AG2U	500mL unpreserved amber g	BP2Z	500mL NaOH, Zn Ac	U	Summa Can
BP3N	250mL HNO3 plastic	AG3U	250mL unpreserved amber g	AF	Air Filter	VG9H	40mL HCL clear vial
BP3U	250mL unpreserved plastic	BG1H	1 liter HCL clear glass	BP3C	250mL NaOH plastic	VG9T	40mL Na Thio. clear vial
BP3S	250mL H2SO4 plastic	BG1S	1 liter H2SO4 clear glass	BP3Z	250mL NaOH, Zn Ac plastic	VG9U	40mL unpreserved clear vial
AG3S	250mL H2SO4 glass amber	BG1T	1 liter Na Thiosulfate clear gl	C	Air Cassettes	VSG	Headspace septa vial & HCL
AG1S	1 liter H2SO4 amber glass	BG1U	1 liter unpreserved glass	DG9B	40mL Na Bisulfate amber vial	WGFX	4oz wide jar w/hexane wipe
BP1U	1 liter unpreserved plastic	BP1A	1 liter NaOH, Asc Acid plastic	DG9M	40mL MeOH clear vial	ZPLC	Ziploc Bag

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March 31, 2014

Mr. Scott Dailey
Burgess & Niple (OH)
5085 Reed Road
Columbus, OH 43220

RE: Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095061

Dear Mr. Dailey:
Enclosed are the analytical results for sample(s) received by the laboratory on March 21, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kelly M Jones

Kelly Jones for
Kenneth Hunt
kenneth.hunt@pacelabs.com
Project Manager

Enclosures

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(317)228-3100

CERTIFICATIONS

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095061

Indiana Certification IDs
7726 Moller Road, Indianapolis, IN 46268
Illinois Certification #: 200074
Indiana Certification #: C-49-06
Kansas Certification #: E-10247
Kentucky UST Certification #: 0042
Louisiana/NELAP Certification #: 04076
Ohio VAP Certification #: CL-0065
Pennsylvania Certification #: 68-04991
West Virginia Certification #: 330

REPORT OF LABORATORY ANALYSIS

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(317)228-3100

SAMPLE SUMMARY

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095061

Lab ID	Sample ID	Matrix	Date Collected	Date Received
5095061001	**65-SB-1 10-12'**	Solid	03/18/14 13:08	03/21/14 12:35
5095061002	**65-SB-2 8-12'**	Solid	03/18/14 13:45	03/21/14 12:35
5095061003	**65-SB-4 4-6'**	Solid	03/18/14 15:15	03/21/14 12:35
5095061004	**65-SB-5 4-8'**	Solid	03/18/14 15:35	03/21/14 12:35
5095061005	**65-SB-6 8-10'**	Solid	03/18/14 16:10	03/21/14 12:35
5095061006	**58-SB-1 2-4'**	Solid	03/19/14 10:30	03/21/14 12:35
5095061007	**58-SB-2 2-4'**	Solid	03/19/14 11:07	03/21/14 12:35
5095061008	**58-SB-3 6-8'**	Solid	03/19/14 11:35	03/21/14 12:35
5095061009	**58-SB-4 2-4'**	Solid	03/19/14 12:25	03/21/14 12:35
5095061010	**58-SB-5 4-6'**	Solid	03/19/14 12:50	03/21/14 12:35
5095061011	**58-SB-6 6-8'**	Solid	03/19/14 13:08	03/21/14 12:35

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095061

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
5095061001	**65-SB-1 10-12'**	EPA 8015 Mod Ext	CEM	4	PASI-I
		EPA 8015 Mod Pur	PTH	2	PASI-I
		EPA 8270	NAJ	62	PASI-I
		EPA 8260	GRM	67	PASI-I
		ASTM D2974-87	ZM	1	PASI-I
5095061002	**65-SB-2 8-12'**	EPA 8015 Mod Ext	CEM	4	PASI-I
		EPA 8015 Mod Pur	PTH	2	PASI-I
		EPA 8270	NAJ	62	PASI-I
		EPA 8260	GRM	67	PASI-I
		ASTM D2974-87	ZM	1	PASI-I
5095061003	**65-SB-4 4-6'**	EPA 8015 Mod Ext	CEM	4	PASI-I
		EPA 8015 Mod Pur	PTH	2	PASI-I
		EPA 8270	NAJ	62	PASI-I
		EPA 8260	GRM	67	PASI-I
		ASTM D2974-87	ZM	1	PASI-I
5095061004	**65-SB-5 4-8'**	EPA 8015 Mod Ext	CEM	4	PASI-I
		EPA 8015 Mod Pur	PTH	2	PASI-I
		EPA 8270	NAJ	62	PASI-I
		EPA 8260	GRM	67	PASI-I
		ASTM D2974-87	ZM	1	PASI-I
5095061005	**65-SB-6 8-10'**	EPA 8015 Mod Ext	CEM	4	PASI-I
		EPA 8015 Mod Pur	PTH	2	PASI-I
		EPA 8270	NAJ	62	PASI-I
		EPA 8260	ALA, GRM	67	PASI-I
		ASTM D2974-87	ZM	1	PASI-I
5095061006	**58-SB-1 2-4'**	EPA 8015 Mod Ext	CEM	4	PASI-I
		EPA 8015 Mod Pur	PTH	2	PASI-I
		EPA 8270	NAJ	62	PASI-I
		EPA 8260	GRM	67	PASI-I
		ASTM D2974-87	ZM	1	PASI-I
5095061007	**58-SB-2 2-4'**	EPA 8015 Mod Ext	CEM	4	PASI-I
		EPA 8015 Mod Pur	PTH	2	PASI-I
		EPA 8270	NAJ	62	PASI-I
		EPA 8260	GRM	67	PASI-I
		ASTM D2974-87	ZM	1	PASI-I
5095061008	**58-SB-3 6-8'**	EPA 8015 Mod Ext	CEM	4	PASI-I
		EPA 8015 Mod Pur	PTH	2	PASI-I

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SAMPLE ANALYTE COUNT

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095061

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 8270	NAJ	62	PASI-I
		EPA 8260	GRM	67	PASI-I
		ASTM D2974-87	ZM	1	PASI-I
5095061009	**58-SB-4 2-4'**	EPA 8015 Mod Ext	CEM	4	PASI-I
		EPA 8015 Mod Pur	PTH	2	PASI-I
		EPA 8270	NAJ	62	PASI-I
		EPA 8260	GRM	67	PASI-I
		ASTM D2974-87	ZM	1	PASI-I
5095061010	**58-SB-5 4-6'**	EPA 8015 Mod Ext	CEM	4	PASI-I
		EPA 8015 Mod Pur	PTH	2	PASI-I
		EPA 8270	NAJ	62	PASI-I
		EPA 8260	GRM	67	PASI-I
		ASTM D2974-87	ZM	1	PASI-I
5095061011	**58-SB-6 6-8'**	EPA 8015 Mod Ext	CEM	4	PASI-I
		EPA 8015 Mod Pur	PTH	2	PASI-I
		EPA 8270	NAJ	62	PASI-I
		EPA 8260	GRM	67	PASI-I
		ASTM D2974-87	ZM	1	PASI-I

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ANALYTICAL RESULTS

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095061

Sample: 65-SB-1 10-12' **Lab ID: 5095061001** Collected: 03/18/14 13:08 Received: 03/21/14 12:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 TPH Ohio Microwave	Analytical Method: EPA 8015 Mod Ext Preparation Method: EPA 3546							
Total Petroleum Hydrocarbons	ND	mg/kg	26.0	1	03/25/14 09:25	03/27/14 13:57		
TPH (C10-C20)	ND	mg/kg	13.0	1	03/25/14 09:25	03/27/14 13:57		
TPH (C20-C34)	ND	mg/kg	13.0	1	03/25/14 09:25	03/27/14 13:57		
Surrogates								
n-Pentacosane (S)	59	%.	30-153	1	03/25/14 09:25	03/27/14 13:57	629-99-2	
8015 Gasoline Range Organics	Analytical Method: EPA 8015 Mod Pur							
TPH (C06-C12)	ND	mg/kg	1.3	1		03/26/14 02:32		
Surrogates								
4-Bromofluorobenzene (S)	95	%.	38-163	1		03/26/14 02:32	460-00-4	
8270 MSSV SHORT LIST MICROWAVE	Analytical Method: EPA 8270 Preparation Method: EPA 3546							
Acenaphthene	ND	ug/kg	430	1	03/25/14 10:10	03/25/14 18:17	83-32-9	
Acenaphthylene	ND	ug/kg	430	1	03/25/14 10:10	03/25/14 18:17	208-96-8	
Anthracene	ND	ug/kg	430	1	03/25/14 10:10	03/25/14 18:17	120-12-7	
Benzo(a)anthracene	ND	ug/kg	430	1	03/25/14 10:10	03/25/14 18:17	56-55-3	
Benzo(a)pyrene	ND	ug/kg	222	1	03/25/14 10:10	03/25/14 18:17	50-32-8	
Benzo(b)fluoranthene	ND	ug/kg	430	1	03/25/14 10:10	03/25/14 18:17	205-99-2	
Benzo(g,h,i)perylene	ND	ug/kg	430	1	03/25/14 10:10	03/25/14 18:17	191-24-2	
Benzo(k)fluoranthene	ND	ug/kg	430	1	03/25/14 10:10	03/25/14 18:17	207-08-9	
Benzyl alcohol	ND	ug/kg	861	1	03/25/14 10:10	03/25/14 18:17	100-51-6	
4-Bromophenylphenyl ether	ND	ug/kg	430	1	03/25/14 10:10	03/25/14 18:17	101-55-3	
Butylbenzylphthalate	ND	ug/kg	430	1	03/25/14 10:10	03/25/14 18:17	85-68-7	
4-Chloro-3-methylphenol	ND	ug/kg	861	1	03/25/14 10:10	03/25/14 18:17	59-50-7	
4-Chloroaniline	ND	ug/kg	861	1	03/25/14 10:10	03/25/14 18:17	106-47-8	
bis(2-Chloroethoxy)methane	ND	ug/kg	430	1	03/25/14 10:10	03/25/14 18:17	111-91-1	
bis(2-Chloroethyl) ether	ND	ug/kg	430	1	03/25/14 10:10	03/25/14 18:17	111-44-4	
bis(2-Chloroisopropyl) ether	ND	ug/kg	430	1	03/25/14 10:10	03/25/14 18:17	108-60-1	
2-Chloronaphthalene	ND	ug/kg	430	1	03/25/14 10:10	03/25/14 18:17	91-58-7	
2-Chlorophenol	ND	ug/kg	430	1	03/25/14 10:10	03/25/14 18:17	95-57-8	
4-Chlorophenylphenyl ether	ND	ug/kg	430	1	03/25/14 10:10	03/25/14 18:17	7005-72-3	
Chrysene	ND	ug/kg	430	1	03/25/14 10:10	03/25/14 18:17	218-01-9	
Dibenz(a,h)anthracene	ND	ug/kg	222	1	03/25/14 10:10	03/25/14 18:17	53-70-3	
Dibenzofuran	ND	ug/kg	430	1	03/25/14 10:10	03/25/14 18:17	132-64-9	
2,4-Dichlorophenol	ND	ug/kg	430	1	03/25/14 10:10	03/25/14 18:17	120-83-2	
Diethylphthalate	ND	ug/kg	430	1	03/25/14 10:10	03/25/14 18:17	84-66-2	
2,4-Dimethylphenol	ND	ug/kg	430	1	03/25/14 10:10	03/25/14 18:17	105-67-9	
Dimethylphthalate	ND	ug/kg	430	1	03/25/14 10:10	03/25/14 18:17	131-11-3	
Di-n-butylphthalate	ND	ug/kg	430	1	03/25/14 10:10	03/25/14 18:17	84-74-2	
4,6-Dinitro-2-methylphenol	ND	ug/kg	2090	1	03/25/14 10:10	03/25/14 18:17	534-52-1	
2,4-Dinitrophenol	ND	ug/kg	2090	1	03/25/14 10:10	03/25/14 18:17	51-28-5	
2,4-Dinitrotoluene	ND	ug/kg	430	1	03/25/14 10:10	03/25/14 18:17	121-14-2	
2,6-Dinitrotoluene	ND	ug/kg	430	1	03/25/14 10:10	03/25/14 18:17	606-20-2	
Di-n-octylphthalate	ND	ug/kg	430	1	03/25/14 10:10	03/25/14 18:17	117-84-0	
bis(2-Ethylhexyl)phthalate	ND	ug/kg	430	1	03/25/14 10:10	03/25/14 18:17	117-81-7	

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ANALYTICAL RESULTS

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095061

Sample: 65-SB-1 10-12' **Lab ID: 5095061001** Collected: 03/18/14 13:08 Received: 03/21/14 12:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV SHORT LIST MICROWAVE	Analytical Method: EPA 8270 Preparation Method: EPA 3546							
Fluoranthene	ND	ug/kg	430	1	03/25/14 10:10	03/25/14 18:17	206-44-0	
Fluorene	ND	ug/kg	430	1	03/25/14 10:10	03/25/14 18:17	86-73-7	
Hexachlorocyclopentadiene	ND	ug/kg	430	1	03/25/14 10:10	03/25/14 18:17	77-47-4	
Hexachloroethane	ND	ug/kg	430	1	03/25/14 10:10	03/25/14 18:17	67-72-1	
Indeno(1,2,3-cd)pyrene	ND	ug/kg	430	1	03/25/14 10:10	03/25/14 18:17	193-39-5	
Isophorone	ND	ug/kg	430	1	03/25/14 10:10	03/25/14 18:17	78-59-1	
2-Methylnaphthalene	ND	ug/kg	430	1	03/25/14 10:10	03/25/14 18:17	91-57-6	
2-Methylphenol(o-Cresol)	ND	ug/kg	430	1	03/25/14 10:10	03/25/14 18:17	95-48-7	
3&4-Methylphenol(m&p Cresol)	ND	ug/kg	861	1	03/25/14 10:10	03/25/14 18:17		
Naphthalene	ND	ug/kg	430	1	03/25/14 10:10	03/25/14 18:17	91-20-3	
2-Nitroaniline	ND	ug/kg	2090	1	03/25/14 10:10	03/25/14 18:17	88-74-4	
3-Nitroaniline	ND	ug/kg	2090	1	03/25/14 10:10	03/25/14 18:17	99-09-2	
4-Nitroaniline	ND	ug/kg	2090	1	03/25/14 10:10	03/25/14 18:17	100-01-6	
Nitrobenzene	ND	ug/kg	430	1	03/25/14 10:10	03/25/14 18:17	98-95-3	
2-Nitrophenol	ND	ug/kg	430	1	03/25/14 10:10	03/25/14 18:17	88-75-5	
4-Nitrophenol	ND	ug/kg	2090	1	03/25/14 10:10	03/25/14 18:17	100-02-7	
N-Nitroso-di-n-propylamine	ND	ug/kg	430	1	03/25/14 10:10	03/25/14 18:17	621-64-7	
N-Nitrosodiphenylamine	ND	ug/kg	430	1	03/25/14 10:10	03/25/14 18:17	86-30-6	
Phenanthrene	ND	ug/kg	430	1	03/25/14 10:10	03/25/14 18:17	85-01-8	
Phenol	ND	ug/kg	430	1	03/25/14 10:10	03/25/14 18:17	108-95-2	
Pyrene	ND	ug/kg	430	1	03/25/14 10:10	03/25/14 18:17	129-00-0	
2,4,5-Trichlorophenol	ND	ug/kg	430	1	03/25/14 10:10	03/25/14 18:17	95-95-4	
2,4,6-Trichlorophenol	ND	ug/kg	430	1	03/25/14 10:10	03/25/14 18:17	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	46	%.	28-101	1	03/25/14 10:10	03/25/14 18:17	4165-60-0	
2-Fluorobiphenyl (S)	61	%.	31-94	1	03/25/14 10:10	03/25/14 18:17	321-60-8	
p-Terphenyl-d14 (S)	56	%.	26-110	1	03/25/14 10:10	03/25/14 18:17	1718-51-0	
Phenol-d5 (S)	61	%.	28-101	1	03/25/14 10:10	03/25/14 18:17	4165-62-2	
2-Fluorophenol (S)	62	%.	24-104	1	03/25/14 10:10	03/25/14 18:17	367-12-4	
2,4,6-Tribromophenol (S)	55	%.	16-122	1	03/25/14 10:10	03/25/14 18:17	118-79-6	
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
Acetone	ND	mg/kg	0.13	1		03/27/14 15:29	67-64-1	
Acrolein	ND	mg/kg	0.13	1		03/27/14 15:29	107-02-8	
Benzene	ND	mg/kg	0.0065	1		03/27/14 15:29	71-43-2	
Bromobenzene	ND	mg/kg	0.0065	1		03/27/14 15:29	108-86-1	
Bromochloromethane	ND	mg/kg	0.0065	1		03/27/14 15:29	74-97-5	
Bromodichloromethane	ND	mg/kg	0.0065	1		03/27/14 15:29	75-27-4	
Bromoform	ND	mg/kg	0.0065	1		03/27/14 15:29	75-25-2	
Bromomethane	ND	mg/kg	0.0065	1		03/27/14 15:29	74-83-9	
2-Butanone (MEK)	ND	mg/kg	0.033	1		03/27/14 15:29	78-93-3	
n-Butylbenzene	ND	mg/kg	0.0065	1		03/27/14 15:29	104-51-8	
sec-Butylbenzene	ND	mg/kg	0.0065	1		03/27/14 15:29	135-98-8	
tert-Butylbenzene	ND	mg/kg	0.0065	1		03/27/14 15:29	98-06-6	
Carbon disulfide	ND	mg/kg	0.013	1		03/27/14 15:29	75-15-0	

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ANALYTICAL RESULTS

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095061

Sample: 65-SB-1 10-12' **Lab ID: 5095061001** Collected: 03/18/14 13:08 Received: 03/21/14 12:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
Carbon tetrachloride	ND	mg/kg	0.0065	1		03/27/14 15:29	56-23-5	
Chlorobenzene	ND	mg/kg	0.0065	1		03/27/14 15:29	108-90-7	
Chloroethane	ND	mg/kg	0.0065	1		03/27/14 15:29	75-00-3	
Chloroform	ND	mg/kg	0.0065	1		03/27/14 15:29	67-66-3	
Chloromethane	ND	mg/kg	0.0065	1		03/27/14 15:29	74-87-3	
2-Chlorotoluene	ND	mg/kg	0.0065	1		03/27/14 15:29	95-49-8	
4-Chlorotoluene	ND	mg/kg	0.0065	1		03/27/14 15:29	106-43-4	
Dibromochloromethane	ND	mg/kg	0.0065	1		03/27/14 15:29	124-48-1	
Dibromomethane	ND	mg/kg	0.0065	1		03/27/14 15:29	74-95-3	
1,2-Dichlorobenzene	ND	mg/kg	0.0065	1		03/27/14 15:29	95-50-1	
1,3-Dichlorobenzene	ND	mg/kg	0.0065	1		03/27/14 15:29	541-73-1	
1,4-Dichlorobenzene	ND	mg/kg	0.0065	1		03/27/14 15:29	106-46-7	
trans-1,4-Dichloro-2-butene	ND	mg/kg	0.13	1		03/27/14 15:29	110-57-6	
Dichlorodifluoromethane	ND	mg/kg	0.0065	1		03/27/14 15:29	75-71-8	
1,1-Dichloroethane	ND	mg/kg	0.0065	1		03/27/14 15:29	75-34-3	
1,2-Dichloroethane	ND	mg/kg	0.0065	1		03/27/14 15:29	107-06-2	
1,1-Dichloroethene	ND	mg/kg	0.0065	1		03/27/14 15:29	75-35-4	
cis-1,2-Dichloroethene	ND	mg/kg	0.0065	1		03/27/14 15:29	156-59-2	
trans-1,2-Dichloroethene	ND	mg/kg	0.0065	1		03/27/14 15:29	156-60-5	
1,2-Dichloropropane	ND	mg/kg	0.0065	1		03/27/14 15:29	78-87-5	
1,3-Dichloropropane	ND	mg/kg	0.0065	1		03/27/14 15:29	142-28-9	
2,2-Dichloropropane	ND	mg/kg	0.0065	1		03/27/14 15:29	594-20-7	
1,1-Dichloropropene	ND	mg/kg	0.0065	1		03/27/14 15:29	563-58-6	
cis-1,3-Dichloropropene	ND	mg/kg	0.0065	1		03/27/14 15:29	10061-01-5	
trans-1,3-Dichloropropene	ND	mg/kg	0.0065	1		03/27/14 15:29	10061-02-6	
Ethylbenzene	ND	mg/kg	0.0065	1		03/27/14 15:29	100-41-4	
Ethyl methacrylate	ND	mg/kg	0.13	1		03/27/14 15:29	97-63-2	
2-Hexanone	ND	mg/kg	0.13	1		03/27/14 15:29	591-78-6	
Iodomethane	ND	mg/kg	0.13	1		03/27/14 15:29	74-88-4	
Isopropylbenzene (Cumene)	ND	mg/kg	0.0065	1		03/27/14 15:29	98-82-8	
p-Isopropyltoluene	ND	mg/kg	0.0065	1		03/27/14 15:29	99-87-6	
Methylene Chloride	ND	mg/kg	0.026	1		03/27/14 15:29	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	mg/kg	0.033	1		03/27/14 15:29	108-10-1	
Methyl-tert-butyl ether	ND	mg/kg	0.0065	1		03/27/14 15:29	1634-04-4	
n-Propylbenzene	ND	mg/kg	0.0065	1		03/27/14 15:29	103-65-1	
Styrene	ND	mg/kg	0.0065	1		03/27/14 15:29	100-42-5	
1,1,1,2-Tetrachloroethane	ND	mg/kg	0.0065	1		03/27/14 15:29	630-20-6	
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.0065	1		03/27/14 15:29	79-34-5	
Tetrachloroethene	ND	mg/kg	0.0065	1		03/27/14 15:29	127-18-4	
Toluene	ND	mg/kg	0.0065	1		03/27/14 15:29	108-88-3	
1,2,3-Trichlorobenzene	ND	mg/kg	0.0065	1		03/27/14 15:29	87-61-6	
1,2,4-Trichlorobenzene	ND	mg/kg	0.0065	1		03/27/14 15:29	120-82-1	
1,1,1-Trichloroethane	ND	mg/kg	0.0065	1		03/27/14 15:29	71-55-6	
1,1,2-Trichloroethane	ND	mg/kg	0.0065	1		03/27/14 15:29	79-00-5	
Trichloroethene	ND	mg/kg	0.0065	1		03/27/14 15:29	79-01-6	
Trichlorofluoromethane	ND	mg/kg	0.0065	1		03/27/14 15:29	75-69-4	

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ANALYTICAL RESULTS

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095061

Sample: 65-SB-1 10-12' **Lab ID: 5095061001** Collected: 03/18/14 13:08 Received: 03/21/14 12:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
1,2,4-Trimethylbenzene	ND	mg/kg	0.0065	1		03/27/14 15:29	95-63-6	
1,3,5-Trimethylbenzene	ND	mg/kg	0.0065	1		03/27/14 15:29	108-67-8	
Vinyl acetate	ND	mg/kg	0.13	1		03/27/14 15:29	108-05-4	
Vinyl chloride	ND	mg/kg	0.0065	1		03/27/14 15:29	75-01-4	
Xylene (Total)	ND	mg/kg	0.013	1		03/27/14 15:29	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	100	%.	85-118	1		03/27/14 15:29	1868-53-7	
Toluene-d8 (S)	111	%.	71-128	1		03/27/14 15:29	2037-26-5	
4-Bromofluorobenzene (S)	88	%.	56-144	1		03/27/14 15:29	460-00-4	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**23.3**	%	0.10	1		03/24/14 15:43		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095061

Sample: 65-SB-2 8-12' **Lab ID: 5095061002** Collected: 03/18/14 13:45 Received: 03/21/14 12:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 TPH Ohio Microwave	Analytical Method: EPA 8015 Mod Ext Preparation Method: EPA 3546							
Total Petroleum Hydrocarbons	ND	mg/kg	26.0	1	03/26/14 12:25	03/26/14 17:00		
TPH (C10-C20)	ND	mg/kg	13.0	1	03/26/14 12:25	03/26/14 17:00		
TPH (C20-C34)	ND	mg/kg	13.0	1	03/26/14 12:25	03/26/14 17:00		
Surrogates								
n-Pentacosane (S)	81	%.	30-153	1	03/26/14 12:25	03/26/14 17:00	629-99-2	
8015 Gasoline Range Organics	Analytical Method: EPA 8015 Mod Pur							
TPH (C06-C12)	ND	mg/kg	1.3	1		03/26/14 02:58		
Surrogates								
4-Bromofluorobenzene (S)	100	%.	38-163	1		03/26/14 02:58	460-00-4	
8270 MSSV SHORT LIST MICROWAVE	Analytical Method: EPA 8270 Preparation Method: EPA 3546							
Acenaphthene	ND	ug/kg	428	1	03/25/14 10:10	03/25/14 18:36	83-32-9	
Acenaphthylene	ND	ug/kg	428	1	03/25/14 10:10	03/25/14 18:36	208-96-8	
Anthracene	ND	ug/kg	428	1	03/25/14 10:10	03/25/14 18:36	120-12-7	
Benzo(a)anthracene	ND	ug/kg	428	1	03/25/14 10:10	03/25/14 18:36	56-55-3	
Benzo(a)pyrene	ND	ug/kg	221	1	03/25/14 10:10	03/25/14 18:36	50-32-8	
Benzo(b)fluoranthene	ND	ug/kg	428	1	03/25/14 10:10	03/25/14 18:36	205-99-2	
Benzo(g,h,i)perylene	ND	ug/kg	428	1	03/25/14 10:10	03/25/14 18:36	191-24-2	
Benzo(k)fluoranthene	ND	ug/kg	428	1	03/25/14 10:10	03/25/14 18:36	207-08-9	
Benzyl alcohol	ND	ug/kg	857	1	03/25/14 10:10	03/25/14 18:36	100-51-6	
4-Bromophenylphenyl ether	ND	ug/kg	428	1	03/25/14 10:10	03/25/14 18:36	101-55-3	
Butylbenzylphthalate	ND	ug/kg	428	1	03/25/14 10:10	03/25/14 18:36	85-68-7	
4-Chloro-3-methylphenol	ND	ug/kg	857	1	03/25/14 10:10	03/25/14 18:36	59-50-7	
4-Chloroaniline	ND	ug/kg	857	1	03/25/14 10:10	03/25/14 18:36	106-47-8	
bis(2-Chloroethoxy)methane	ND	ug/kg	428	1	03/25/14 10:10	03/25/14 18:36	111-91-1	
bis(2-Chloroethyl) ether	ND	ug/kg	428	1	03/25/14 10:10	03/25/14 18:36	111-44-4	
bis(2-Chloroisopropyl) ether	ND	ug/kg	428	1	03/25/14 10:10	03/25/14 18:36	108-60-1	
2-Chloronaphthalene	ND	ug/kg	428	1	03/25/14 10:10	03/25/14 18:36	91-58-7	
2-Chlorophenol	ND	ug/kg	428	1	03/25/14 10:10	03/25/14 18:36	95-57-8	
4-Chlorophenylphenyl ether	ND	ug/kg	428	1	03/25/14 10:10	03/25/14 18:36	7005-72-3	
Chrysene	ND	ug/kg	428	1	03/25/14 10:10	03/25/14 18:36	218-01-9	
Dibenz(a,h)anthracene	ND	ug/kg	221	1	03/25/14 10:10	03/25/14 18:36	53-70-3	
Dibenzofuran	ND	ug/kg	428	1	03/25/14 10:10	03/25/14 18:36	132-64-9	
2,4-Dichlorophenol	ND	ug/kg	428	1	03/25/14 10:10	03/25/14 18:36	120-83-2	
Diethylphthalate	ND	ug/kg	428	1	03/25/14 10:10	03/25/14 18:36	84-66-2	
2,4-Dimethylphenol	ND	ug/kg	428	1	03/25/14 10:10	03/25/14 18:36	105-67-9	
Dimethylphthalate	ND	ug/kg	428	1	03/25/14 10:10	03/25/14 18:36	131-11-3	
Di-n-butylphthalate	ND	ug/kg	428	1	03/25/14 10:10	03/25/14 18:36	84-74-2	
4,6-Dinitro-2-methylphenol	ND	ug/kg	2080	1	03/25/14 10:10	03/25/14 18:36	534-52-1	
2,4-Dinitrophenol	ND	ug/kg	2080	1	03/25/14 10:10	03/25/14 18:36	51-28-5	
2,4-Dinitrotoluene	ND	ug/kg	428	1	03/25/14 10:10	03/25/14 18:36	121-14-2	
2,6-Dinitrotoluene	ND	ug/kg	428	1	03/25/14 10:10	03/25/14 18:36	606-20-2	
Di-n-octylphthalate	ND	ug/kg	428	1	03/25/14 10:10	03/25/14 18:36	117-84-0	
bis(2-Ethylhexyl)phthalate	ND	ug/kg	428	1	03/25/14 10:10	03/25/14 18:36	117-81-7	

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ANALYTICAL RESULTS

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095061

Sample: 65-SB-2 8-12' **Lab ID: 5095061002** Collected: 03/18/14 13:45 Received: 03/21/14 12:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV SHORT LIST MICROWAVE	Analytical Method: EPA 8270 Preparation Method: EPA 3546							
Fluoranthene	ND	ug/kg	428	1	03/25/14 10:10	03/25/14 18:36	206-44-0	
Fluorene	ND	ug/kg	428	1	03/25/14 10:10	03/25/14 18:36	86-73-7	
Hexachlorocyclopentadiene	ND	ug/kg	428	1	03/25/14 10:10	03/25/14 18:36	77-47-4	
Hexachloroethane	ND	ug/kg	428	1	03/25/14 10:10	03/25/14 18:36	67-72-1	
Indeno(1,2,3-cd)pyrene	ND	ug/kg	428	1	03/25/14 10:10	03/25/14 18:36	193-39-5	
Isophorone	ND	ug/kg	428	1	03/25/14 10:10	03/25/14 18:36	78-59-1	
2-Methylnaphthalene	ND	ug/kg	428	1	03/25/14 10:10	03/25/14 18:36	91-57-6	
2-Methylphenol(o-Cresol)	ND	ug/kg	428	1	03/25/14 10:10	03/25/14 18:36	95-48-7	
3&4-Methylphenol(m&p Cresol)	ND	ug/kg	857	1	03/25/14 10:10	03/25/14 18:36		
Naphthalene	ND	ug/kg	428	1	03/25/14 10:10	03/25/14 18:36	91-20-3	
2-Nitroaniline	ND	ug/kg	2080	1	03/25/14 10:10	03/25/14 18:36	88-74-4	
3-Nitroaniline	ND	ug/kg	2080	1	03/25/14 10:10	03/25/14 18:36	99-09-2	
4-Nitroaniline	ND	ug/kg	2080	1	03/25/14 10:10	03/25/14 18:36	100-01-6	
Nitrobenzene	ND	ug/kg	428	1	03/25/14 10:10	03/25/14 18:36	98-95-3	
2-Nitrophenol	ND	ug/kg	428	1	03/25/14 10:10	03/25/14 18:36	88-75-5	
4-Nitrophenol	ND	ug/kg	2080	1	03/25/14 10:10	03/25/14 18:36	100-02-7	
N-Nitroso-di-n-propylamine	ND	ug/kg	428	1	03/25/14 10:10	03/25/14 18:36	621-64-7	
N-Nitrosodiphenylamine	ND	ug/kg	428	1	03/25/14 10:10	03/25/14 18:36	86-30-6	
Phenanthrene	ND	ug/kg	428	1	03/25/14 10:10	03/25/14 18:36	85-01-8	
Phenol	ND	ug/kg	428	1	03/25/14 10:10	03/25/14 18:36	108-95-2	
Pyrene	ND	ug/kg	428	1	03/25/14 10:10	03/25/14 18:36	129-00-0	
2,4,5-Trichlorophenol	ND	ug/kg	428	1	03/25/14 10:10	03/25/14 18:36	95-95-4	
2,4,6-Trichlorophenol	ND	ug/kg	428	1	03/25/14 10:10	03/25/14 18:36	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	63	%.	28-101	1	03/25/14 10:10	03/25/14 18:36	4165-60-0	
2-Fluorobiphenyl (S)	67	%.	31-94	1	03/25/14 10:10	03/25/14 18:36	321-60-8	
p-Terphenyl-d14 (S)	83	%.	26-110	1	03/25/14 10:10	03/25/14 18:36	1718-51-0	
Phenol-d5 (S)	73	%.	28-101	1	03/25/14 10:10	03/25/14 18:36	4165-62-2	
2-Fluorophenol (S)	71	%.	24-104	1	03/25/14 10:10	03/25/14 18:36	367-12-4	
2,4,6-Tribromophenol (S)	78	%.	16-122	1	03/25/14 10:10	03/25/14 18:36	118-79-6	
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
Acetone	ND	mg/kg	0.13	1		03/27/14 17:14	67-64-1	
Acrolein	ND	mg/kg	0.13	1		03/27/14 17:14	107-02-8	
Benzene	ND	mg/kg	0.0065	1		03/27/14 17:14	71-43-2	
Bromobenzene	ND	mg/kg	0.0065	1		03/27/14 17:14	108-86-1	
Bromochloromethane	ND	mg/kg	0.0065	1		03/27/14 17:14	74-97-5	
Bromodichloromethane	ND	mg/kg	0.0065	1		03/27/14 17:14	75-27-4	
Bromoform	ND	mg/kg	0.0065	1		03/27/14 17:14	75-25-2	
Bromomethane	ND	mg/kg	0.0065	1		03/27/14 17:14	74-83-9	
2-Butanone (MEK)	ND	mg/kg	0.032	1		03/27/14 17:14	78-93-3	
n-Butylbenzene	ND	mg/kg	0.0065	1		03/27/14 17:14	104-51-8	
sec-Butylbenzene	ND	mg/kg	0.0065	1		03/27/14 17:14	135-98-8	
tert-Butylbenzene	ND	mg/kg	0.0065	1		03/27/14 17:14	98-06-6	
Carbon disulfide	ND	mg/kg	0.013	1		03/27/14 17:14	75-15-0	

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ANALYTICAL RESULTS

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095061

Sample: 65-SB-2 8-12' **Lab ID: 5095061002** Collected: 03/18/14 13:45 Received: 03/21/14 12:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
Carbon tetrachloride	ND	mg/kg	0.0065	1		03/27/14 17:14	56-23-5	
Chlorobenzene	ND	mg/kg	0.0065	1		03/27/14 17:14	108-90-7	
Chloroethane	ND	mg/kg	0.0065	1		03/27/14 17:14	75-00-3	
Chloroform	ND	mg/kg	0.0065	1		03/27/14 17:14	67-66-3	
Chloromethane	ND	mg/kg	0.0065	1		03/27/14 17:14	74-87-3	
2-Chlorotoluene	ND	mg/kg	0.0065	1		03/27/14 17:14	95-49-8	
4-Chlorotoluene	ND	mg/kg	0.0065	1		03/27/14 17:14	106-43-4	
Dibromochloromethane	ND	mg/kg	0.0065	1		03/27/14 17:14	124-48-1	
Dibromomethane	ND	mg/kg	0.0065	1		03/27/14 17:14	74-95-3	
1,2-Dichlorobenzene	ND	mg/kg	0.0065	1		03/27/14 17:14	95-50-1	
1,3-Dichlorobenzene	ND	mg/kg	0.0065	1		03/27/14 17:14	541-73-1	
1,4-Dichlorobenzene	ND	mg/kg	0.0065	1		03/27/14 17:14	106-46-7	
trans-1,4-Dichloro-2-butene	ND	mg/kg	0.13	1		03/27/14 17:14	110-57-6	
Dichlorodifluoromethane	ND	mg/kg	0.0065	1		03/27/14 17:14	75-71-8	
1,1-Dichloroethane	ND	mg/kg	0.0065	1		03/27/14 17:14	75-34-3	
1,2-Dichloroethane	ND	mg/kg	0.0065	1		03/27/14 17:14	107-06-2	
1,1-Dichloroethene	ND	mg/kg	0.0065	1		03/27/14 17:14	75-35-4	
cis-1,2-Dichloroethene	ND	mg/kg	0.0065	1		03/27/14 17:14	156-59-2	
trans-1,2-Dichloroethene	ND	mg/kg	0.0065	1		03/27/14 17:14	156-60-5	
1,2-Dichloropropane	ND	mg/kg	0.0065	1		03/27/14 17:14	78-87-5	
1,3-Dichloropropane	ND	mg/kg	0.0065	1		03/27/14 17:14	142-28-9	
2,2-Dichloropropane	ND	mg/kg	0.0065	1		03/27/14 17:14	594-20-7	
1,1-Dichloropropene	ND	mg/kg	0.0065	1		03/27/14 17:14	563-58-6	
cis-1,3-Dichloropropene	ND	mg/kg	0.0065	1		03/27/14 17:14	10061-01-5	
trans-1,3-Dichloropropene	ND	mg/kg	0.0065	1		03/27/14 17:14	10061-02-6	
Ethylbenzene	ND	mg/kg	0.0065	1		03/27/14 17:14	100-41-4	
Ethyl methacrylate	ND	mg/kg	0.13	1		03/27/14 17:14	97-63-2	
2-Hexanone	ND	mg/kg	0.13	1		03/27/14 17:14	591-78-6	
Iodomethane	ND	mg/kg	0.13	1		03/27/14 17:14	74-88-4	
Isopropylbenzene (Cumene)	ND	mg/kg	0.0065	1		03/27/14 17:14	98-82-8	
p-Isopropyltoluene	ND	mg/kg	0.0065	1		03/27/14 17:14	99-87-6	
Methylene Chloride	ND	mg/kg	0.026	1		03/27/14 17:14	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	mg/kg	0.032	1		03/27/14 17:14	108-10-1	
Methyl-tert-butyl ether	ND	mg/kg	0.0065	1		03/27/14 17:14	1634-04-4	
n-Propylbenzene	ND	mg/kg	0.0065	1		03/27/14 17:14	103-65-1	
Styrene	ND	mg/kg	0.0065	1		03/27/14 17:14	100-42-5	
1,1,1,2-Tetrachloroethane	ND	mg/kg	0.0065	1		03/27/14 17:14	630-20-6	
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.0065	1		03/27/14 17:14	79-34-5	
Tetrachloroethene	ND	mg/kg	0.0065	1		03/27/14 17:14	127-18-4	
Toluene	ND	mg/kg	0.0065	1		03/27/14 17:14	108-88-3	
1,2,3-Trichlorobenzene	ND	mg/kg	0.0065	1		03/27/14 17:14	87-61-6	
1,2,4-Trichlorobenzene	ND	mg/kg	0.0065	1		03/27/14 17:14	120-82-1	
1,1,1-Trichloroethane	ND	mg/kg	0.0065	1		03/27/14 17:14	71-55-6	
1,1,2-Trichloroethane	ND	mg/kg	0.0065	1		03/27/14 17:14	79-00-5	
Trichloroethene	ND	mg/kg	0.0065	1		03/27/14 17:14	79-01-6	
Trichlorofluoromethane	ND	mg/kg	0.0065	1		03/27/14 17:14	75-69-4	

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ANALYTICAL RESULTS

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095061

Sample: 65-SB-2 8-12' **Lab ID: 5095061002** Collected: 03/18/14 13:45 Received: 03/21/14 12:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
1,2,4-Trimethylbenzene	ND	mg/kg	0.0065	1		03/27/14 17:14	95-63-6	
1,3,5-Trimethylbenzene	ND	mg/kg	0.0065	1		03/27/14 17:14	108-67-8	
Vinyl acetate	ND	mg/kg	0.13	1		03/27/14 17:14	108-05-4	
Vinyl chloride	ND	mg/kg	0.0065	1		03/27/14 17:14	75-01-4	
Xylene (Total)	ND	mg/kg	0.013	1		03/27/14 17:14	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	96	%.	85-118	1		03/27/14 17:14	1868-53-7	
Toluene-d8 (S)	106	%.	71-128	1		03/27/14 17:14	2037-26-5	
4-Bromofluorobenzene (S)	95	%.	56-144	1		03/27/14 17:14	460-00-4	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**23.0**	%	0.10	1		03/24/14 15:43		

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ANALYTICAL RESULTS

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095061

Sample: 65-SB-4 4-6' **Lab ID: 5095061003** Collected: 03/18/14 15:15 Received: 03/21/14 12:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 TPH Ohio Microwave	Analytical Method: EPA 8015 Mod Ext Preparation Method: EPA 3546							
Total Petroleum Hydrocarbons	**77.1**	mg/kg	33.3	1	03/25/14 09:25	03/27/14 14:05		
TPH (C10-C20)	**43.7**	mg/kg	16.7	1	03/25/14 09:25	03/27/14 14:05		
TPH (C20-C34)	**33.4**	mg/kg	16.7	1	03/25/14 09:25	03/27/14 14:05		
Surrogates								
n-Pentacosane (S)	97	%.	30-153	1	03/25/14 09:25	03/27/14 14:05	629-99-2	
8015 Gasoline Range Organics	Analytical Method: EPA 8015 Mod Pur							
TPH (C06-C12)	ND	mg/kg	1.7	1		03/26/14 03:24		
Surrogates								
4-Bromofluorobenzene (S)	82	%.	38-163	1		03/26/14 03:24	460-00-4	
8270 MSSV SHORT LIST MICROWAVE	Analytical Method: EPA 8270 Preparation Method: EPA 3546							
Acenaphthene	ND	ug/kg	552	1	03/25/14 10:10	03/25/14 19:36	83-32-9	
Acenaphthylene	ND	ug/kg	552	1	03/25/14 10:10	03/25/14 19:36	208-96-8	
Anthracene	ND	ug/kg	552	1	03/25/14 10:10	03/25/14 19:36	120-12-7	
Benzo(a)anthracene	**582**	ug/kg	552	1	03/25/14 10:10	03/25/14 19:36	56-55-3	
Benzo(a)pyrene	**338**	ug/kg	284	1	03/25/14 10:10	03/25/14 19:36	50-32-8	
Benzo(b)fluoranthene	ND	ug/kg	552	1	03/25/14 10:10	03/25/14 19:36	205-99-2	
Benzo(g,h,i)perylene	ND	ug/kg	552	1	03/25/14 10:10	03/25/14 19:36	191-24-2	
Benzo(k)fluoranthene	ND	ug/kg	552	1	03/25/14 10:10	03/25/14 19:36	207-08-9	
Benzyl alcohol	ND	ug/kg	1100	1	03/25/14 10:10	03/25/14 19:36	100-51-6	
4-Bromophenylphenyl ether	ND	ug/kg	552	1	03/25/14 10:10	03/25/14 19:36	101-55-3	
Butylbenzylphthalate	ND	ug/kg	552	1	03/25/14 10:10	03/25/14 19:36	85-68-7	
4-Chloro-3-methylphenol	ND	ug/kg	1100	1	03/25/14 10:10	03/25/14 19:36	59-50-7	
4-Chloroaniline	ND	ug/kg	1100	1	03/25/14 10:10	03/25/14 19:36	106-47-8	
bis(2-Chloroethoxy)methane	ND	ug/kg	552	1	03/25/14 10:10	03/25/14 19:36	111-91-1	
bis(2-Chloroethyl) ether	ND	ug/kg	552	1	03/25/14 10:10	03/25/14 19:36	111-44-4	
bis(2-Chloroisopropyl) ether	ND	ug/kg	552	1	03/25/14 10:10	03/25/14 19:36	108-60-1	
2-Chloronaphthalene	ND	ug/kg	552	1	03/25/14 10:10	03/25/14 19:36	91-58-7	
2-Chlorophenol	ND	ug/kg	552	1	03/25/14 10:10	03/25/14 19:36	95-57-8	
4-Chlorophenylphenyl ether	ND	ug/kg	552	1	03/25/14 10:10	03/25/14 19:36	7005-72-3	
Chrysene	ND	ug/kg	552	1	03/25/14 10:10	03/25/14 19:36	218-01-9	
Dibenz(a,h)anthracene	ND	ug/kg	284	1	03/25/14 10:10	03/25/14 19:36	53-70-3	
Dibenzofuran	ND	ug/kg	552	1	03/25/14 10:10	03/25/14 19:36	132-64-9	
2,4-Dichlorophenol	ND	ug/kg	552	1	03/25/14 10:10	03/25/14 19:36	120-83-2	
Diethylphthalate	ND	ug/kg	552	1	03/25/14 10:10	03/25/14 19:36	84-66-2	
2,4-Dimethylphenol	ND	ug/kg	552	1	03/25/14 10:10	03/25/14 19:36	105-67-9	
Dimethylphthalate	ND	ug/kg	552	1	03/25/14 10:10	03/25/14 19:36	131-11-3	
Di-n-butylphthalate	ND	ug/kg	552	1	03/25/14 10:10	03/25/14 19:36	84-74-2	
4,6-Dinitro-2-methylphenol	ND	ug/kg	2670	1	03/25/14 10:10	03/25/14 19:36	534-52-1	
2,4-Dinitrophenol	ND	ug/kg	2670	1	03/25/14 10:10	03/25/14 19:36	51-28-5	
2,4-Dinitrotoluene	ND	ug/kg	552	1	03/25/14 10:10	03/25/14 19:36	121-14-2	
2,6-Dinitrotoluene	ND	ug/kg	552	1	03/25/14 10:10	03/25/14 19:36	606-20-2	
Di-n-octylphthalate	ND	ug/kg	552	1	03/25/14 10:10	03/25/14 19:36	117-84-0	
bis(2-Ethylhexyl)phthalate	ND	ug/kg	552	1	03/25/14 10:10	03/25/14 19:36	117-81-7	

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ANALYTICAL RESULTS

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095061

Sample: 65-SB-4 4-6' **Lab ID: 5095061003** Collected: 03/18/14 15:15 Received: 03/21/14 12:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV SHORT LIST MICROWAVE	Analytical Method: EPA 8270 Preparation Method: EPA 3546							
Fluoranthene	**928**	ug/kg	552	1	03/25/14 10:10	03/25/14 19:36	206-44-0	
Fluorene	ND	ug/kg	552	1	03/25/14 10:10	03/25/14 19:36	86-73-7	
Hexachlorocyclopentadiene	ND	ug/kg	552	1	03/25/14 10:10	03/25/14 19:36	77-47-4	
Hexachloroethane	ND	ug/kg	552	1	03/25/14 10:10	03/25/14 19:36	67-72-1	
Indeno(1,2,3-cd)pyrene	ND	ug/kg	552	1	03/25/14 10:10	03/25/14 19:36	193-39-5	
Isophorone	ND	ug/kg	552	1	03/25/14 10:10	03/25/14 19:36	78-59-1	
2-Methylnaphthalene	ND	ug/kg	552	1	03/25/14 10:10	03/25/14 19:36	91-57-6	
2-Methylphenol(o-Cresol)	ND	ug/kg	552	1	03/25/14 10:10	03/25/14 19:36	95-48-7	
3&4-Methylphenol(m&p Cresol)	ND	ug/kg	1100	1	03/25/14 10:10	03/25/14 19:36		
Naphthalene	ND	ug/kg	552	1	03/25/14 10:10	03/25/14 19:36	91-20-3	
2-Nitroaniline	ND	ug/kg	2670	1	03/25/14 10:10	03/25/14 19:36	88-74-4	
3-Nitroaniline	ND	ug/kg	2670	1	03/25/14 10:10	03/25/14 19:36	99-09-2	
4-Nitroaniline	ND	ug/kg	2670	1	03/25/14 10:10	03/25/14 19:36	100-01-6	
Nitrobenzene	ND	ug/kg	552	1	03/25/14 10:10	03/25/14 19:36	98-95-3	
2-Nitrophenol	ND	ug/kg	552	1	03/25/14 10:10	03/25/14 19:36	88-75-5	
4-Nitrophenol	ND	ug/kg	2670	1	03/25/14 10:10	03/25/14 19:36	100-02-7	
N-Nitroso-di-n-propylamine	ND	ug/kg	552	1	03/25/14 10:10	03/25/14 19:36	621-64-7	
N-Nitrosodiphenylamine	ND	ug/kg	552	1	03/25/14 10:10	03/25/14 19:36	86-30-6	
Phenanthrene	**1060**	ug/kg	552	1	03/25/14 10:10	03/25/14 19:36	85-01-8	
Phenol	ND	ug/kg	552	1	03/25/14 10:10	03/25/14 19:36	108-95-2	
Pyrene	**808**	ug/kg	552	1	03/25/14 10:10	03/25/14 19:36	129-00-0	
2,4,5-Trichlorophenol	ND	ug/kg	552	1	03/25/14 10:10	03/25/14 19:36	95-95-4	
2,4,6-Trichlorophenol	ND	ug/kg	552	1	03/25/14 10:10	03/25/14 19:36	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	47	%.	28-101	1	03/25/14 10:10	03/25/14 19:36	4165-60-0	
2-Fluorobiphenyl (S)	44	%.	31-94	1	03/25/14 10:10	03/25/14 19:36	321-60-8	
p-Terphenyl-d14 (S)	34	%.	26-110	1	03/25/14 10:10	03/25/14 19:36	1718-51-0	
Phenol-d5 (S)	66	%.	28-101	1	03/25/14 10:10	03/25/14 19:36	4165-62-2	
2-Fluorophenol (S)	64	%.	24-104	1	03/25/14 10:10	03/25/14 19:36	367-12-4	
2,4,6-Tribromophenol (S)	68	%.	16-122	1	03/25/14 10:10	03/25/14 19:36	118-79-6	
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
Acetone	ND	mg/kg	0.17	1		03/28/14 21:32	67-64-1	
Acrolein	ND	mg/kg	0.17	1		03/28/14 21:32	107-02-8	
Benzene	ND	mg/kg	0.0084	1		03/28/14 21:32	71-43-2	
Bromobenzene	ND	mg/kg	0.0084	1		03/28/14 21:32	108-86-1	
Bromochloromethane	ND	mg/kg	0.0084	1		03/28/14 21:32	74-97-5	
Bromodichloromethane	ND	mg/kg	0.0084	1		03/28/14 21:32	75-27-4	
Bromoform	ND	mg/kg	0.0084	1		03/28/14 21:32	75-25-2	
Bromomethane	ND	mg/kg	0.0084	1		03/28/14 21:32	74-83-9	
2-Butanone (MEK)	ND	mg/kg	0.042	1		03/28/14 21:32	78-93-3	
n-Butylbenzene	ND	mg/kg	0.0084	1		03/28/14 21:32	104-51-8	
sec-Butylbenzene	ND	mg/kg	0.0084	1		03/28/14 21:32	135-98-8	
tert-Butylbenzene	ND	mg/kg	0.0084	1		03/28/14 21:32	98-06-6	
Carbon disulfide	ND	mg/kg	0.017	1		03/28/14 21:32	75-15-0	

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ANALYTICAL RESULTS

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095061

Sample: 65-SB-4 4-6' **Lab ID: 5095061003** Collected: 03/18/14 15:15 Received: 03/21/14 12:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
Carbon tetrachloride	ND	mg/kg	0.0084	1		03/28/14 21:32	56-23-5	
Chlorobenzene	ND	mg/kg	0.0084	1		03/28/14 21:32	108-90-7	
Chloroethane	ND	mg/kg	0.0084	1		03/28/14 21:32	75-00-3	
Chloroform	ND	mg/kg	0.0084	1		03/28/14 21:32	67-66-3	
Chloromethane	ND	mg/kg	0.0084	1		03/28/14 21:32	74-87-3	
2-Chlorotoluene	ND	mg/kg	0.0084	1		03/28/14 21:32	95-49-8	
4-Chlorotoluene	ND	mg/kg	0.0084	1		03/28/14 21:32	106-43-4	
Dibromochloromethane	ND	mg/kg	0.0084	1		03/28/14 21:32	124-48-1	
Dibromomethane	ND	mg/kg	0.0084	1		03/28/14 21:32	74-95-3	
1,2-Dichlorobenzene	ND	mg/kg	0.0084	1		03/28/14 21:32	95-50-1	
1,3-Dichlorobenzene	ND	mg/kg	0.0084	1		03/28/14 21:32	541-73-1	
1,4-Dichlorobenzene	ND	mg/kg	0.0084	1		03/28/14 21:32	106-46-7	
trans-1,4-Dichloro-2-butene	ND	mg/kg	0.17	1		03/28/14 21:32	110-57-6	
Dichlorodifluoromethane	ND	mg/kg	0.0084	1		03/28/14 21:32	75-71-8	
1,1-Dichloroethane	ND	mg/kg	0.0084	1		03/28/14 21:32	75-34-3	
1,2-Dichloroethane	ND	mg/kg	0.0084	1		03/28/14 21:32	107-06-2	
1,1-Dichloroethene	ND	mg/kg	0.0084	1		03/28/14 21:32	75-35-4	
cis-1,2-Dichloroethene	ND	mg/kg	0.0084	1		03/28/14 21:32	156-59-2	
trans-1,2-Dichloroethene	ND	mg/kg	0.0084	1		03/28/14 21:32	156-60-5	
1,2-Dichloropropane	ND	mg/kg	0.0084	1		03/28/14 21:32	78-87-5	
1,3-Dichloropropane	ND	mg/kg	0.0084	1		03/28/14 21:32	142-28-9	
2,2-Dichloropropane	ND	mg/kg	0.0084	1		03/28/14 21:32	594-20-7	
1,1-Dichloropropene	ND	mg/kg	0.0084	1		03/28/14 21:32	563-58-6	
cis-1,3-Dichloropropene	ND	mg/kg	0.0084	1		03/28/14 21:32	10061-01-5	
trans-1,3-Dichloropropene	ND	mg/kg	0.0084	1		03/28/14 21:32	10061-02-6	
Ethylbenzene	ND	mg/kg	0.0084	1		03/28/14 21:32	100-41-4	
Ethyl methacrylate	ND	mg/kg	0.17	1		03/28/14 21:32	97-63-2	
2-Hexanone	ND	mg/kg	0.17	1		03/28/14 21:32	591-78-6	
Iodomethane	ND	mg/kg	0.17	1		03/28/14 21:32	74-88-4	
Isopropylbenzene (Cumene)	ND	mg/kg	0.0084	1		03/28/14 21:32	98-82-8	
p-Isopropyltoluene	ND	mg/kg	0.0084	1		03/28/14 21:32	99-87-6	
Methylene Chloride	ND	mg/kg	0.033	1		03/28/14 21:32	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	mg/kg	0.042	1		03/28/14 21:32	108-10-1	
Methyl-tert-butyl ether	ND	mg/kg	0.0084	1		03/28/14 21:32	1634-04-4	
n-Propylbenzene	ND	mg/kg	0.0084	1		03/28/14 21:32	103-65-1	
Styrene	ND	mg/kg	0.0084	1		03/28/14 21:32	100-42-5	
1,1,1,2-Tetrachloroethane	ND	mg/kg	0.0084	1		03/28/14 21:32	630-20-6	
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.0084	1		03/28/14 21:32	79-34-5	
Tetrachloroethene	ND	mg/kg	0.0084	1		03/28/14 21:32	127-18-4	
Toluene	ND	mg/kg	0.0084	1		03/28/14 21:32	108-88-3	
1,2,3-Trichlorobenzene	ND	mg/kg	0.0084	1		03/28/14 21:32	87-61-6	
1,2,4-Trichlorobenzene	ND	mg/kg	0.0084	1		03/28/14 21:32	120-82-1	
1,1,1-Trichloroethane	ND	mg/kg	0.0084	1		03/28/14 21:32	71-55-6	
1,1,2-Trichloroethane	ND	mg/kg	0.0084	1		03/28/14 21:32	79-00-5	
Trichloroethene	ND	mg/kg	0.0084	1		03/28/14 21:32	79-01-6	
Trichlorofluoromethane	ND	mg/kg	0.0084	1		03/28/14 21:32	75-69-4	

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ANALYTICAL RESULTS

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095061

Sample: 65-SB-4 4-6' **Lab ID: 5095061003** Collected: 03/18/14 15:15 Received: 03/21/14 12:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
1,2,4-Trimethylbenzene	ND	mg/kg	0.0084	1		03/28/14 21:32	95-63-6	
1,3,5-Trimethylbenzene	ND	mg/kg	0.0084	1		03/28/14 21:32	108-67-8	
Vinyl acetate	ND	mg/kg	0.17	1		03/28/14 21:32	108-05-4	
Vinyl chloride	ND	mg/kg	0.0084	1		03/28/14 21:32	75-01-4	
Xylene (Total)	ND	mg/kg	0.017	1		03/28/14 21:32	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	100	%.	85-118	1		03/28/14 21:32	1868-53-7	
Toluene-d8 (S)	136	%.	71-128	1		03/28/14 21:32	2037-26-5	S3
4-Bromofluorobenzene (S)	75	%.	56-144	1		03/28/14 21:32	460-00-4	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**40.2**	%	0.10	1		03/24/14 15:43		

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ANALYTICAL RESULTS

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095061

Sample: 65-SB-5 4-8' **Lab ID: 5095061004** Collected: 03/18/14 15:35 Received: 03/21/14 12:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 TPH Ohio Microwave	Analytical Method: EPA 8015 Mod Ext Preparation Method: EPA 3546							
Total Petroleum Hydrocarbons	ND	mg/kg	29.9	1	03/25/14 09:25	03/27/14 14:12		
TPH (C10-C20)	ND	mg/kg	14.9	1	03/25/14 09:25	03/27/14 14:12		
TPH (C20-C34)	ND	mg/kg	14.9	1	03/25/14 09:25	03/27/14 14:12		
Surrogates								
n-Pentacosane (S)	55	%.	30-153	1	03/25/14 09:25	03/27/14 14:12	629-99-2	
8015 Gasoline Range Organics	Analytical Method: EPA 8015 Mod Pur							
TPH (C06-C12)	ND	mg/kg	1.5	1		03/26/14 04:16		
Surrogates								
4-Bromofluorobenzene (S)	84	%.	38-163	1		03/26/14 04:16	460-00-4	
8270 MSSV SHORT LIST MICROWAVE	Analytical Method: EPA 8270 Preparation Method: EPA 3546							
Acenaphthene	ND	ug/kg	498	1	03/25/14 10:10	03/25/14 19:56	83-32-9	
Acenaphthylene	ND	ug/kg	498	1	03/25/14 10:10	03/25/14 19:56	208-96-8	
Anthracene	ND	ug/kg	498	1	03/25/14 10:10	03/25/14 19:56	120-12-7	
Benzo(a)anthracene	ND	ug/kg	498	1	03/25/14 10:10	03/25/14 19:56	56-55-3	
Benzo(a)pyrene	ND	ug/kg	257	1	03/25/14 10:10	03/25/14 19:56	50-32-8	
Benzo(b)fluoranthene	ND	ug/kg	498	1	03/25/14 10:10	03/25/14 19:56	205-99-2	
Benzo(g,h,i)perylene	ND	ug/kg	498	1	03/25/14 10:10	03/25/14 19:56	191-24-2	
Benzo(k)fluoranthene	ND	ug/kg	498	1	03/25/14 10:10	03/25/14 19:56	207-08-9	
Benzyl alcohol	ND	ug/kg	996	1	03/25/14 10:10	03/25/14 19:56	100-51-6	
4-Bromophenylphenyl ether	ND	ug/kg	498	1	03/25/14 10:10	03/25/14 19:56	101-55-3	
Butylbenzylphthalate	ND	ug/kg	498	1	03/25/14 10:10	03/25/14 19:56	85-68-7	
4-Chloro-3-methylphenol	ND	ug/kg	996	1	03/25/14 10:10	03/25/14 19:56	59-50-7	
4-Chloroaniline	ND	ug/kg	996	1	03/25/14 10:10	03/25/14 19:56	106-47-8	
bis(2-Chloroethoxy)methane	ND	ug/kg	498	1	03/25/14 10:10	03/25/14 19:56	111-91-1	
bis(2-Chloroethyl) ether	ND	ug/kg	498	1	03/25/14 10:10	03/25/14 19:56	111-44-4	
bis(2-Chloroisopropyl) ether	ND	ug/kg	498	1	03/25/14 10:10	03/25/14 19:56	108-60-1	
2-Chloronaphthalene	ND	ug/kg	498	1	03/25/14 10:10	03/25/14 19:56	91-58-7	
2-Chlorophenol	ND	ug/kg	498	1	03/25/14 10:10	03/25/14 19:56	95-57-8	
4-Chlorophenylphenyl ether	ND	ug/kg	498	1	03/25/14 10:10	03/25/14 19:56	7005-72-3	
Chrysene	ND	ug/kg	498	1	03/25/14 10:10	03/25/14 19:56	218-01-9	
Dibenz(a,h)anthracene	ND	ug/kg	257	1	03/25/14 10:10	03/25/14 19:56	53-70-3	
Dibenzofuran	ND	ug/kg	498	1	03/25/14 10:10	03/25/14 19:56	132-64-9	
2,4-Dichlorophenol	ND	ug/kg	498	1	03/25/14 10:10	03/25/14 19:56	120-83-2	
Diethylphthalate	ND	ug/kg	498	1	03/25/14 10:10	03/25/14 19:56	84-66-2	
2,4-Dimethylphenol	ND	ug/kg	498	1	03/25/14 10:10	03/25/14 19:56	105-67-9	
Dimethylphthalate	ND	ug/kg	498	1	03/25/14 10:10	03/25/14 19:56	131-11-3	
Di-n-butylphthalate	ND	ug/kg	498	1	03/25/14 10:10	03/25/14 19:56	84-74-2	
4,6-Dinitro-2-methylphenol	ND	ug/kg	2410	1	03/25/14 10:10	03/25/14 19:56	534-52-1	
2,4-Dinitrophenol	ND	ug/kg	2410	1	03/25/14 10:10	03/25/14 19:56	51-28-5	
2,4-Dinitrotoluene	ND	ug/kg	498	1	03/25/14 10:10	03/25/14 19:56	121-14-2	
2,6-Dinitrotoluene	ND	ug/kg	498	1	03/25/14 10:10	03/25/14 19:56	606-20-2	
Di-n-octylphthalate	ND	ug/kg	498	1	03/25/14 10:10	03/25/14 19:56	117-84-0	
bis(2-Ethylhexyl)phthalate	ND	ug/kg	498	1	03/25/14 10:10	03/25/14 19:56	117-81-7	

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ANALYTICAL RESULTS

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095061

Sample: 65-SB-5 4-8' **Lab ID: 5095061004** Collected: 03/18/14 15:35 Received: 03/21/14 12:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV SHORT LIST MICROWAVE	Analytical Method: EPA 8270 Preparation Method: EPA 3546							
Fluoranthene	ND	ug/kg	498	1	03/25/14 10:10	03/25/14 19:56	206-44-0	
Fluorene	ND	ug/kg	498	1	03/25/14 10:10	03/25/14 19:56	86-73-7	
Hexachlorocyclopentadiene	ND	ug/kg	498	1	03/25/14 10:10	03/25/14 19:56	77-47-4	
Hexachloroethane	ND	ug/kg	498	1	03/25/14 10:10	03/25/14 19:56	67-72-1	
Indeno(1,2,3-cd)pyrene	ND	ug/kg	498	1	03/25/14 10:10	03/25/14 19:56	193-39-5	
Isophorone	ND	ug/kg	498	1	03/25/14 10:10	03/25/14 19:56	78-59-1	
2-Methylnaphthalene	ND	ug/kg	498	1	03/25/14 10:10	03/25/14 19:56	91-57-6	
2-Methylphenol(o-Cresol)	ND	ug/kg	498	1	03/25/14 10:10	03/25/14 19:56	95-48-7	
3&4-Methylphenol(m&p Cresol)	ND	ug/kg	996	1	03/25/14 10:10	03/25/14 19:56		
Naphthalene	ND	ug/kg	498	1	03/25/14 10:10	03/25/14 19:56	91-20-3	
2-Nitroaniline	ND	ug/kg	2410	1	03/25/14 10:10	03/25/14 19:56	88-74-4	
3-Nitroaniline	ND	ug/kg	2410	1	03/25/14 10:10	03/25/14 19:56	99-09-2	
4-Nitroaniline	ND	ug/kg	2410	1	03/25/14 10:10	03/25/14 19:56	100-01-6	
Nitrobenzene	ND	ug/kg	498	1	03/25/14 10:10	03/25/14 19:56	98-95-3	
2-Nitrophenol	ND	ug/kg	498	1	03/25/14 10:10	03/25/14 19:56	88-75-5	
4-Nitrophenol	ND	ug/kg	2410	1	03/25/14 10:10	03/25/14 19:56	100-02-7	
N-Nitroso-di-n-propylamine	ND	ug/kg	498	1	03/25/14 10:10	03/25/14 19:56	621-64-7	
N-Nitrosodiphenylamine	ND	ug/kg	498	1	03/25/14 10:10	03/25/14 19:56	86-30-6	
Phenanthrene	ND	ug/kg	498	1	03/25/14 10:10	03/25/14 19:56	85-01-8	
Phenol	ND	ug/kg	498	1	03/25/14 10:10	03/25/14 19:56	108-95-2	
Pyrene	ND	ug/kg	498	1	03/25/14 10:10	03/25/14 19:56	129-00-0	
2,4,5-Trichlorophenol	ND	ug/kg	498	1	03/25/14 10:10	03/25/14 19:56	95-95-4	
2,4,6-Trichlorophenol	ND	ug/kg	498	1	03/25/14 10:10	03/25/14 19:56	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	70	%.	28-101	1	03/25/14 10:10	03/25/14 19:56	4165-60-0	
2-Fluorobiphenyl (S)	76	%.	31-94	1	03/25/14 10:10	03/25/14 19:56	321-60-8	
p-Terphenyl-d14 (S)	81	%.	26-110	1	03/25/14 10:10	03/25/14 19:56	1718-51-0	
Phenol-d5 (S)	72	%.	28-101	1	03/25/14 10:10	03/25/14 19:56	4165-62-2	
2-Fluorophenol (S)	73	%.	24-104	1	03/25/14 10:10	03/25/14 19:56	367-12-4	
2,4,6-Tribromophenol (S)	74	%.	16-122	1	03/25/14 10:10	03/25/14 19:56	118-79-6	
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
Acetone	ND	mg/kg	0.15	1		03/27/14 18:25	67-64-1	
Acrolein	ND	mg/kg	0.15	1		03/27/14 18:25	107-02-8	
Benzene	ND	mg/kg	0.0075	1		03/27/14 18:25	71-43-2	
Bromobenzene	ND	mg/kg	0.0075	1		03/27/14 18:25	108-86-1	
Bromochloromethane	ND	mg/kg	0.0075	1		03/27/14 18:25	74-97-5	
Bromodichloromethane	ND	mg/kg	0.0075	1		03/27/14 18:25	75-27-4	
Bromoform	ND	mg/kg	0.0075	1		03/27/14 18:25	75-25-2	
Bromomethane	ND	mg/kg	0.0075	1		03/27/14 18:25	74-83-9	
2-Butanone (MEK)	ND	mg/kg	0.038	1		03/27/14 18:25	78-93-3	
n-Butylbenzene	ND	mg/kg	0.0075	1		03/27/14 18:25	104-51-8	
sec-Butylbenzene	ND	mg/kg	0.0075	1		03/27/14 18:25	135-98-8	
tert-Butylbenzene	ND	mg/kg	0.0075	1		03/27/14 18:25	98-06-6	
Carbon disulfide	ND	mg/kg	0.015	1		03/27/14 18:25	75-15-0	

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ANALYTICAL RESULTS

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095061

Sample: 65-SB-5 4-8' **Lab ID: 5095061004** Collected: 03/18/14 15:35 Received: 03/21/14 12:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
Carbon tetrachloride	ND	mg/kg	0.0075	1		03/27/14 18:25	56-23-5	
Chlorobenzene	ND	mg/kg	0.0075	1		03/27/14 18:25	108-90-7	
Chloroethane	ND	mg/kg	0.0075	1		03/27/14 18:25	75-00-3	
Chloroform	ND	mg/kg	0.0075	1		03/27/14 18:25	67-66-3	
Chloromethane	ND	mg/kg	0.0075	1		03/27/14 18:25	74-87-3	
2-Chlorotoluene	ND	mg/kg	0.0075	1		03/27/14 18:25	95-49-8	
4-Chlorotoluene	ND	mg/kg	0.0075	1		03/27/14 18:25	106-43-4	
Dibromochloromethane	ND	mg/kg	0.0075	1		03/27/14 18:25	124-48-1	
Dibromomethane	ND	mg/kg	0.0075	1		03/27/14 18:25	74-95-3	
1,2-Dichlorobenzene	ND	mg/kg	0.0075	1		03/27/14 18:25	95-50-1	
1,3-Dichlorobenzene	ND	mg/kg	0.0075	1		03/27/14 18:25	541-73-1	
1,4-Dichlorobenzene	ND	mg/kg	0.0075	1		03/27/14 18:25	106-46-7	
trans-1,4-Dichloro-2-butene	ND	mg/kg	0.15	1		03/27/14 18:25	110-57-6	
Dichlorodifluoromethane	ND	mg/kg	0.0075	1		03/27/14 18:25	75-71-8	
1,1-Dichloroethane	ND	mg/kg	0.0075	1		03/27/14 18:25	75-34-3	
1,2-Dichloroethane	ND	mg/kg	0.0075	1		03/27/14 18:25	107-06-2	
1,1-Dichloroethene	ND	mg/kg	0.0075	1		03/27/14 18:25	75-35-4	
cis-1,2-Dichloroethene	ND	mg/kg	0.0075	1		03/27/14 18:25	156-59-2	
trans-1,2-Dichloroethene	ND	mg/kg	0.0075	1		03/27/14 18:25	156-60-5	
1,2-Dichloropropane	ND	mg/kg	0.0075	1		03/27/14 18:25	78-87-5	
1,3-Dichloropropane	ND	mg/kg	0.0075	1		03/27/14 18:25	142-28-9	
2,2-Dichloropropane	ND	mg/kg	0.0075	1		03/27/14 18:25	594-20-7	
1,1-Dichloropropene	ND	mg/kg	0.0075	1		03/27/14 18:25	563-58-6	
cis-1,3-Dichloropropene	ND	mg/kg	0.0075	1		03/27/14 18:25	10061-01-5	
trans-1,3-Dichloropropene	ND	mg/kg	0.0075	1		03/27/14 18:25	10061-02-6	
Ethylbenzene	ND	mg/kg	0.0075	1		03/27/14 18:25	100-41-4	
Ethyl methacrylate	ND	mg/kg	0.15	1		03/27/14 18:25	97-63-2	
2-Hexanone	ND	mg/kg	0.15	1		03/27/14 18:25	591-78-6	
Iodomethane	ND	mg/kg	0.15	1		03/27/14 18:25	74-88-4	
Isopropylbenzene (Cumene)	ND	mg/kg	0.0075	1		03/27/14 18:25	98-82-8	
p-Isopropyltoluene	ND	mg/kg	0.0075	1		03/27/14 18:25	99-87-6	
Methylene Chloride	ND	mg/kg	0.030	1		03/27/14 18:25	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	mg/kg	0.038	1		03/27/14 18:25	108-10-1	
Methyl-tert-butyl ether	ND	mg/kg	0.0075	1		03/27/14 18:25	1634-04-4	
n-Propylbenzene	ND	mg/kg	0.0075	1		03/27/14 18:25	103-65-1	
Styrene	ND	mg/kg	0.0075	1		03/27/14 18:25	100-42-5	
1,1,1,2-Tetrachloroethane	ND	mg/kg	0.0075	1		03/27/14 18:25	630-20-6	
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.0075	1		03/27/14 18:25	79-34-5	
Tetrachloroethene	ND	mg/kg	0.0075	1		03/27/14 18:25	127-18-4	
Toluene	ND	mg/kg	0.0075	1		03/27/14 18:25	108-88-3	
1,2,3-Trichlorobenzene	ND	mg/kg	0.0075	1		03/27/14 18:25	87-61-6	
1,2,4-Trichlorobenzene	ND	mg/kg	0.0075	1		03/27/14 18:25	120-82-1	
1,1,1-Trichloroethane	ND	mg/kg	0.0075	1		03/27/14 18:25	71-55-6	
1,1,2-Trichloroethane	ND	mg/kg	0.0075	1		03/27/14 18:25	79-00-5	
Trichloroethene	ND	mg/kg	0.0075	1		03/27/14 18:25	79-01-6	
Trichlorofluoromethane	ND	mg/kg	0.0075	1		03/27/14 18:25	75-69-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095061

Sample: 65-SB-5 4-8' **Lab ID: 5095061004** Collected: 03/18/14 15:35 Received: 03/21/14 12:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
1,2,4-Trimethylbenzene	ND	mg/kg	0.0075	1		03/27/14 18:25	95-63-6	
1,3,5-Trimethylbenzene	ND	mg/kg	0.0075	1		03/27/14 18:25	108-67-8	
Vinyl acetate	ND	mg/kg	0.15	1		03/27/14 18:25	108-05-4	
Vinyl chloride	ND	mg/kg	0.0075	1		03/27/14 18:25	75-01-4	
Xylene (Total)	ND	mg/kg	0.015	1		03/27/14 18:25	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	98	%.	85-118	1		03/27/14 18:25	1868-53-7	
Toluene-d8 (S)	106	%.	71-128	1		03/27/14 18:25	2037-26-5	
4-Bromofluorobenzene (S)	94	%.	56-144	1		03/27/14 18:25	460-00-4	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**33.7**	%	0.10	1		03/24/14 15:44		

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ANALYTICAL RESULTS

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095061

Sample: 65-SB-6 8-10' **Lab ID: 5095061005** Collected: 03/18/14 16:10 Received: 03/21/14 12:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 TPH Ohio Microwave	Analytical Method: EPA 8015 Mod Ext Preparation Method: EPA 3546							
Total Petroleum Hydrocarbons	**94.1**	mg/kg	31.4	1	03/25/14 09:25	03/27/14 14:19		
TPH (C10-C20)	**36.9**	mg/kg	15.7	1	03/25/14 09:25	03/27/14 14:19		
TPH (C20-C34)	**57.2**	mg/kg	15.7	1	03/25/14 09:25	03/27/14 14:19		
Surrogates								
n-Pentacosane (S)	88	%.	30-153	1	03/25/14 09:25	03/27/14 14:19	629-99-2	
8015 Gasoline Range Organics	Analytical Method: EPA 8015 Mod Pur							
TPH (C06-C12)	ND	mg/kg	1.6	1		03/26/14 04:41		
Surrogates								
4-Bromofluorobenzene (S)	92	%.	38-163	1		03/26/14 04:41	460-00-4	
8270 MSSV SHORT LIST MICROWAVE	Analytical Method: EPA 8270 Preparation Method: EPA 3546							
Acenaphthene	ND	ug/kg	519	1	03/25/14 10:10	03/25/14 20:15	83-32-9	
Acenaphthylene	ND	ug/kg	519	1	03/25/14 10:10	03/25/14 20:15	208-96-8	
Anthracene	ND	ug/kg	519	1	03/25/14 10:10	03/25/14 20:15	120-12-7	
Benzo(a)anthracene	ND	ug/kg	519	1	03/25/14 10:10	03/25/14 20:15	56-55-3	
Benzo(a)pyrene	ND	ug/kg	268	1	03/25/14 10:10	03/25/14 20:15	50-32-8	
Benzo(b)fluoranthene	ND	ug/kg	519	1	03/25/14 10:10	03/25/14 20:15	205-99-2	
Benzo(g,h,i)perylene	ND	ug/kg	519	1	03/25/14 10:10	03/25/14 20:15	191-24-2	
Benzo(k)fluoranthene	ND	ug/kg	519	1	03/25/14 10:10	03/25/14 20:15	207-08-9	
Benzyl alcohol	ND	ug/kg	1040	1	03/25/14 10:10	03/25/14 20:15	100-51-6	
4-Bromophenylphenyl ether	ND	ug/kg	519	1	03/25/14 10:10	03/25/14 20:15	101-55-3	
Butylbenzylphthalate	ND	ug/kg	519	1	03/25/14 10:10	03/25/14 20:15	85-68-7	
4-Chloro-3-methylphenol	ND	ug/kg	1040	1	03/25/14 10:10	03/25/14 20:15	59-50-7	
4-Chloroaniline	ND	ug/kg	1040	1	03/25/14 10:10	03/25/14 20:15	106-47-8	
bis(2-Chloroethoxy)methane	ND	ug/kg	519	1	03/25/14 10:10	03/25/14 20:15	111-91-1	
bis(2-Chloroethyl) ether	ND	ug/kg	519	1	03/25/14 10:10	03/25/14 20:15	111-44-4	
bis(2-Chloroisopropyl) ether	ND	ug/kg	519	1	03/25/14 10:10	03/25/14 20:15	108-60-1	
2-Chloronaphthalene	ND	ug/kg	519	1	03/25/14 10:10	03/25/14 20:15	91-58-7	
2-Chlorophenol	ND	ug/kg	519	1	03/25/14 10:10	03/25/14 20:15	95-57-8	
4-Chlorophenylphenyl ether	ND	ug/kg	519	1	03/25/14 10:10	03/25/14 20:15	7005-72-3	
Chrysene	ND	ug/kg	519	1	03/25/14 10:10	03/25/14 20:15	218-01-9	
Dibenz(a,h)anthracene	ND	ug/kg	268	1	03/25/14 10:10	03/25/14 20:15	53-70-3	
Dibenzofuran	ND	ug/kg	519	1	03/25/14 10:10	03/25/14 20:15	132-64-9	
2,4-Dichlorophenol	ND	ug/kg	519	1	03/25/14 10:10	03/25/14 20:15	120-83-2	
Diethylphthalate	ND	ug/kg	519	1	03/25/14 10:10	03/25/14 20:15	84-66-2	
2,4-Dimethylphenol	ND	ug/kg	519	1	03/25/14 10:10	03/25/14 20:15	105-67-9	
Dimethylphthalate	ND	ug/kg	519	1	03/25/14 10:10	03/25/14 20:15	131-11-3	
Di-n-butylphthalate	ND	ug/kg	519	1	03/25/14 10:10	03/25/14 20:15	84-74-2	
4,6-Dinitro-2-methylphenol	ND	ug/kg	2520	1	03/25/14 10:10	03/25/14 20:15	534-52-1	
2,4-Dinitrophenol	ND	ug/kg	2520	1	03/25/14 10:10	03/25/14 20:15	51-28-5	
2,4-Dinitrotoluene	ND	ug/kg	519	1	03/25/14 10:10	03/25/14 20:15	121-14-2	
2,6-Dinitrotoluene	ND	ug/kg	519	1	03/25/14 10:10	03/25/14 20:15	606-20-2	
Di-n-octylphthalate	ND	ug/kg	519	1	03/25/14 10:10	03/25/14 20:15	117-84-0	
bis(2-Ethylhexyl)phthalate	ND	ug/kg	519	1	03/25/14 10:10	03/25/14 20:15	117-81-7	

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ANALYTICAL RESULTS

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095061

Sample: 65-SB-6 8-10' **Lab ID: 5095061005** Collected: 03/18/14 16:10 Received: 03/21/14 12:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV SHORT LIST MICROWAVE	Analytical Method: EPA 8270 Preparation Method: EPA 3546							
Fluoranthene	ND	ug/kg	519	1	03/25/14 10:10	03/25/14 20:15	206-44-0	
Fluorene	ND	ug/kg	519	1	03/25/14 10:10	03/25/14 20:15	86-73-7	
Hexachlorocyclopentadiene	ND	ug/kg	519	1	03/25/14 10:10	03/25/14 20:15	77-47-4	
Hexachloroethane	ND	ug/kg	519	1	03/25/14 10:10	03/25/14 20:15	67-72-1	
Indeno(1,2,3-cd)pyrene	ND	ug/kg	519	1	03/25/14 10:10	03/25/14 20:15	193-39-5	
Isophorone	ND	ug/kg	519	1	03/25/14 10:10	03/25/14 20:15	78-59-1	
2-Methylnaphthalene	ND	ug/kg	519	1	03/25/14 10:10	03/25/14 20:15	91-57-6	
2-Methylphenol(o-Cresol)	ND	ug/kg	519	1	03/25/14 10:10	03/25/14 20:15	95-48-7	
3&4-Methylphenol(m&p Cresol)	**1570**	ug/kg	1040	1	03/25/14 10:10	03/25/14 20:15		
Naphthalene	ND	ug/kg	519	1	03/25/14 10:10	03/25/14 20:15	91-20-3	
2-Nitroaniline	ND	ug/kg	2520	1	03/25/14 10:10	03/25/14 20:15	88-74-4	
3-Nitroaniline	ND	ug/kg	2520	1	03/25/14 10:10	03/25/14 20:15	99-09-2	
4-Nitroaniline	ND	ug/kg	2520	1	03/25/14 10:10	03/25/14 20:15	100-01-6	
Nitrobenzene	ND	ug/kg	519	1	03/25/14 10:10	03/25/14 20:15	98-95-3	
2-Nitrophenol	ND	ug/kg	519	1	03/25/14 10:10	03/25/14 20:15	88-75-5	
4-Nitrophenol	ND	ug/kg	2520	1	03/25/14 10:10	03/25/14 20:15	100-02-7	
N-Nitroso-di-n-propylamine	ND	ug/kg	519	1	03/25/14 10:10	03/25/14 20:15	621-64-7	
N-Nitrosodiphenylamine	ND	ug/kg	519	1	03/25/14 10:10	03/25/14 20:15	86-30-6	
Phenanthrene	ND	ug/kg	519	1	03/25/14 10:10	03/25/14 20:15	85-01-8	
Phenol	ND	ug/kg	519	1	03/25/14 10:10	03/25/14 20:15	108-95-2	
Pyrene	ND	ug/kg	519	1	03/25/14 10:10	03/25/14 20:15	129-00-0	
2,4,5-Trichlorophenol	ND	ug/kg	519	1	03/25/14 10:10	03/25/14 20:15	95-95-4	
2,4,6-Trichlorophenol	ND	ug/kg	519	1	03/25/14 10:10	03/25/14 20:15	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	48	%.	28-101	1	03/25/14 10:10	03/25/14 20:15	4165-60-0	
2-Fluorobiphenyl (S)	53	%.	31-94	1	03/25/14 10:10	03/25/14 20:15	321-60-8	
p-Terphenyl-d14 (S)	34	%.	26-110	1	03/25/14 10:10	03/25/14 20:15	1718-51-0	
Phenol-d5 (S)	62	%.	28-101	1	03/25/14 10:10	03/25/14 20:15	4165-62-2	
2-Fluorophenol (S)	62	%.	24-104	1	03/25/14 10:10	03/25/14 20:15	367-12-4	
2,4,6-Tribromophenol (S)	62	%.	16-122	1	03/25/14 10:10	03/25/14 20:15	118-79-6	
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
Acetone	**0.29**	mg/kg	0.16	1		03/28/14 19:15	67-64-1	
Acrolein	ND	mg/kg	0.16	1		03/27/14 19:01	107-02-8	
Benzene	ND	mg/kg	0.0079	1		03/27/14 19:01	71-43-2	
Bromobenzene	ND	mg/kg	0.0079	1		03/27/14 19:01	108-86-1	
Bromochloromethane	ND	mg/kg	0.0079	1		03/27/14 19:01	74-97-5	
Bromodichloromethane	ND	mg/kg	0.0079	1		03/27/14 19:01	75-27-4	
Bromoform	ND	mg/kg	0.0079	1		03/27/14 19:01	75-25-2	
Bromomethane	ND	mg/kg	0.0079	1		03/27/14 19:01	74-83-9	
2-Butanone (MEK)	ND	mg/kg	0.039	1		03/27/14 19:01	78-93-3	
n-Butylbenzene	ND	mg/kg	0.0079	1		03/27/14 19:01	104-51-8	
sec-Butylbenzene	ND	mg/kg	0.0079	1		03/27/14 19:01	135-98-8	
tert-Butylbenzene	ND	mg/kg	0.0079	1		03/27/14 19:01	98-06-6	
Carbon disulfide	ND	mg/kg	0.016	1		03/27/14 19:01	75-15-0	

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ANALYTICAL RESULTS

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095061

Sample: 65-SB-6 8-10' **Lab ID: 5095061005** Collected: 03/18/14 16:10 Received: 03/21/14 12:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
Carbon tetrachloride	ND	mg/kg	0.0079	1		03/27/14 19:01	56-23-5	
Chlorobenzene	ND	mg/kg	0.0079	1		03/27/14 19:01	108-90-7	
Chloroethane	ND	mg/kg	0.0079	1		03/27/14 19:01	75-00-3	
Chloroform	ND	mg/kg	0.0079	1		03/27/14 19:01	67-66-3	
Chloromethane	ND	mg/kg	0.0079	1		03/27/14 19:01	74-87-3	
2-Chlorotoluene	ND	mg/kg	0.0079	1		03/27/14 19:01	95-49-8	
4-Chlorotoluene	ND	mg/kg	0.0079	1		03/27/14 19:01	106-43-4	
Dibromochloromethane	ND	mg/kg	0.0079	1		03/27/14 19:01	124-48-1	
Dibromomethane	ND	mg/kg	0.0079	1		03/27/14 19:01	74-95-3	
1,2-Dichlorobenzene	ND	mg/kg	0.0079	1		03/27/14 19:01	95-50-1	
1,3-Dichlorobenzene	ND	mg/kg	0.0079	1		03/27/14 19:01	541-73-1	
1,4-Dichlorobenzene	ND	mg/kg	0.0079	1		03/27/14 19:01	106-46-7	
trans-1,4-Dichloro-2-butene	ND	mg/kg	0.16	1		03/27/14 19:01	110-57-6	
Dichlorodifluoromethane	ND	mg/kg	0.0079	1		03/27/14 19:01	75-71-8	
1,1-Dichloroethane	ND	mg/kg	0.0079	1		03/27/14 19:01	75-34-3	
1,2-Dichloroethane	ND	mg/kg	0.0079	1		03/27/14 19:01	107-06-2	
1,1-Dichloroethene	ND	mg/kg	0.0079	1		03/27/14 19:01	75-35-4	
cis-1,2-Dichloroethene	ND	mg/kg	0.0079	1		03/27/14 19:01	156-59-2	
trans-1,2-Dichloroethene	ND	mg/kg	0.0079	1		03/27/14 19:01	156-60-5	
1,2-Dichloropropane	ND	mg/kg	0.0079	1		03/27/14 19:01	78-87-5	
1,3-Dichloropropane	ND	mg/kg	0.0079	1		03/27/14 19:01	142-28-9	
2,2-Dichloropropane	ND	mg/kg	0.0079	1		03/27/14 19:01	594-20-7	
1,1-Dichloropropene	ND	mg/kg	0.0079	1		03/27/14 19:01	563-58-6	
cis-1,3-Dichloropropene	ND	mg/kg	0.0079	1		03/27/14 19:01	10061-01-5	
trans-1,3-Dichloropropene	ND	mg/kg	0.0079	1		03/27/14 19:01	10061-02-6	
Ethylbenzene	ND	mg/kg	0.0079	1		03/27/14 19:01	100-41-4	
Ethyl methacrylate	ND	mg/kg	0.16	1		03/27/14 19:01	97-63-2	
2-Hexanone	ND	mg/kg	0.16	1		03/27/14 19:01	591-78-6	
Iodomethane	ND	mg/kg	0.16	1		03/27/14 19:01	74-88-4	
Isopropylbenzene (Cumene)	ND	mg/kg	0.0079	1		03/27/14 19:01	98-82-8	
p-Isopropyltoluene	ND	mg/kg	0.0079	1		03/27/14 19:01	99-87-6	
Methylene Chloride	ND	mg/kg	0.031	1		03/27/14 19:01	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	mg/kg	0.039	1		03/27/14 19:01	108-10-1	
Methyl-tert-butyl ether	ND	mg/kg	0.0079	1		03/27/14 19:01	1634-04-4	
n-Propylbenzene	ND	mg/kg	0.0079	1		03/27/14 19:01	103-65-1	
Styrene	ND	mg/kg	0.0079	1		03/27/14 19:01	100-42-5	
1,1,1,2-Tetrachloroethane	ND	mg/kg	0.0079	1		03/27/14 19:01	630-20-6	
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.0079	1		03/27/14 19:01	79-34-5	
Tetrachloroethene	ND	mg/kg	0.0079	1		03/27/14 19:01	127-18-4	
Toluene	ND	mg/kg	0.0079	1		03/27/14 19:01	108-88-3	
1,2,3-Trichlorobenzene	ND	mg/kg	0.0079	1		03/27/14 19:01	87-61-6	
1,2,4-Trichlorobenzene	ND	mg/kg	0.0079	1		03/27/14 19:01	120-82-1	
1,1,1-Trichloroethane	ND	mg/kg	0.0079	1		03/27/14 19:01	71-55-6	
1,1,2-Trichloroethane	ND	mg/kg	0.0079	1		03/27/14 19:01	79-00-5	
Trichloroethene	ND	mg/kg	0.0079	1		03/27/14 19:01	79-01-6	
Trichlorofluoromethane	ND	mg/kg	0.0079	1		03/27/14 19:01	75-69-4	

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ANALYTICAL RESULTS

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095061

Sample: 65-SB-6 8-10' **Lab ID: 5095061005** Collected: 03/18/14 16:10 Received: 03/21/14 12:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
1,2,4-Trimethylbenzene	ND	mg/kg	0.0079	1		03/27/14 19:01	95-63-6	
1,3,5-Trimethylbenzene	ND	mg/kg	0.0079	1		03/27/14 19:01	108-67-8	
Vinyl acetate	ND	mg/kg	0.16	1		03/27/14 19:01	108-05-4	
Vinyl chloride	ND	mg/kg	0.0079	1		03/27/14 19:01	75-01-4	
Xylene (Total)	ND	mg/kg	0.016	1		03/27/14 19:01	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	97	%.	85-118	1		03/27/14 19:01	1868-53-7	
Toluene-d8 (S)	116	%.	71-128	1		03/27/14 19:01	2037-26-5	
4-Bromofluorobenzene (S)	85	%.	56-144	1		03/27/14 19:01	460-00-4	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**36.5**	%	0.10	1		03/24/14 15:44		

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ANALYTICAL RESULTS

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095061

Sample: 58-SB-1 2-4' **Lab ID: 5095061006** Collected: 03/19/14 10:30 Received: 03/21/14 12:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 TPH Ohio Microwave	Analytical Method: EPA 8015 Mod Ext Preparation Method: EPA 3546							
Total Petroleum Hydrocarbons	ND	mg/kg	23.0	1	03/25/14 09:25	03/27/14 14:26		
TPH (C10-C20)	ND	mg/kg	11.5	1	03/25/14 09:25	03/27/14 14:26		
TPH (C20-C34)	ND	mg/kg	11.5	1	03/25/14 09:25	03/27/14 14:26		
Surrogates								
n-Pentacosane (S)	59	%.	30-153	1	03/25/14 09:25	03/27/14 14:26	629-99-2	
8015 Gasoline Range Organics	Analytical Method: EPA 8015 Mod Pur							
TPH (C06-C12)	ND	mg/kg	1.2	1		03/26/14 05:07		
Surrogates								
4-Bromofluorobenzene (S)	101	%.	38-163	1		03/26/14 05:07	460-00-4	
8270 MSSV SHORT LIST MICROWAVE	Analytical Method: EPA 8270 Preparation Method: EPA 3546							
Acenaphthene	ND	ug/kg	380	1	03/25/14 10:10	03/25/14 20:35	83-32-9	
Acenaphthylene	ND	ug/kg	380	1	03/25/14 10:10	03/25/14 20:35	208-96-8	
Anthracene	ND	ug/kg	380	1	03/25/14 10:10	03/25/14 20:35	120-12-7	
Benzo(a)anthracene	ND	ug/kg	380	1	03/25/14 10:10	03/25/14 20:35	56-55-3	
Benzo(a)pyrene	ND	ug/kg	196	1	03/25/14 10:10	03/25/14 20:35	50-32-8	
Benzo(b)fluoranthene	ND	ug/kg	380	1	03/25/14 10:10	03/25/14 20:35	205-99-2	
Benzo(g,h,i)perylene	ND	ug/kg	380	1	03/25/14 10:10	03/25/14 20:35	191-24-2	
Benzo(k)fluoranthene	ND	ug/kg	380	1	03/25/14 10:10	03/25/14 20:35	207-08-9	
Benzyl alcohol	ND	ug/kg	761	1	03/25/14 10:10	03/25/14 20:35	100-51-6	
4-Bromophenylphenyl ether	ND	ug/kg	380	1	03/25/14 10:10	03/25/14 20:35	101-55-3	
Butylbenzylphthalate	ND	ug/kg	380	1	03/25/14 10:10	03/25/14 20:35	85-68-7	
4-Chloro-3-methylphenol	ND	ug/kg	761	1	03/25/14 10:10	03/25/14 20:35	59-50-7	
4-Chloroaniline	ND	ug/kg	761	1	03/25/14 10:10	03/25/14 20:35	106-47-8	
bis(2-Chloroethoxy)methane	ND	ug/kg	380	1	03/25/14 10:10	03/25/14 20:35	111-91-1	
bis(2-Chloroethyl) ether	ND	ug/kg	380	1	03/25/14 10:10	03/25/14 20:35	111-44-4	
bis(2-Chloroisopropyl) ether	ND	ug/kg	380	1	03/25/14 10:10	03/25/14 20:35	108-60-1	
2-Chloronaphthalene	ND	ug/kg	380	1	03/25/14 10:10	03/25/14 20:35	91-58-7	
2-Chlorophenol	ND	ug/kg	380	1	03/25/14 10:10	03/25/14 20:35	95-57-8	
4-Chlorophenylphenyl ether	ND	ug/kg	380	1	03/25/14 10:10	03/25/14 20:35	7005-72-3	
Chrysene	ND	ug/kg	380	1	03/25/14 10:10	03/25/14 20:35	218-01-9	
Dibenz(a,h)anthracene	ND	ug/kg	196	1	03/25/14 10:10	03/25/14 20:35	53-70-3	
Dibenzofuran	ND	ug/kg	380	1	03/25/14 10:10	03/25/14 20:35	132-64-9	
2,4-Dichlorophenol	ND	ug/kg	380	1	03/25/14 10:10	03/25/14 20:35	120-83-2	
Diethylphthalate	ND	ug/kg	380	1	03/25/14 10:10	03/25/14 20:35	84-66-2	
2,4-Dimethylphenol	ND	ug/kg	380	1	03/25/14 10:10	03/25/14 20:35	105-67-9	
Dimethylphthalate	ND	ug/kg	380	1	03/25/14 10:10	03/25/14 20:35	131-11-3	
Di-n-butylphthalate	ND	ug/kg	380	1	03/25/14 10:10	03/25/14 20:35	84-74-2	
4,6-Dinitro-2-methylphenol	ND	ug/kg	1840	1	03/25/14 10:10	03/25/14 20:35	534-52-1	
2,4-Dinitrophenol	ND	ug/kg	1840	1	03/25/14 10:10	03/25/14 20:35	51-28-5	
2,4-Dinitrotoluene	ND	ug/kg	380	1	03/25/14 10:10	03/25/14 20:35	121-14-2	
2,6-Dinitrotoluene	ND	ug/kg	380	1	03/25/14 10:10	03/25/14 20:35	606-20-2	
Di-n-octylphthalate	ND	ug/kg	380	1	03/25/14 10:10	03/25/14 20:35	117-84-0	
bis(2-Ethylhexyl)phthalate	ND	ug/kg	380	1	03/25/14 10:10	03/25/14 20:35	117-81-7	

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ANALYTICAL RESULTS

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095061

Sample: 58-SB-1 2-4' **Lab ID: 5095061006** Collected: 03/19/14 10:30 Received: 03/21/14 12:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV SHORT LIST MICROWAVE	Analytical Method: EPA 8270 Preparation Method: EPA 3546							
Fluoranthene	ND	ug/kg	380	1	03/25/14 10:10	03/25/14 20:35	206-44-0	
Fluorene	ND	ug/kg	380	1	03/25/14 10:10	03/25/14 20:35	86-73-7	
Hexachlorocyclopentadiene	ND	ug/kg	380	1	03/25/14 10:10	03/25/14 20:35	77-47-4	
Hexachloroethane	ND	ug/kg	380	1	03/25/14 10:10	03/25/14 20:35	67-72-1	
Indeno(1,2,3-cd)pyrene	ND	ug/kg	380	1	03/25/14 10:10	03/25/14 20:35	193-39-5	
Isophorone	ND	ug/kg	380	1	03/25/14 10:10	03/25/14 20:35	78-59-1	
2-Methylnaphthalene	ND	ug/kg	380	1	03/25/14 10:10	03/25/14 20:35	91-57-6	
2-Methylphenol(o-Cresol)	ND	ug/kg	380	1	03/25/14 10:10	03/25/14 20:35	95-48-7	
3&4-Methylphenol(m&p Cresol)	ND	ug/kg	761	1	03/25/14 10:10	03/25/14 20:35		
Naphthalene	ND	ug/kg	380	1	03/25/14 10:10	03/25/14 20:35	91-20-3	
2-Nitroaniline	ND	ug/kg	1840	1	03/25/14 10:10	03/25/14 20:35	88-74-4	
3-Nitroaniline	ND	ug/kg	1840	1	03/25/14 10:10	03/25/14 20:35	99-09-2	
4-Nitroaniline	ND	ug/kg	1840	1	03/25/14 10:10	03/25/14 20:35	100-01-6	
Nitrobenzene	ND	ug/kg	380	1	03/25/14 10:10	03/25/14 20:35	98-95-3	
2-Nitrophenol	ND	ug/kg	380	1	03/25/14 10:10	03/25/14 20:35	88-75-5	
4-Nitrophenol	ND	ug/kg	1840	1	03/25/14 10:10	03/25/14 20:35	100-02-7	
N-Nitroso-di-n-propylamine	ND	ug/kg	380	1	03/25/14 10:10	03/25/14 20:35	621-64-7	
N-Nitrosodiphenylamine	ND	ug/kg	380	1	03/25/14 10:10	03/25/14 20:35	86-30-6	
Phenanthrene	ND	ug/kg	380	1	03/25/14 10:10	03/25/14 20:35	85-01-8	
Phenol	ND	ug/kg	380	1	03/25/14 10:10	03/25/14 20:35	108-95-2	
Pyrene	ND	ug/kg	380	1	03/25/14 10:10	03/25/14 20:35	129-00-0	
2,4,5-Trichlorophenol	ND	ug/kg	380	1	03/25/14 10:10	03/25/14 20:35	95-95-4	
2,4,6-Trichlorophenol	ND	ug/kg	380	1	03/25/14 10:10	03/25/14 20:35	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	74	%.	28-101	1	03/25/14 10:10	03/25/14 20:35	4165-60-0	
2-Fluorobiphenyl (S)	78	%.	31-94	1	03/25/14 10:10	03/25/14 20:35	321-60-8	
p-Terphenyl-d14 (S)	88	%.	26-110	1	03/25/14 10:10	03/25/14 20:35	1718-51-0	
Phenol-d5 (S)	80	%.	28-101	1	03/25/14 10:10	03/25/14 20:35	4165-62-2	
2-Fluorophenol (S)	78	%.	24-104	1	03/25/14 10:10	03/25/14 20:35	367-12-4	
2,4,6-Tribromophenol (S)	90	%.	16-122	1	03/25/14 10:10	03/25/14 20:35	118-79-6	
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
Acetone	ND	mg/kg	0.12	1		03/27/14 19:36	67-64-1	
Acrolein	ND	mg/kg	0.12	1		03/27/14 19:36	107-02-8	
Benzene	ND	mg/kg	0.0058	1		03/27/14 19:36	71-43-2	
Bromobenzene	ND	mg/kg	0.0058	1		03/27/14 19:36	108-86-1	
Bromochloromethane	ND	mg/kg	0.0058	1		03/27/14 19:36	74-97-5	
Bromodichloromethane	ND	mg/kg	0.0058	1		03/27/14 19:36	75-27-4	
Bromoform	ND	mg/kg	0.0058	1		03/27/14 19:36	75-25-2	
Bromomethane	ND	mg/kg	0.0058	1		03/27/14 19:36	74-83-9	
2-Butanone (MEK)	ND	mg/kg	0.029	1		03/27/14 19:36	78-93-3	
n-Butylbenzene	ND	mg/kg	0.0058	1		03/27/14 19:36	104-51-8	
sec-Butylbenzene	ND	mg/kg	0.0058	1		03/27/14 19:36	135-98-8	
tert-Butylbenzene	ND	mg/kg	0.0058	1		03/27/14 19:36	98-06-6	
Carbon disulfide	ND	mg/kg	0.012	1		03/27/14 19:36	75-15-0	

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ANALYTICAL RESULTS

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095061

Sample: 58-SB-1 2-4' **Lab ID: 5095061006** Collected: 03/19/14 10:30 Received: 03/21/14 12:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
Carbon tetrachloride	ND	mg/kg	0.0058	1		03/27/14 19:36	56-23-5	
Chlorobenzene	ND	mg/kg	0.0058	1		03/27/14 19:36	108-90-7	
Chloroethane	ND	mg/kg	0.0058	1		03/27/14 19:36	75-00-3	
Chloroform	ND	mg/kg	0.0058	1		03/27/14 19:36	67-66-3	
Chloromethane	ND	mg/kg	0.0058	1		03/27/14 19:36	74-87-3	
2-Chlorotoluene	ND	mg/kg	0.0058	1		03/27/14 19:36	95-49-8	
4-Chlorotoluene	ND	mg/kg	0.0058	1		03/27/14 19:36	106-43-4	
Dibromochloromethane	ND	mg/kg	0.0058	1		03/27/14 19:36	124-48-1	
Dibromomethane	ND	mg/kg	0.0058	1		03/27/14 19:36	74-95-3	
1,2-Dichlorobenzene	ND	mg/kg	0.0058	1		03/27/14 19:36	95-50-1	
1,3-Dichlorobenzene	ND	mg/kg	0.0058	1		03/27/14 19:36	541-73-1	
1,4-Dichlorobenzene	ND	mg/kg	0.0058	1		03/27/14 19:36	106-46-7	
trans-1,4-Dichloro-2-butene	ND	mg/kg	0.12	1		03/27/14 19:36	110-57-6	
Dichlorodifluoromethane	ND	mg/kg	0.0058	1		03/27/14 19:36	75-71-8	
1,1-Dichloroethane	ND	mg/kg	0.0058	1		03/27/14 19:36	75-34-3	
1,2-Dichloroethane	ND	mg/kg	0.0058	1		03/27/14 19:36	107-06-2	
1,1-Dichloroethene	ND	mg/kg	0.0058	1		03/27/14 19:36	75-35-4	
cis-1,2-Dichloroethene	ND	mg/kg	0.0058	1		03/27/14 19:36	156-59-2	
trans-1,2-Dichloroethene	ND	mg/kg	0.0058	1		03/27/14 19:36	156-60-5	
1,2-Dichloropropane	ND	mg/kg	0.0058	1		03/27/14 19:36	78-87-5	
1,3-Dichloropropane	ND	mg/kg	0.0058	1		03/27/14 19:36	142-28-9	
2,2-Dichloropropane	ND	mg/kg	0.0058	1		03/27/14 19:36	594-20-7	
1,1-Dichloropropene	ND	mg/kg	0.0058	1		03/27/14 19:36	563-58-6	
cis-1,3-Dichloropropene	ND	mg/kg	0.0058	1		03/27/14 19:36	10061-01-5	
trans-1,3-Dichloropropene	ND	mg/kg	0.0058	1		03/27/14 19:36	10061-02-6	
Ethylbenzene	ND	mg/kg	0.0058	1		03/27/14 19:36	100-41-4	
Ethyl methacrylate	ND	mg/kg	0.12	1		03/27/14 19:36	97-63-2	
2-Hexanone	ND	mg/kg	0.12	1		03/27/14 19:36	591-78-6	
Iodomethane	ND	mg/kg	0.12	1		03/27/14 19:36	74-88-4	
Isopropylbenzene (Cumene)	ND	mg/kg	0.0058	1		03/27/14 19:36	98-82-8	
p-Isopropyltoluene	ND	mg/kg	0.0058	1		03/27/14 19:36	99-87-6	
Methylene Chloride	ND	mg/kg	0.023	1		03/27/14 19:36	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	mg/kg	0.029	1		03/27/14 19:36	108-10-1	
Methyl-tert-butyl ether	ND	mg/kg	0.0058	1		03/27/14 19:36	1634-04-4	
n-Propylbenzene	ND	mg/kg	0.0058	1		03/27/14 19:36	103-65-1	
Styrene	ND	mg/kg	0.0058	1		03/27/14 19:36	100-42-5	
1,1,1,2-Tetrachloroethane	ND	mg/kg	0.0058	1		03/27/14 19:36	630-20-6	
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.0058	1		03/27/14 19:36	79-34-5	
Tetrachloroethene	ND	mg/kg	0.0058	1		03/27/14 19:36	127-18-4	
Toluene	ND	mg/kg	0.0058	1		03/27/14 19:36	108-88-3	
1,2,3-Trichlorobenzene	ND	mg/kg	0.0058	1		03/27/14 19:36	87-61-6	
1,2,4-Trichlorobenzene	ND	mg/kg	0.0058	1		03/27/14 19:36	120-82-1	
1,1,1-Trichloroethane	ND	mg/kg	0.0058	1		03/27/14 19:36	71-55-6	
1,1,2-Trichloroethane	ND	mg/kg	0.0058	1		03/27/14 19:36	79-00-5	
Trichloroethene	ND	mg/kg	0.0058	1		03/27/14 19:36	79-01-6	
Trichlorofluoromethane	ND	mg/kg	0.0058	1		03/27/14 19:36	75-69-4	

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ANALYTICAL RESULTS

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095061

Sample: 58-SB-1 2-4' **Lab ID: 5095061006** Collected: 03/19/14 10:30 Received: 03/21/14 12:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
1,2,4-Trimethylbenzene	ND	mg/kg	0.0058	1		03/27/14 19:36	95-63-6	
1,3,5-Trimethylbenzene	ND	mg/kg	0.0058	1		03/27/14 19:36	108-67-8	
Vinyl acetate	ND	mg/kg	0.12	1		03/27/14 19:36	108-05-4	
Vinyl chloride	ND	mg/kg	0.0058	1		03/27/14 19:36	75-01-4	
Xylene (Total)	ND	mg/kg	0.012	1		03/27/14 19:36	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	98	%.	85-118	1		03/27/14 19:36	1868-53-7	
Toluene-d8 (S)	102	%.	71-128	1		03/27/14 19:36	2037-26-5	
4-Bromofluorobenzene (S)	98	%.	56-144	1		03/27/14 19:36	460-00-4	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**13.2**	%	0.10	1		03/24/14 15:44		

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ANALYTICAL RESULTS

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095061

Sample: 58-SB-2 2-4' **Lab ID: 5095061007** Collected: 03/19/14 11:07 Received: 03/21/14 12:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 TPH Ohio Microwave	Analytical Method: EPA 8015 Mod Ext Preparation Method: EPA 3546							
Total Petroleum Hydrocarbons	ND	mg/kg	23.6	1	03/25/14 09:25	03/27/14 14:33		
TPH (C10-C20)	ND	mg/kg	11.8	1	03/25/14 09:25	03/27/14 14:33		
TPH (C20-C34)	**14.9**	mg/kg	11.8	1	03/25/14 09:25	03/27/14 14:33		
Surrogates								
n-Pentacosane (S)	75	%.	30-153	1	03/25/14 09:25	03/27/14 14:33	629-99-2	
8015 Gasoline Range Organics	Analytical Method: EPA 8015 Mod Pur							
TPH (C06-C12)	ND	mg/kg	1.2	1		03/26/14 05:33		
Surrogates								
4-Bromofluorobenzene (S)	99	%.	38-163	1		03/26/14 05:33	460-00-4	
8270 MSSV SHORT LIST MICROWAVE	Analytical Method: EPA 8270 Preparation Method: EPA 3546							
Acenaphthene	ND	ug/kg	391	1	03/25/14 10:10	03/25/14 20:55	83-32-9	
Acenaphthylene	ND	ug/kg	391	1	03/25/14 10:10	03/25/14 20:55	208-96-8	
Anthracene	ND	ug/kg	391	1	03/25/14 10:10	03/25/14 20:55	120-12-7	
Benzo(a)anthracene	ND	ug/kg	391	1	03/25/14 10:10	03/25/14 20:55	56-55-3	
Benzo(a)pyrene	ND	ug/kg	201	1	03/25/14 10:10	03/25/14 20:55	50-32-8	
Benzo(b)fluoranthene	ND	ug/kg	391	1	03/25/14 10:10	03/25/14 20:55	205-99-2	
Benzo(g,h,i)perylene	ND	ug/kg	391	1	03/25/14 10:10	03/25/14 20:55	191-24-2	
Benzo(k)fluoranthene	ND	ug/kg	391	1	03/25/14 10:10	03/25/14 20:55	207-08-9	
Benzyl alcohol	ND	ug/kg	782	1	03/25/14 10:10	03/25/14 20:55	100-51-6	
4-Bromophenylphenyl ether	ND	ug/kg	391	1	03/25/14 10:10	03/25/14 20:55	101-55-3	
Butylbenzylphthalate	ND	ug/kg	391	1	03/25/14 10:10	03/25/14 20:55	85-68-7	
4-Chloro-3-methylphenol	ND	ug/kg	782	1	03/25/14 10:10	03/25/14 20:55	59-50-7	
4-Chloroaniline	ND	ug/kg	782	1	03/25/14 10:10	03/25/14 20:55	106-47-8	
bis(2-Chloroethoxy)methane	ND	ug/kg	391	1	03/25/14 10:10	03/25/14 20:55	111-91-1	
bis(2-Chloroethyl) ether	ND	ug/kg	391	1	03/25/14 10:10	03/25/14 20:55	111-44-4	
bis(2-Chloroisopropyl) ether	ND	ug/kg	391	1	03/25/14 10:10	03/25/14 20:55	108-60-1	
2-Chloronaphthalene	ND	ug/kg	391	1	03/25/14 10:10	03/25/14 20:55	91-58-7	
2-Chlorophenol	ND	ug/kg	391	1	03/25/14 10:10	03/25/14 20:55	95-57-8	
4-Chlorophenylphenyl ether	ND	ug/kg	391	1	03/25/14 10:10	03/25/14 20:55	7005-72-3	
Chrysene	ND	ug/kg	391	1	03/25/14 10:10	03/25/14 20:55	218-01-9	
Dibenz(a,h)anthracene	ND	ug/kg	201	1	03/25/14 10:10	03/25/14 20:55	53-70-3	
Dibenzofuran	ND	ug/kg	391	1	03/25/14 10:10	03/25/14 20:55	132-64-9	
2,4-Dichlorophenol	ND	ug/kg	391	1	03/25/14 10:10	03/25/14 20:55	120-83-2	
Diethylphthalate	ND	ug/kg	391	1	03/25/14 10:10	03/25/14 20:55	84-66-2	
2,4-Dimethylphenol	ND	ug/kg	391	1	03/25/14 10:10	03/25/14 20:55	105-67-9	
Dimethylphthalate	ND	ug/kg	391	1	03/25/14 10:10	03/25/14 20:55	131-11-3	
Di-n-butylphthalate	ND	ug/kg	391	1	03/25/14 10:10	03/25/14 20:55	84-74-2	
4,6-Dinitro-2-methylphenol	ND	ug/kg	1890	1	03/25/14 10:10	03/25/14 20:55	534-52-1	
2,4-Dinitrophenol	ND	ug/kg	1890	1	03/25/14 10:10	03/25/14 20:55	51-28-5	
2,4-Dinitrotoluene	ND	ug/kg	391	1	03/25/14 10:10	03/25/14 20:55	121-14-2	
2,6-Dinitrotoluene	ND	ug/kg	391	1	03/25/14 10:10	03/25/14 20:55	606-20-2	
Di-n-octylphthalate	ND	ug/kg	391	1	03/25/14 10:10	03/25/14 20:55	117-84-0	
bis(2-Ethylhexyl)phthalate	ND	ug/kg	391	1	03/25/14 10:10	03/25/14 20:55	117-81-7	

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ANALYTICAL RESULTS

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095061

Sample: 58-SB-2 2-4' **Lab ID: 5095061007** Collected: 03/19/14 11:07 Received: 03/21/14 12:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV SHORT LIST MICROWAVE	Analytical Method: EPA 8270 Preparation Method: EPA 3546							
Fluoranthene	ND	ug/kg	391	1	03/25/14 10:10	03/25/14 20:55	206-44-0	
Fluorene	ND	ug/kg	391	1	03/25/14 10:10	03/25/14 20:55	86-73-7	
Hexachlorocyclopentadiene	ND	ug/kg	391	1	03/25/14 10:10	03/25/14 20:55	77-47-4	
Hexachloroethane	ND	ug/kg	391	1	03/25/14 10:10	03/25/14 20:55	67-72-1	
Indeno(1,2,3-cd)pyrene	ND	ug/kg	391	1	03/25/14 10:10	03/25/14 20:55	193-39-5	
Isophorone	ND	ug/kg	391	1	03/25/14 10:10	03/25/14 20:55	78-59-1	
2-Methylnaphthalene	ND	ug/kg	391	1	03/25/14 10:10	03/25/14 20:55	91-57-6	
2-Methylphenol(o-Cresol)	ND	ug/kg	391	1	03/25/14 10:10	03/25/14 20:55	95-48-7	
3&4-Methylphenol(m&p Cresol)	ND	ug/kg	782	1	03/25/14 10:10	03/25/14 20:55		
Naphthalene	ND	ug/kg	391	1	03/25/14 10:10	03/25/14 20:55	91-20-3	
2-Nitroaniline	ND	ug/kg	1890	1	03/25/14 10:10	03/25/14 20:55	88-74-4	
3-Nitroaniline	ND	ug/kg	1890	1	03/25/14 10:10	03/25/14 20:55	99-09-2	
4-Nitroaniline	ND	ug/kg	1890	1	03/25/14 10:10	03/25/14 20:55	100-01-6	
Nitrobenzene	ND	ug/kg	391	1	03/25/14 10:10	03/25/14 20:55	98-95-3	
2-Nitrophenol	ND	ug/kg	391	1	03/25/14 10:10	03/25/14 20:55	88-75-5	
4-Nitrophenol	ND	ug/kg	1890	1	03/25/14 10:10	03/25/14 20:55	100-02-7	
N-Nitroso-di-n-propylamine	ND	ug/kg	391	1	03/25/14 10:10	03/25/14 20:55	621-64-7	
N-Nitrosodiphenylamine	ND	ug/kg	391	1	03/25/14 10:10	03/25/14 20:55	86-30-6	
Phenanthrene	ND	ug/kg	391	1	03/25/14 10:10	03/25/14 20:55	85-01-8	
Phenol	ND	ug/kg	391	1	03/25/14 10:10	03/25/14 20:55	108-95-2	
Pyrene	ND	ug/kg	391	1	03/25/14 10:10	03/25/14 20:55	129-00-0	
2,4,5-Trichlorophenol	ND	ug/kg	391	1	03/25/14 10:10	03/25/14 20:55	95-95-4	
2,4,6-Trichlorophenol	ND	ug/kg	391	1	03/25/14 10:10	03/25/14 20:55	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	73	%.	28-101	1	03/25/14 10:10	03/25/14 20:55	4165-60-0	
2-Fluorobiphenyl (S)	75	%.	31-94	1	03/25/14 10:10	03/25/14 20:55	321-60-8	
p-Terphenyl-d14 (S)	86	%.	26-110	1	03/25/14 10:10	03/25/14 20:55	1718-51-0	
Phenol-d5 (S)	80	%.	28-101	1	03/25/14 10:10	03/25/14 20:55	4165-62-2	
2-Fluorophenol (S)	76	%.	24-104	1	03/25/14 10:10	03/25/14 20:55	367-12-4	
2,4,6-Tribromophenol (S)	87	%.	16-122	1	03/25/14 10:10	03/25/14 20:55	118-79-6	
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
Acetone	ND	mg/kg	0.12	1		03/27/14 20:11	67-64-1	
Acrolein	ND	mg/kg	0.12	1		03/27/14 20:11	107-02-8	
Benzene	ND	mg/kg	0.0059	1		03/27/14 20:11	71-43-2	
Bromobenzene	ND	mg/kg	0.0059	1		03/27/14 20:11	108-86-1	
Bromochloromethane	ND	mg/kg	0.0059	1		03/27/14 20:11	74-97-5	
Bromodichloromethane	ND	mg/kg	0.0059	1		03/27/14 20:11	75-27-4	
Bromoform	ND	mg/kg	0.0059	1		03/27/14 20:11	75-25-2	
Bromomethane	ND	mg/kg	0.0059	1		03/27/14 20:11	74-83-9	
2-Butanone (MEK)	ND	mg/kg	0.030	1		03/27/14 20:11	78-93-3	
n-Butylbenzene	ND	mg/kg	0.0059	1		03/27/14 20:11	104-51-8	
sec-Butylbenzene	ND	mg/kg	0.0059	1		03/27/14 20:11	135-98-8	
tert-Butylbenzene	ND	mg/kg	0.0059	1		03/27/14 20:11	98-06-6	
Carbon disulfide	ND	mg/kg	0.012	1		03/27/14 20:11	75-15-0	

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ANALYTICAL RESULTS

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095061

Sample: 58-SB-2 2-4' **Lab ID: 5095061007** Collected: 03/19/14 11:07 Received: 03/21/14 12:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
Carbon tetrachloride	ND	mg/kg	0.0059	1		03/27/14 20:11	56-23-5	
Chlorobenzene	ND	mg/kg	0.0059	1		03/27/14 20:11	108-90-7	
Chloroethane	ND	mg/kg	0.0059	1		03/27/14 20:11	75-00-3	
Chloroform	ND	mg/kg	0.0059	1		03/27/14 20:11	67-66-3	
Chloromethane	ND	mg/kg	0.0059	1		03/27/14 20:11	74-87-3	
2-Chlorotoluene	ND	mg/kg	0.0059	1		03/27/14 20:11	95-49-8	
4-Chlorotoluene	ND	mg/kg	0.0059	1		03/27/14 20:11	106-43-4	
Dibromochloromethane	ND	mg/kg	0.0059	1		03/27/14 20:11	124-48-1	
Dibromomethane	ND	mg/kg	0.0059	1		03/27/14 20:11	74-95-3	
1,2-Dichlorobenzene	ND	mg/kg	0.0059	1		03/27/14 20:11	95-50-1	
1,3-Dichlorobenzene	ND	mg/kg	0.0059	1		03/27/14 20:11	541-73-1	
1,4-Dichlorobenzene	ND	mg/kg	0.0059	1		03/27/14 20:11	106-46-7	
trans-1,4-Dichloro-2-butene	ND	mg/kg	0.12	1		03/27/14 20:11	110-57-6	
Dichlorodifluoromethane	ND	mg/kg	0.0059	1		03/27/14 20:11	75-71-8	
1,1-Dichloroethane	ND	mg/kg	0.0059	1		03/27/14 20:11	75-34-3	
1,2-Dichloroethane	ND	mg/kg	0.0059	1		03/27/14 20:11	107-06-2	
1,1-Dichloroethene	ND	mg/kg	0.0059	1		03/27/14 20:11	75-35-4	
cis-1,2-Dichloroethene	ND	mg/kg	0.0059	1		03/27/14 20:11	156-59-2	
trans-1,2-Dichloroethene	ND	mg/kg	0.0059	1		03/27/14 20:11	156-60-5	
1,2-Dichloropropane	ND	mg/kg	0.0059	1		03/27/14 20:11	78-87-5	
1,3-Dichloropropane	ND	mg/kg	0.0059	1		03/27/14 20:11	142-28-9	
2,2-Dichloropropane	ND	mg/kg	0.0059	1		03/27/14 20:11	594-20-7	
1,1-Dichloropropene	ND	mg/kg	0.0059	1		03/27/14 20:11	563-58-6	
cis-1,3-Dichloropropene	ND	mg/kg	0.0059	1		03/27/14 20:11	10061-01-5	
trans-1,3-Dichloropropene	ND	mg/kg	0.0059	1		03/27/14 20:11	10061-02-6	
Ethylbenzene	ND	mg/kg	0.0059	1		03/27/14 20:11	100-41-4	
Ethyl methacrylate	ND	mg/kg	0.12	1		03/27/14 20:11	97-63-2	
2-Hexanone	ND	mg/kg	0.12	1		03/27/14 20:11	591-78-6	
Iodomethane	ND	mg/kg	0.12	1		03/27/14 20:11	74-88-4	
Isopropylbenzene (Cumene)	ND	mg/kg	0.0059	1		03/27/14 20:11	98-82-8	
p-Isopropyltoluene	ND	mg/kg	0.0059	1		03/27/14 20:11	99-87-6	
Methylene Chloride	ND	mg/kg	0.024	1		03/27/14 20:11	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	mg/kg	0.030	1		03/27/14 20:11	108-10-1	
Methyl-tert-butyl ether	ND	mg/kg	0.0059	1		03/27/14 20:11	1634-04-4	
n-Propylbenzene	ND	mg/kg	0.0059	1		03/27/14 20:11	103-65-1	
Styrene	ND	mg/kg	0.0059	1		03/27/14 20:11	100-42-5	
1,1,1,2-Tetrachloroethane	ND	mg/kg	0.0059	1		03/27/14 20:11	630-20-6	
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.0059	1		03/27/14 20:11	79-34-5	
Tetrachloroethene	ND	mg/kg	0.0059	1		03/27/14 20:11	127-18-4	
Toluene	ND	mg/kg	0.0059	1		03/27/14 20:11	108-88-3	
1,2,3-Trichlorobenzene	ND	mg/kg	0.0059	1		03/27/14 20:11	87-61-6	
1,2,4-Trichlorobenzene	ND	mg/kg	0.0059	1		03/27/14 20:11	120-82-1	
1,1,1-Trichloroethane	ND	mg/kg	0.0059	1		03/27/14 20:11	71-55-6	
1,1,2-Trichloroethane	ND	mg/kg	0.0059	1		03/27/14 20:11	79-00-5	
Trichloroethene	ND	mg/kg	0.0059	1		03/27/14 20:11	79-01-6	
Trichlorofluoromethane	ND	mg/kg	0.0059	1		03/27/14 20:11	75-69-4	

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ANALYTICAL RESULTS

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095061

Sample: 58-SB-2 2-4' **Lab ID: 5095061007** Collected: 03/19/14 11:07 Received: 03/21/14 12:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
1,2,4-Trimethylbenzene	ND	mg/kg	0.0059	1		03/27/14 20:11	95-63-6	
1,3,5-Trimethylbenzene	ND	mg/kg	0.0059	1		03/27/14 20:11	108-67-8	
Vinyl acetate	ND	mg/kg	0.12	1		03/27/14 20:11	108-05-4	
Vinyl chloride	ND	mg/kg	0.0059	1		03/27/14 20:11	75-01-4	
Xylene (Total)	ND	mg/kg	0.012	1		03/27/14 20:11	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	98	%.	85-118	1		03/27/14 20:11	1868-53-7	
Toluene-d8 (S)	103	%.	71-128	1		03/27/14 20:11	2037-26-5	
4-Bromofluorobenzene (S)	98	%.	56-144	1		03/27/14 20:11	460-00-4	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**15.6**	%	0.10	1		03/24/14 15:44		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095061

Sample: 58-SB-3 6-8' **Lab ID: 5095061008** Collected: 03/19/14 11:35 Received: 03/21/14 12:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 TPH Ohio Microwave	Analytical Method: EPA 8015 Mod Ext Preparation Method: EPA 3546							
Total Petroleum Hydrocarbons	ND	mg/kg	24.3	1	03/25/14 09:25	03/27/14 14:41		
TPH (C10-C20)	ND	mg/kg	12.1	1	03/25/14 09:25	03/27/14 14:41		
TPH (C20-C34)	**12.8**	mg/kg	12.1	1	03/25/14 09:25	03/27/14 14:41		
Surrogates								
n-Pentacosane (S)	68	%.	30-153	1	03/25/14 09:25	03/27/14 14:41	629-99-2	
8015 Gasoline Range Organics	Analytical Method: EPA 8015 Mod Pur							
TPH (C06-C12)	ND	mg/kg	1.2	1		03/27/14 16:21		
Surrogates								
4-Bromofluorobenzene (S)	95	%.	38-163	1		03/27/14 16:21	460-00-4	
8270 MSSV SHORT LIST MICROWAVE	Analytical Method: EPA 8270 Preparation Method: EPA 3546							
Acenaphthene	ND	ug/kg	403	1	03/25/14 10:10	03/26/14 16:11	83-32-9	
Acenaphthylene	ND	ug/kg	403	1	03/25/14 10:10	03/26/14 16:11	208-96-8	
Anthracene	ND	ug/kg	403	1	03/25/14 10:10	03/26/14 16:11	120-12-7	
Benzo(a)anthracene	ND	ug/kg	403	1	03/25/14 10:10	03/26/14 16:11	56-55-3	
Benzo(a)pyrene	ND	ug/kg	208	1	03/25/14 10:10	03/26/14 16:11	50-32-8	
Benzo(b)fluoranthene	ND	ug/kg	403	1	03/25/14 10:10	03/26/14 16:11	205-99-2	
Benzo(g,h,i)perylene	ND	ug/kg	403	1	03/25/14 10:10	03/26/14 16:11	191-24-2	
Benzo(k)fluoranthene	ND	ug/kg	403	1	03/25/14 10:10	03/26/14 16:11	207-08-9	
Benzyl alcohol	ND	ug/kg	806	1	03/25/14 10:10	03/26/14 16:11	100-51-6	
4-Bromophenylphenyl ether	ND	ug/kg	403	1	03/25/14 10:10	03/26/14 16:11	101-55-3	
Butylbenzylphthalate	ND	ug/kg	403	1	03/25/14 10:10	03/26/14 16:11	85-68-7	
4-Chloro-3-methylphenol	ND	ug/kg	806	1	03/25/14 10:10	03/26/14 16:11	59-50-7	
4-Chloroaniline	ND	ug/kg	806	1	03/25/14 10:10	03/26/14 16:11	106-47-8	
bis(2-Chloroethoxy)methane	ND	ug/kg	403	1	03/25/14 10:10	03/26/14 16:11	111-91-1	
bis(2-Chloroethyl) ether	ND	ug/kg	403	1	03/25/14 10:10	03/26/14 16:11	111-44-4	
bis(2-Chloroisopropyl) ether	ND	ug/kg	403	1	03/25/14 10:10	03/26/14 16:11	108-60-1	
2-Chloronaphthalene	ND	ug/kg	403	1	03/25/14 10:10	03/26/14 16:11	91-58-7	
2-Chlorophenol	ND	ug/kg	403	1	03/25/14 10:10	03/26/14 16:11	95-57-8	
4-Chlorophenylphenyl ether	ND	ug/kg	403	1	03/25/14 10:10	03/26/14 16:11	7005-72-3	
Chrysene	ND	ug/kg	403	1	03/25/14 10:10	03/26/14 16:11	218-01-9	
Dibenz(a,h)anthracene	ND	ug/kg	208	1	03/25/14 10:10	03/26/14 16:11	53-70-3	
Dibenzofuran	ND	ug/kg	403	1	03/25/14 10:10	03/26/14 16:11	132-64-9	
2,4-Dichlorophenol	ND	ug/kg	403	1	03/25/14 10:10	03/26/14 16:11	120-83-2	
Diethylphthalate	ND	ug/kg	403	1	03/25/14 10:10	03/26/14 16:11	84-66-2	
2,4-Dimethylphenol	ND	ug/kg	403	1	03/25/14 10:10	03/26/14 16:11	105-67-9	
Dimethylphthalate	ND	ug/kg	403	1	03/25/14 10:10	03/26/14 16:11	131-11-3	
Di-n-butylphthalate	ND	ug/kg	403	1	03/25/14 10:10	03/26/14 16:11	84-74-2	
4,6-Dinitro-2-methylphenol	ND	ug/kg	1950	1	03/25/14 10:10	03/26/14 16:11	534-52-1	
2,4-Dinitrophenol	ND	ug/kg	1950	1	03/25/14 10:10	03/26/14 16:11	51-28-5	
2,4-Dinitrotoluene	ND	ug/kg	403	1	03/25/14 10:10	03/26/14 16:11	121-14-2	
2,6-Dinitrotoluene	ND	ug/kg	403	1	03/25/14 10:10	03/26/14 16:11	606-20-2	
Di-n-octylphthalate	ND	ug/kg	403	1	03/25/14 10:10	03/26/14 16:11	117-84-0	
bis(2-Ethylhexyl)phthalate	ND	ug/kg	403	1	03/25/14 10:10	03/26/14 16:11	117-81-7	

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ANALYTICAL RESULTS

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095061

Sample: 58-SB-3 6-8' **Lab ID: 5095061008** Collected: 03/19/14 11:35 Received: 03/21/14 12:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV SHORT LIST MICROWAVE	Analytical Method: EPA 8270 Preparation Method: EPA 3546							
Fluoranthene	ND	ug/kg	403	1	03/25/14 10:10	03/26/14 16:11	206-44-0	
Fluorene	ND	ug/kg	403	1	03/25/14 10:10	03/26/14 16:11	86-73-7	
Hexachlorocyclopentadiene	ND	ug/kg	403	1	03/25/14 10:10	03/26/14 16:11	77-47-4	
Hexachloroethane	ND	ug/kg	403	1	03/25/14 10:10	03/26/14 16:11	67-72-1	
Indeno(1,2,3-cd)pyrene	ND	ug/kg	403	1	03/25/14 10:10	03/26/14 16:11	193-39-5	
Isophorone	ND	ug/kg	403	1	03/25/14 10:10	03/26/14 16:11	78-59-1	
2-Methylnaphthalene	ND	ug/kg	403	1	03/25/14 10:10	03/26/14 16:11	91-57-6	
2-Methylphenol(o-Cresol)	ND	ug/kg	403	1	03/25/14 10:10	03/26/14 16:11	95-48-7	
3&4-Methylphenol(m&p Cresol)	ND	ug/kg	806	1	03/25/14 10:10	03/26/14 16:11		
Naphthalene	ND	ug/kg	403	1	03/25/14 10:10	03/26/14 16:11	91-20-3	
2-Nitroaniline	ND	ug/kg	1950	1	03/25/14 10:10	03/26/14 16:11	88-74-4	
3-Nitroaniline	ND	ug/kg	1950	1	03/25/14 10:10	03/26/14 16:11	99-09-2	
4-Nitroaniline	ND	ug/kg	1950	1	03/25/14 10:10	03/26/14 16:11	100-01-6	
Nitrobenzene	ND	ug/kg	403	1	03/25/14 10:10	03/26/14 16:11	98-95-3	
2-Nitrophenol	ND	ug/kg	403	1	03/25/14 10:10	03/26/14 16:11	88-75-5	
4-Nitrophenol	ND	ug/kg	1950	1	03/25/14 10:10	03/26/14 16:11	100-02-7	
N-Nitroso-di-n-propylamine	ND	ug/kg	403	1	03/25/14 10:10	03/26/14 16:11	621-64-7	
N-Nitrosodiphenylamine	ND	ug/kg	403	1	03/25/14 10:10	03/26/14 16:11	86-30-6	
Phenanthrene	ND	ug/kg	403	1	03/25/14 10:10	03/26/14 16:11	85-01-8	
Phenol	ND	ug/kg	403	1	03/25/14 10:10	03/26/14 16:11	108-95-2	
Pyrene	ND	ug/kg	403	1	03/25/14 10:10	03/26/14 16:11	129-00-0	
2,4,5-Trichlorophenol	ND	ug/kg	403	1	03/25/14 10:10	03/26/14 16:11	95-95-4	
2,4,6-Trichlorophenol	ND	ug/kg	403	1	03/25/14 10:10	03/26/14 16:11	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	65	%.	28-101	1	03/25/14 10:10	03/26/14 16:11	4165-60-0	
2-Fluorobiphenyl (S)	72	%.	31-94	1	03/25/14 10:10	03/26/14 16:11	321-60-8	
p-Terphenyl-d14 (S)	83	%.	26-110	1	03/25/14 10:10	03/26/14 16:11	1718-51-0	
Phenol-d5 (S)	70	%.	28-101	1	03/25/14 10:10	03/26/14 16:11	4165-62-2	
2-Fluorophenol (S)	69	%.	24-104	1	03/25/14 10:10	03/26/14 16:11	367-12-4	
2,4,6-Tribromophenol (S)	81	%.	16-122	1	03/25/14 10:10	03/26/14 16:11	118-79-6	
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
Acetone	ND	mg/kg	0.12	1		03/27/14 20:47	67-64-1	
Acrolein	ND	mg/kg	0.12	1		03/27/14 20:47	107-02-8	
Benzene	ND	mg/kg	0.0061	1		03/27/14 20:47	71-43-2	
Bromobenzene	ND	mg/kg	0.0061	1		03/27/14 20:47	108-86-1	
Bromochloromethane	ND	mg/kg	0.0061	1		03/27/14 20:47	74-97-5	
Bromodichloromethane	ND	mg/kg	0.0061	1		03/27/14 20:47	75-27-4	
Bromoform	ND	mg/kg	0.0061	1		03/27/14 20:47	75-25-2	
Bromomethane	ND	mg/kg	0.0061	1		03/27/14 20:47	74-83-9	
2-Butanone (MEK)	ND	mg/kg	0.031	1		03/27/14 20:47	78-93-3	
n-Butylbenzene	ND	mg/kg	0.0061	1		03/27/14 20:47	104-51-8	
sec-Butylbenzene	ND	mg/kg	0.0061	1		03/27/14 20:47	135-98-8	
tert-Butylbenzene	ND	mg/kg	0.0061	1		03/27/14 20:47	98-06-6	
Carbon disulfide	ND	mg/kg	0.012	1		03/27/14 20:47	75-15-0	

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ANALYTICAL RESULTS

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095061

Sample: 58-SB-3 6-8' **Lab ID: 5095061008** Collected: 03/19/14 11:35 Received: 03/21/14 12:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
Carbon tetrachloride	ND	mg/kg	0.0061	1		03/27/14 20:47	56-23-5	
Chlorobenzene	ND	mg/kg	0.0061	1		03/27/14 20:47	108-90-7	
Chloroethane	ND	mg/kg	0.0061	1		03/27/14 20:47	75-00-3	
Chloroform	ND	mg/kg	0.0061	1		03/27/14 20:47	67-66-3	
Chloromethane	ND	mg/kg	0.0061	1		03/27/14 20:47	74-87-3	
2-Chlorotoluene	ND	mg/kg	0.0061	1		03/27/14 20:47	95-49-8	
4-Chlorotoluene	ND	mg/kg	0.0061	1		03/27/14 20:47	106-43-4	
Dibromochloromethane	ND	mg/kg	0.0061	1		03/27/14 20:47	124-48-1	
Dibromomethane	ND	mg/kg	0.0061	1		03/27/14 20:47	74-95-3	
1,2-Dichlorobenzene	ND	mg/kg	0.0061	1		03/27/14 20:47	95-50-1	
1,3-Dichlorobenzene	ND	mg/kg	0.0061	1		03/27/14 20:47	541-73-1	
1,4-Dichlorobenzene	ND	mg/kg	0.0061	1		03/27/14 20:47	106-46-7	
trans-1,4-Dichloro-2-butene	ND	mg/kg	0.12	1		03/27/14 20:47	110-57-6	
Dichlorodifluoromethane	ND	mg/kg	0.0061	1		03/27/14 20:47	75-71-8	
1,1-Dichloroethane	ND	mg/kg	0.0061	1		03/27/14 20:47	75-34-3	
1,2-Dichloroethane	ND	mg/kg	0.0061	1		03/27/14 20:47	107-06-2	
1,1-Dichloroethene	ND	mg/kg	0.0061	1		03/27/14 20:47	75-35-4	
cis-1,2-Dichloroethene	ND	mg/kg	0.0061	1		03/27/14 20:47	156-59-2	
trans-1,2-Dichloroethene	ND	mg/kg	0.0061	1		03/27/14 20:47	156-60-5	
1,2-Dichloropropane	ND	mg/kg	0.0061	1		03/27/14 20:47	78-87-5	
1,3-Dichloropropane	ND	mg/kg	0.0061	1		03/27/14 20:47	142-28-9	
2,2-Dichloropropane	ND	mg/kg	0.0061	1		03/27/14 20:47	594-20-7	
1,1-Dichloropropene	ND	mg/kg	0.0061	1		03/27/14 20:47	563-58-6	
cis-1,3-Dichloropropene	ND	mg/kg	0.0061	1		03/27/14 20:47	10061-01-5	
trans-1,3-Dichloropropene	ND	mg/kg	0.0061	1		03/27/14 20:47	10061-02-6	
Ethylbenzene	ND	mg/kg	0.0061	1		03/27/14 20:47	100-41-4	
Ethyl methacrylate	ND	mg/kg	0.12	1		03/27/14 20:47	97-63-2	
2-Hexanone	ND	mg/kg	0.12	1		03/27/14 20:47	591-78-6	
Iodomethane	ND	mg/kg	0.12	1		03/27/14 20:47	74-88-4	
Isopropylbenzene (Cumene)	ND	mg/kg	0.0061	1		03/27/14 20:47	98-82-8	
p-Isopropyltoluene	ND	mg/kg	0.0061	1		03/27/14 20:47	99-87-6	
Methylene Chloride	ND	mg/kg	0.024	1		03/27/14 20:47	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	mg/kg	0.031	1		03/27/14 20:47	108-10-1	
Methyl-tert-butyl ether	ND	mg/kg	0.0061	1		03/27/14 20:47	1634-04-4	
n-Propylbenzene	ND	mg/kg	0.0061	1		03/27/14 20:47	103-65-1	
Styrene	ND	mg/kg	0.0061	1		03/27/14 20:47	100-42-5	
1,1,1,2-Tetrachloroethane	ND	mg/kg	0.0061	1		03/27/14 20:47	630-20-6	
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.0061	1		03/27/14 20:47	79-34-5	
Tetrachloroethene	ND	mg/kg	0.0061	1		03/27/14 20:47	127-18-4	
Toluene	ND	mg/kg	0.0061	1		03/27/14 20:47	108-88-3	
1,2,3-Trichlorobenzene	ND	mg/kg	0.0061	1		03/27/14 20:47	87-61-6	
1,2,4-Trichlorobenzene	ND	mg/kg	0.0061	1		03/27/14 20:47	120-82-1	
1,1,1-Trichloroethane	ND	mg/kg	0.0061	1		03/27/14 20:47	71-55-6	
1,1,2-Trichloroethane	ND	mg/kg	0.0061	1		03/27/14 20:47	79-00-5	
Trichloroethene	ND	mg/kg	0.0061	1		03/27/14 20:47	79-01-6	
Trichlorofluoromethane	ND	mg/kg	0.0061	1		03/27/14 20:47	75-69-4	

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ANALYTICAL RESULTS

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095061

Sample: 58-SB-3 6-8' **Lab ID: 5095061008** Collected: 03/19/14 11:35 Received: 03/21/14 12:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
1,2,4-Trimethylbenzene	ND	mg/kg	0.0061	1		03/27/14 20:47	95-63-6	
1,3,5-Trimethylbenzene	ND	mg/kg	0.0061	1		03/27/14 20:47	108-67-8	
Vinyl acetate	ND	mg/kg	0.12	1		03/27/14 20:47	108-05-4	
Vinyl chloride	ND	mg/kg	0.0061	1		03/27/14 20:47	75-01-4	
Xylene (Total)	ND	mg/kg	0.012	1		03/27/14 20:47	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	97	%.	85-118	1		03/27/14 20:47	1868-53-7	
Toluene-d8 (S)	106	%.	71-128	1		03/27/14 20:47	2037-26-5	
4-Bromofluorobenzene (S)	95	%.	56-144	1		03/27/14 20:47	460-00-4	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**18.1**	%	0.10	1		03/24/14 15:44		

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ANALYTICAL RESULTS

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095061

Sample: 58-SB-4 2-4' **Lab ID: 5095061009** Collected: 03/19/14 12:25 Received: 03/21/14 12:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 TPH Ohio Microwave	Analytical Method: EPA 8015 Mod Ext Preparation Method: EPA 3546							
Total Petroleum Hydrocarbons	**241**	mg/kg	109	5	03/26/14 12:25	03/27/14 15:45		
TPH (C10-C20)	ND	mg/kg	54.3	5	03/26/14 12:25	03/27/14 15:45		
TPH (C20-C34)	**196**	mg/kg	54.3	5	03/26/14 12:25	03/27/14 15:45		
Surrogates								
n-Pentacosane (S)	0	%.	30-153	5	03/26/14 12:25	03/27/14 15:45	629-99-2	S4
8015 Gasoline Range Organics	Analytical Method: EPA 8015 Mod Pur							
TPH (C06-C12)	ND	mg/kg	1.1	1		03/26/14 13:03		
Surrogates								
4-Bromofluorobenzene (S)	88	%.	38-163	1		03/26/14 13:03	460-00-4	
8270 MSSV SHORT LIST MICROWAVE	Analytical Method: EPA 8270 Preparation Method: EPA 3546							
Acenaphthene	**3510**	ug/kg	1800	5	03/25/14 10:10	03/26/14 10:55	83-32-9	
Acenaphthylene	ND	ug/kg	1800	5	03/25/14 10:10	03/26/14 10:55	208-96-8	
Anthracene	**9340**	ug/kg	1800	5	03/25/14 10:10	03/26/14 10:55	120-12-7	
Benzo(a)anthracene	**12300**	ug/kg	1800	5	03/25/14 10:10	03/26/14 10:55	56-55-3	
Benzo(a)pyrene	**9510**	ug/kg	925	5	03/25/14 10:10	03/26/14 10:55	50-32-8	
Benzo(b)fluoranthene	**7630**	ug/kg	1800	5	03/25/14 10:10	03/26/14 10:55	205-99-2	
Benzo(g,h,i)perylene	**5850**	ug/kg	1800	5	03/25/14 10:10	03/26/14 10:55	191-24-2	
Benzo(k)fluoranthene	**8350**	ug/kg	1800	5	03/25/14 10:10	03/26/14 10:55	207-08-9	
Benzyl alcohol	ND	ug/kg	3590	5	03/25/14 10:10	03/26/14 10:55	100-51-6	
4-Bromophenylphenyl ether	ND	ug/kg	1800	5	03/25/14 10:10	03/26/14 10:55	101-55-3	
Butylbenzylphthalate	ND	ug/kg	1800	5	03/25/14 10:10	03/26/14 10:55	85-68-7	
4-Chloro-3-methylphenol	ND	ug/kg	3590	5	03/25/14 10:10	03/26/14 10:55	59-50-7	
4-Chloroaniline	ND	ug/kg	3590	5	03/25/14 10:10	03/26/14 10:55	106-47-8	
bis(2-Chloroethoxy)methane	ND	ug/kg	1800	5	03/25/14 10:10	03/26/14 10:55	111-91-1	
bis(2-Chloroethyl) ether	ND	ug/kg	1800	5	03/25/14 10:10	03/26/14 10:55	111-44-4	
bis(2-Chloroisopropyl) ether	ND	ug/kg	1800	5	03/25/14 10:10	03/26/14 10:55	108-60-1	
2-Chloronaphthalene	ND	ug/kg	1800	5	03/25/14 10:10	03/26/14 10:55	91-58-7	
2-Chlorophenol	ND	ug/kg	1800	5	03/25/14 10:10	03/26/14 10:55	95-57-8	
4-Chlorophenylphenyl ether	ND	ug/kg	1800	5	03/25/14 10:10	03/26/14 10:55	7005-72-3	
Chrysene	**12900**	ug/kg	1800	5	03/25/14 10:10	03/26/14 10:55	218-01-9	
Dibenz(a,h)anthracene	**1860**	ug/kg	925	5	03/25/14 10:10	03/26/14 10:55	53-70-3	
Dibenzofuran	**2200**	ug/kg	1800	5	03/25/14 10:10	03/26/14 10:55	132-64-9	
2,4-Dichlorophenol	ND	ug/kg	1800	5	03/25/14 10:10	03/26/14 10:55	120-83-2	
Diethylphthalate	ND	ug/kg	1800	5	03/25/14 10:10	03/26/14 10:55	84-66-2	
2,4-Dimethylphenol	ND	ug/kg	1800	5	03/25/14 10:10	03/26/14 10:55	105-67-9	
Dimethylphthalate	ND	ug/kg	1800	5	03/25/14 10:10	03/26/14 10:55	131-11-3	
Di-n-butylphthalate	ND	ug/kg	1800	5	03/25/14 10:10	03/26/14 10:55	84-74-2	
4,6-Dinitro-2-methylphenol	ND	ug/kg	8710	5	03/25/14 10:10	03/26/14 10:55	534-52-1	
2,4-Dinitrophenol	ND	ug/kg	8710	5	03/25/14 10:10	03/26/14 10:55	51-28-5	
2,4-Dinitrotoluene	ND	ug/kg	1800	5	03/25/14 10:10	03/26/14 10:55	121-14-2	
2,6-Dinitrotoluene	ND	ug/kg	1800	5	03/25/14 10:10	03/26/14 10:55	606-20-2	
Di-n-octylphthalate	ND	ug/kg	1800	5	03/25/14 10:10	03/26/14 10:55	117-84-0	
bis(2-Ethylhexyl)phthalate	ND	ug/kg	1800	5	03/25/14 10:10	03/26/14 10:55	117-81-7	

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ANALYTICAL RESULTS

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095061

Sample: 58-SB-4 2-4' **Lab ID: 5095061009** Collected: 03/19/14 12:25 Received: 03/21/14 12:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV SHORT LIST MICROWAVE	Analytical Method: EPA 8270 Preparation Method: EPA 3546							
Fluoranthene	**30900**	ug/kg	1800	5	03/25/14 10:10	03/26/14 10:55	206-44-0	
Fluorene	**4100**	ug/kg	1800	5	03/25/14 10:10	03/26/14 10:55	86-73-7	
Hexachlorocyclopentadiene	ND	ug/kg	1800	5	03/25/14 10:10	03/26/14 10:55	77-47-4	
Hexachloroethane	ND	ug/kg	1800	5	03/25/14 10:10	03/26/14 10:55	67-72-1	
Indeno(1,2,3-cd)pyrene	**5330**	ug/kg	1800	5	03/25/14 10:10	03/26/14 10:55	193-39-5	
Isophorone	ND	ug/kg	1800	5	03/25/14 10:10	03/26/14 10:55	78-59-1	
2-Methylnaphthalene	**1820**	ug/kg	1800	5	03/25/14 10:10	03/26/14 10:55	91-57-6	
2-Methylphenol(o-Cresol)	ND	ug/kg	1800	5	03/25/14 10:10	03/26/14 10:55	95-48-7	
3&4-Methylphenol(m&p Cresol)	ND	ug/kg	3590	5	03/25/14 10:10	03/26/14 10:55		
Naphthalene	ND	ug/kg	1800	5	03/25/14 10:10	03/26/14 10:55	91-20-3	
2-Nitroaniline	ND	ug/kg	8710	5	03/25/14 10:10	03/26/14 10:55	88-74-4	
3-Nitroaniline	ND	ug/kg	8710	5	03/25/14 10:10	03/26/14 10:55	99-09-2	
4-Nitroaniline	ND	ug/kg	8710	5	03/25/14 10:10	03/26/14 10:55	100-01-6	
Nitrobenzene	ND	ug/kg	1800	5	03/25/14 10:10	03/26/14 10:55	98-95-3	
2-Nitrophenol	ND	ug/kg	1800	5	03/25/14 10:10	03/26/14 10:55	88-75-5	
4-Nitrophenol	ND	ug/kg	8710	5	03/25/14 10:10	03/26/14 10:55	100-02-7	
N-Nitroso-di-n-propylamine	ND	ug/kg	1800	5	03/25/14 10:10	03/26/14 10:55	621-64-7	
N-Nitrosodiphenylamine	ND	ug/kg	1800	5	03/25/14 10:10	03/26/14 10:55	86-30-6	
Phenanthrene	**28900**	ug/kg	1800	5	03/25/14 10:10	03/26/14 10:55	85-01-8	
Phenol	ND	ug/kg	1800	5	03/25/14 10:10	03/26/14 10:55	108-95-2	1d
Pyrene	**23700**	ug/kg	1800	5	03/25/14 10:10	03/26/14 10:55	129-00-0	
2,4,5-Trichlorophenol	ND	ug/kg	1800	5	03/25/14 10:10	03/26/14 10:55	95-95-4	
2,4,6-Trichlorophenol	ND	ug/kg	1800	5	03/25/14 10:10	03/26/14 10:55	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	56	%.	28-101	5	03/25/14 10:10	03/26/14 10:55	4165-60-0	
2-Fluorobiphenyl (S)	64	%.	31-94	5	03/25/14 10:10	03/26/14 10:55	321-60-8	
p-Terphenyl-d14 (S)	77	%.	26-110	5	03/25/14 10:10	03/26/14 10:55	1718-51-0	
Phenol-d5 (S)	58	%.	28-101	5	03/25/14 10:10	03/26/14 10:55	4165-62-2	
2-Fluorophenol (S)	56	%.	24-104	5	03/25/14 10:10	03/26/14 10:55	367-12-4	
2,4,6-Tribromophenol (S)	62	%.	16-122	5	03/25/14 10:10	03/26/14 10:55	118-79-6	
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
Acetone	ND	mg/kg	0.11	1		03/27/14 21:22	67-64-1	
Acrolein	ND	mg/kg	0.11	1		03/27/14 21:22	107-02-8	
Benzene	ND	mg/kg	0.0054	1		03/27/14 21:22	71-43-2	
Bromobenzene	ND	mg/kg	0.0054	1		03/27/14 21:22	108-86-1	
Bromochloromethane	ND	mg/kg	0.0054	1		03/27/14 21:22	74-97-5	
Bromodichloromethane	ND	mg/kg	0.0054	1		03/27/14 21:22	75-27-4	
Bromoform	ND	mg/kg	0.0054	1		03/27/14 21:22	75-25-2	
Bromomethane	ND	mg/kg	0.0054	1		03/27/14 21:22	74-83-9	
2-Butanone (MEK)	ND	mg/kg	0.027	1		03/27/14 21:22	78-93-3	
n-Butylbenzene	ND	mg/kg	0.0054	1		03/27/14 21:22	104-51-8	
sec-Butylbenzene	ND	mg/kg	0.0054	1		03/27/14 21:22	135-98-8	
tert-Butylbenzene	ND	mg/kg	0.0054	1		03/27/14 21:22	98-06-6	
Carbon disulfide	ND	mg/kg	0.011	1		03/27/14 21:22	75-15-0	

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ANALYTICAL RESULTS

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095061

Sample: 58-SB-4 2-4' **Lab ID: 5095061009** Collected: 03/19/14 12:25 Received: 03/21/14 12:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
Carbon tetrachloride	ND	mg/kg	0.0054	1		03/27/14 21:22	56-23-5	
Chlorobenzene	ND	mg/kg	0.0054	1		03/27/14 21:22	108-90-7	
Chloroethane	ND	mg/kg	0.0054	1		03/27/14 21:22	75-00-3	
Chloroform	ND	mg/kg	0.0054	1		03/27/14 21:22	67-66-3	
Chloromethane	ND	mg/kg	0.0054	1		03/27/14 21:22	74-87-3	
2-Chlorotoluene	ND	mg/kg	0.0054	1		03/27/14 21:22	95-49-8	
4-Chlorotoluene	ND	mg/kg	0.0054	1		03/27/14 21:22	106-43-4	
Dibromochloromethane	ND	mg/kg	0.0054	1		03/27/14 21:22	124-48-1	
Dibromomethane	ND	mg/kg	0.0054	1		03/27/14 21:22	74-95-3	
1,2-Dichlorobenzene	ND	mg/kg	0.0054	1		03/27/14 21:22	95-50-1	
1,3-Dichlorobenzene	ND	mg/kg	0.0054	1		03/27/14 21:22	541-73-1	
1,4-Dichlorobenzene	ND	mg/kg	0.0054	1		03/27/14 21:22	106-46-7	
trans-1,4-Dichloro-2-butene	ND	mg/kg	0.11	1		03/27/14 21:22	110-57-6	
Dichlorodifluoromethane	ND	mg/kg	0.0054	1		03/27/14 21:22	75-71-8	
1,1-Dichloroethane	ND	mg/kg	0.0054	1		03/27/14 21:22	75-34-3	
1,2-Dichloroethane	ND	mg/kg	0.0054	1		03/27/14 21:22	107-06-2	
1,1-Dichloroethene	ND	mg/kg	0.0054	1		03/27/14 21:22	75-35-4	
cis-1,2-Dichloroethene	ND	mg/kg	0.0054	1		03/27/14 21:22	156-59-2	
trans-1,2-Dichloroethene	ND	mg/kg	0.0054	1		03/27/14 21:22	156-60-5	
1,2-Dichloropropane	ND	mg/kg	0.0054	1		03/27/14 21:22	78-87-5	
1,3-Dichloropropane	ND	mg/kg	0.0054	1		03/27/14 21:22	142-28-9	
2,2-Dichloropropane	ND	mg/kg	0.0054	1		03/27/14 21:22	594-20-7	
1,1-Dichloropropene	ND	mg/kg	0.0054	1		03/27/14 21:22	563-58-6	
cis-1,3-Dichloropropene	ND	mg/kg	0.0054	1		03/27/14 21:22	10061-01-5	
trans-1,3-Dichloropropene	ND	mg/kg	0.0054	1		03/27/14 21:22	10061-02-6	
Ethylbenzene	ND	mg/kg	0.0054	1		03/27/14 21:22	100-41-4	
Ethyl methacrylate	ND	mg/kg	0.11	1		03/27/14 21:22	97-63-2	
2-Hexanone	ND	mg/kg	0.11	1		03/27/14 21:22	591-78-6	
Iodomethane	ND	mg/kg	0.11	1		03/27/14 21:22	74-88-4	
Isopropylbenzene (Cumene)	ND	mg/kg	0.0054	1		03/27/14 21:22	98-82-8	
p-Isopropyltoluene	ND	mg/kg	0.0054	1		03/27/14 21:22	99-87-6	
Methylene Chloride	ND	mg/kg	0.022	1		03/27/14 21:22	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	mg/kg	0.027	1		03/27/14 21:22	108-10-1	
Methyl-tert-butyl ether	ND	mg/kg	0.0054	1		03/27/14 21:22	1634-04-4	
n-Propylbenzene	ND	mg/kg	0.0054	1		03/27/14 21:22	103-65-1	
Styrene	ND	mg/kg	0.0054	1		03/27/14 21:22	100-42-5	
1,1,1,2-Tetrachloroethane	ND	mg/kg	0.0054	1		03/27/14 21:22	630-20-6	
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.0054	1		03/27/14 21:22	79-34-5	
Tetrachloroethene	ND	mg/kg	0.0054	1		03/27/14 21:22	127-18-4	
Toluene	ND	mg/kg	0.0054	1		03/27/14 21:22	108-88-3	
1,2,3-Trichlorobenzene	ND	mg/kg	0.0054	1		03/27/14 21:22	87-61-6	
1,2,4-Trichlorobenzene	ND	mg/kg	0.0054	1		03/27/14 21:22	120-82-1	
1,1,1-Trichloroethane	ND	mg/kg	0.0054	1		03/27/14 21:22	71-55-6	
1,1,2-Trichloroethane	ND	mg/kg	0.0054	1		03/27/14 21:22	79-00-5	
Trichloroethene	ND	mg/kg	0.0054	1		03/27/14 21:22	79-01-6	
Trichlorofluoromethane	ND	mg/kg	0.0054	1		03/27/14 21:22	75-69-4	

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ANALYTICAL RESULTS

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095061

Sample: 58-SB-4 2-4' **Lab ID: 5095061009** Collected: 03/19/14 12:25 Received: 03/21/14 12:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
1,2,4-Trimethylbenzene	**0.0056**	mg/kg	0.0054	1		03/27/14 21:22	95-63-6	
1,3,5-Trimethylbenzene	ND	mg/kg	0.0054	1		03/27/14 21:22	108-67-8	
Vinyl acetate	ND	mg/kg	0.11	1		03/27/14 21:22	108-05-4	
Vinyl chloride	ND	mg/kg	0.0054	1		03/27/14 21:22	75-01-4	
Xylene (Total)	ND	mg/kg	0.011	1		03/27/14 21:22	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	99	%.	85-118	1		03/27/14 21:22	1868-53-7	
Toluene-d8 (S)	106	%.	71-128	1		03/27/14 21:22	2037-26-5	
4-Bromofluorobenzene (S)	92	%.	56-144	1		03/27/14 21:22	460-00-4	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**8.1**	%	0.10	1		03/24/14 15:44		

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ANALYTICAL RESULTS

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095061

Sample: 58-SB-5 4-6' **Lab ID: 5095061010** Collected: 03/19/14 12:50 Received: 03/21/14 12:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 TPH Ohio Microwave	Analytical Method: EPA 8015 Mod Ext Preparation Method: EPA 3546							
Total Petroleum Hydrocarbons	ND	mg/kg	25.5	1	03/26/14 12:25	03/26/14 17:15		
TPH (C10-C20)	ND	mg/kg	12.7	1	03/26/14 12:25	03/26/14 17:15		
TPH (C20-C34)	ND	mg/kg	12.7	1	03/26/14 12:25	03/26/14 17:15		
Surrogates								
n-Pentacosane (S)	68	%.	30-153	1	03/26/14 12:25	03/26/14 17:15	629-99-2	
8015 Gasoline Range Organics	Analytical Method: EPA 8015 Mod Pur							
TPH (C06-C12)	ND	mg/kg	1.3	1		03/26/14 13:29		
Surrogates								
4-Bromofluorobenzene (S)	100	%.	38-163	1		03/26/14 13:29	460-00-4	
8270 MSSV SHORT LIST MICROWAVE	Analytical Method: EPA 8270 Preparation Method: EPA 3546							
Acenaphthene	ND	ug/kg	420	1	03/25/14 10:10	03/26/14 11:15	83-32-9	
Acenaphthylene	ND	ug/kg	420	1	03/25/14 10:10	03/26/14 11:15	208-96-8	
Anthracene	ND	ug/kg	420	1	03/25/14 10:10	03/26/14 11:15	120-12-7	
Benzo(a)anthracene	ND	ug/kg	420	1	03/25/14 10:10	03/26/14 11:15	56-55-3	
Benzo(a)pyrene	ND	ug/kg	216	1	03/25/14 10:10	03/26/14 11:15	50-32-8	
Benzo(b)fluoranthene	ND	ug/kg	420	1	03/25/14 10:10	03/26/14 11:15	205-99-2	
Benzo(g,h,i)perylene	ND	ug/kg	420	1	03/25/14 10:10	03/26/14 11:15	191-24-2	
Benzo(k)fluoranthene	ND	ug/kg	420	1	03/25/14 10:10	03/26/14 11:15	207-08-9	
Benzyl alcohol	ND	ug/kg	840	1	03/25/14 10:10	03/26/14 11:15	100-51-6	
4-Bromophenylphenyl ether	ND	ug/kg	420	1	03/25/14 10:10	03/26/14 11:15	101-55-3	
Butylbenzylphthalate	ND	ug/kg	420	1	03/25/14 10:10	03/26/14 11:15	85-68-7	
4-Chloro-3-methylphenol	ND	ug/kg	840	1	03/25/14 10:10	03/26/14 11:15	59-50-7	
4-Chloroaniline	ND	ug/kg	840	1	03/25/14 10:10	03/26/14 11:15	106-47-8	
bis(2-Chloroethoxy)methane	ND	ug/kg	420	1	03/25/14 10:10	03/26/14 11:15	111-91-1	
bis(2-Chloroethyl) ether	ND	ug/kg	420	1	03/25/14 10:10	03/26/14 11:15	111-44-4	
bis(2-Chloroisopropyl) ether	ND	ug/kg	420	1	03/25/14 10:10	03/26/14 11:15	108-60-1	
2-Chloronaphthalene	ND	ug/kg	420	1	03/25/14 10:10	03/26/14 11:15	91-58-7	
2-Chlorophenol	ND	ug/kg	420	1	03/25/14 10:10	03/26/14 11:15	95-57-8	
4-Chlorophenylphenyl ether	ND	ug/kg	420	1	03/25/14 10:10	03/26/14 11:15	7005-72-3	
Chrysene	ND	ug/kg	420	1	03/25/14 10:10	03/26/14 11:15	218-01-9	
Dibenz(a,h)anthracene	ND	ug/kg	216	1	03/25/14 10:10	03/26/14 11:15	53-70-3	
Dibenzofuran	ND	ug/kg	420	1	03/25/14 10:10	03/26/14 11:15	132-64-9	
2,4-Dichlorophenol	ND	ug/kg	420	1	03/25/14 10:10	03/26/14 11:15	120-83-2	
Diethylphthalate	ND	ug/kg	420	1	03/25/14 10:10	03/26/14 11:15	84-66-2	
2,4-Dimethylphenol	ND	ug/kg	420	1	03/25/14 10:10	03/26/14 11:15	105-67-9	
Dimethylphthalate	ND	ug/kg	420	1	03/25/14 10:10	03/26/14 11:15	131-11-3	
Di-n-butylphthalate	ND	ug/kg	420	1	03/25/14 10:10	03/26/14 11:15	84-74-2	
4,6-Dinitro-2-methylphenol	ND	ug/kg	2040	1	03/25/14 10:10	03/26/14 11:15	534-52-1	
2,4-Dinitrophenol	ND	ug/kg	2040	1	03/25/14 10:10	03/26/14 11:15	51-28-5	
2,4-Dinitrotoluene	ND	ug/kg	420	1	03/25/14 10:10	03/26/14 11:15	121-14-2	
2,6-Dinitrotoluene	ND	ug/kg	420	1	03/25/14 10:10	03/26/14 11:15	606-20-2	
Di-n-octylphthalate	ND	ug/kg	420	1	03/25/14 10:10	03/26/14 11:15	117-84-0	
bis(2-Ethylhexyl)phthalate	ND	ug/kg	420	1	03/25/14 10:10	03/26/14 11:15	117-81-7	

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ANALYTICAL RESULTS

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095061

Sample: 58-SB-5 4-6' **Lab ID: 5095061010** Collected: 03/19/14 12:50 Received: 03/21/14 12:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV SHORT LIST MICROWAVE	Analytical Method: EPA 8270 Preparation Method: EPA 3546							
Fluoranthene	ND	ug/kg	420	1	03/25/14 10:10	03/26/14 11:15	206-44-0	
Fluorene	ND	ug/kg	420	1	03/25/14 10:10	03/26/14 11:15	86-73-7	
Hexachlorocyclopentadiene	ND	ug/kg	420	1	03/25/14 10:10	03/26/14 11:15	77-47-4	
Hexachloroethane	ND	ug/kg	420	1	03/25/14 10:10	03/26/14 11:15	67-72-1	
Indeno(1,2,3-cd)pyrene	ND	ug/kg	420	1	03/25/14 10:10	03/26/14 11:15	193-39-5	
Isophorone	ND	ug/kg	420	1	03/25/14 10:10	03/26/14 11:15	78-59-1	
2-Methylnaphthalene	ND	ug/kg	420	1	03/25/14 10:10	03/26/14 11:15	91-57-6	
2-Methylphenol(o-Cresol)	ND	ug/kg	420	1	03/25/14 10:10	03/26/14 11:15	95-48-7	
3&4-Methylphenol(m&p Cresol)	ND	ug/kg	840	1	03/25/14 10:10	03/26/14 11:15		
Naphthalene	ND	ug/kg	420	1	03/25/14 10:10	03/26/14 11:15	91-20-3	
2-Nitroaniline	ND	ug/kg	2040	1	03/25/14 10:10	03/26/14 11:15	88-74-4	
3-Nitroaniline	ND	ug/kg	2040	1	03/25/14 10:10	03/26/14 11:15	99-09-2	
4-Nitroaniline	ND	ug/kg	2040	1	03/25/14 10:10	03/26/14 11:15	100-01-6	
Nitrobenzene	ND	ug/kg	420	1	03/25/14 10:10	03/26/14 11:15	98-95-3	
2-Nitrophenol	ND	ug/kg	420	1	03/25/14 10:10	03/26/14 11:15	88-75-5	
4-Nitrophenol	ND	ug/kg	2040	1	03/25/14 10:10	03/26/14 11:15	100-02-7	
N-Nitroso-di-n-propylamine	ND	ug/kg	420	1	03/25/14 10:10	03/26/14 11:15	621-64-7	
N-Nitrosodiphenylamine	ND	ug/kg	420	1	03/25/14 10:10	03/26/14 11:15	86-30-6	
Phenanthrene	ND	ug/kg	420	1	03/25/14 10:10	03/26/14 11:15	85-01-8	
Phenol	ND	ug/kg	420	1	03/25/14 10:10	03/26/14 11:15	108-95-2	
Pyrene	ND	ug/kg	420	1	03/25/14 10:10	03/26/14 11:15	129-00-0	
2,4,5-Trichlorophenol	ND	ug/kg	420	1	03/25/14 10:10	03/26/14 11:15	95-95-4	
2,4,6-Trichlorophenol	ND	ug/kg	420	1	03/25/14 10:10	03/26/14 11:15	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	65	%.	28-101	1	03/25/14 10:10	03/26/14 11:15	4165-60-0	
2-Fluorobiphenyl (S)	70	%.	31-94	1	03/25/14 10:10	03/26/14 11:15	321-60-8	
p-Terphenyl-d14 (S)	83	%.	26-110	1	03/25/14 10:10	03/26/14 11:15	1718-51-0	
Phenol-d5 (S)	68	%.	28-101	1	03/25/14 10:10	03/26/14 11:15	4165-62-2	
2-Fluorophenol (S)	67	%.	24-104	1	03/25/14 10:10	03/26/14 11:15	367-12-4	
2,4,6-Tribromophenol (S)	74	%.	16-122	1	03/25/14 10:10	03/26/14 11:15	118-79-6	
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
Acetone	ND	mg/kg	0.13	1		03/27/14 21:57	67-64-1	
Acrolein	ND	mg/kg	0.13	1		03/27/14 21:57	107-02-8	
Benzene	ND	mg/kg	0.0064	1		03/27/14 21:57	71-43-2	
Bromobenzene	ND	mg/kg	0.0064	1		03/27/14 21:57	108-86-1	
Bromochloromethane	ND	mg/kg	0.0064	1		03/27/14 21:57	74-97-5	
Bromodichloromethane	ND	mg/kg	0.0064	1		03/27/14 21:57	75-27-4	
Bromoform	ND	mg/kg	0.0064	1		03/27/14 21:57	75-25-2	
Bromomethane	ND	mg/kg	0.0064	1		03/27/14 21:57	74-83-9	
2-Butanone (MEK)	ND	mg/kg	0.032	1		03/27/14 21:57	78-93-3	
n-Butylbenzene	ND	mg/kg	0.0064	1		03/27/14 21:57	104-51-8	
sec-Butylbenzene	ND	mg/kg	0.0064	1		03/27/14 21:57	135-98-8	
tert-Butylbenzene	ND	mg/kg	0.0064	1		03/27/14 21:57	98-06-6	
Carbon disulfide	ND	mg/kg	0.013	1		03/27/14 21:57	75-15-0	

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ANALYTICAL RESULTS

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095061

Sample: 58-SB-5 4-6' **Lab ID: 5095061010** Collected: 03/19/14 12:50 Received: 03/21/14 12:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
Carbon tetrachloride	ND	mg/kg	0.0064	1		03/27/14 21:57	56-23-5	
Chlorobenzene	ND	mg/kg	0.0064	1		03/27/14 21:57	108-90-7	
Chloroethane	ND	mg/kg	0.0064	1		03/27/14 21:57	75-00-3	
Chloroform	ND	mg/kg	0.0064	1		03/27/14 21:57	67-66-3	
Chloromethane	ND	mg/kg	0.0064	1		03/27/14 21:57	74-87-3	
2-Chlorotoluene	ND	mg/kg	0.0064	1		03/27/14 21:57	95-49-8	
4-Chlorotoluene	ND	mg/kg	0.0064	1		03/27/14 21:57	106-43-4	
Dibromochloromethane	ND	mg/kg	0.0064	1		03/27/14 21:57	124-48-1	
Dibromomethane	ND	mg/kg	0.0064	1		03/27/14 21:57	74-95-3	
1,2-Dichlorobenzene	ND	mg/kg	0.0064	1		03/27/14 21:57	95-50-1	
1,3-Dichlorobenzene	ND	mg/kg	0.0064	1		03/27/14 21:57	541-73-1	
1,4-Dichlorobenzene	ND	mg/kg	0.0064	1		03/27/14 21:57	106-46-7	
trans-1,4-Dichloro-2-butene	ND	mg/kg	0.13	1		03/27/14 21:57	110-57-6	
Dichlorodifluoromethane	ND	mg/kg	0.0064	1		03/27/14 21:57	75-71-8	
1,1-Dichloroethane	ND	mg/kg	0.0064	1		03/27/14 21:57	75-34-3	
1,2-Dichloroethane	ND	mg/kg	0.0064	1		03/27/14 21:57	107-06-2	
1,1-Dichloroethene	ND	mg/kg	0.0064	1		03/27/14 21:57	75-35-4	
cis-1,2-Dichloroethene	ND	mg/kg	0.0064	1		03/27/14 21:57	156-59-2	
trans-1,2-Dichloroethene	ND	mg/kg	0.0064	1		03/27/14 21:57	156-60-5	
1,2-Dichloropropane	ND	mg/kg	0.0064	1		03/27/14 21:57	78-87-5	
1,3-Dichloropropane	ND	mg/kg	0.0064	1		03/27/14 21:57	142-28-9	
2,2-Dichloropropane	ND	mg/kg	0.0064	1		03/27/14 21:57	594-20-7	
1,1-Dichloropropene	ND	mg/kg	0.0064	1		03/27/14 21:57	563-58-6	
cis-1,3-Dichloropropene	ND	mg/kg	0.0064	1		03/27/14 21:57	10061-01-5	
trans-1,3-Dichloropropene	ND	mg/kg	0.0064	1		03/27/14 21:57	10061-02-6	
Ethylbenzene	ND	mg/kg	0.0064	1		03/27/14 21:57	100-41-4	
Ethyl methacrylate	ND	mg/kg	0.13	1		03/27/14 21:57	97-63-2	
2-Hexanone	ND	mg/kg	0.13	1		03/27/14 21:57	591-78-6	
Iodomethane	ND	mg/kg	0.13	1		03/27/14 21:57	74-88-4	
Isopropylbenzene (Cumene)	ND	mg/kg	0.0064	1		03/27/14 21:57	98-82-8	
p-Isopropyltoluene	ND	mg/kg	0.0064	1		03/27/14 21:57	99-87-6	
Methylene Chloride	ND	mg/kg	0.025	1		03/27/14 21:57	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	mg/kg	0.032	1		03/27/14 21:57	108-10-1	
Methyl-tert-butyl ether	ND	mg/kg	0.0064	1		03/27/14 21:57	1634-04-4	
n-Propylbenzene	ND	mg/kg	0.0064	1		03/27/14 21:57	103-65-1	
Styrene	ND	mg/kg	0.0064	1		03/27/14 21:57	100-42-5	
1,1,1,2-Tetrachloroethane	ND	mg/kg	0.0064	1		03/27/14 21:57	630-20-6	
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.0064	1		03/27/14 21:57	79-34-5	
Tetrachloroethene	ND	mg/kg	0.0064	1		03/27/14 21:57	127-18-4	
Toluene	ND	mg/kg	0.0064	1		03/27/14 21:57	108-88-3	
1,2,3-Trichlorobenzene	ND	mg/kg	0.0064	1		03/27/14 21:57	87-61-6	
1,2,4-Trichlorobenzene	ND	mg/kg	0.0064	1		03/27/14 21:57	120-82-1	
1,1,1-Trichloroethane	ND	mg/kg	0.0064	1		03/27/14 21:57	71-55-6	
1,1,2-Trichloroethane	ND	mg/kg	0.0064	1		03/27/14 21:57	79-00-5	
Trichloroethene	ND	mg/kg	0.0064	1		03/27/14 21:57	79-01-6	
Trichlorofluoromethane	ND	mg/kg	0.0064	1		03/27/14 21:57	75-69-4	

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ANALYTICAL RESULTS

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095061

Sample: 58-SB-5 4-6' **Lab ID: 5095061010** Collected: 03/19/14 12:50 Received: 03/21/14 12:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
1,2,4-Trimethylbenzene	ND	mg/kg	0.0064	1		03/27/14 21:57	95-63-6	
1,3,5-Trimethylbenzene	ND	mg/kg	0.0064	1		03/27/14 21:57	108-67-8	
Vinyl acetate	ND	mg/kg	0.13	1		03/27/14 21:57	108-05-4	
Vinyl chloride	ND	mg/kg	0.0064	1		03/27/14 21:57	75-01-4	
Xylene (Total)	ND	mg/kg	0.013	1		03/27/14 21:57	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	97	%.	85-118	1		03/27/14 21:57	1868-53-7	
Toluene-d8 (S)	102	%.	71-128	1		03/27/14 21:57	2037-26-5	
4-Bromofluorobenzene (S)	100	%.	56-144	1		03/27/14 21:57	460-00-4	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**21.4**	%	0.10	1		03/24/14 15:44		

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ANALYTICAL RESULTS

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095061

Sample: 58-SB-6 6-8' **Lab ID: 5095061011** Collected: 03/19/14 13:08 Received: 03/21/14 12:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 TPH Ohio Microwave	Analytical Method: EPA 8015 Mod Ext Preparation Method: EPA 3546							
Total Petroleum Hydrocarbons	ND	mg/kg	21.4	1	03/26/14 12:25	03/26/14 17:36		
TPH (C10-C20)	ND	mg/kg	10.7	1	03/26/14 12:25	03/26/14 17:36		
TPH (C20-C34)	ND	mg/kg	10.7	1	03/26/14 12:25	03/26/14 17:36		
Surrogates								
n-Pentacosane (S)	91	%.	30-153	1	03/26/14 12:25	03/26/14 17:36	629-99-2	
8015 Gasoline Range Organics	Analytical Method: EPA 8015 Mod Pur							
TPH (C06-C12)	ND	mg/kg	1.1	1		03/26/14 14:47		
Surrogates								
4-Bromofluorobenzene (S)	94	%.	38-163	1		03/26/14 14:47	460-00-4	
8270 MSSV SHORT LIST MICROWAVE	Analytical Method: EPA 8270 Preparation Method: EPA 3546							
Acenaphthene	ND	ug/kg	356	1	03/25/14 10:10	03/26/14 11:35	83-32-9	
Acenaphthylene	ND	ug/kg	356	1	03/25/14 10:10	03/26/14 11:35	208-96-8	
Anthracene	ND	ug/kg	356	1	03/25/14 10:10	03/26/14 11:35	120-12-7	
Benzo(a)anthracene	**445**	ug/kg	356	1	03/25/14 10:10	03/26/14 11:35	56-55-3	
Benzo(a)pyrene	**461**	ug/kg	184	1	03/25/14 10:10	03/26/14 11:35	50-32-8	
Benzo(b)fluoranthene	**425**	ug/kg	356	1	03/25/14 10:10	03/26/14 11:35	205-99-2	
Benzo(g,h,i)perylene	ND	ug/kg	356	1	03/25/14 10:10	03/26/14 11:35	191-24-2	
Benzo(k)fluoranthene	**455**	ug/kg	356	1	03/25/14 10:10	03/26/14 11:35	207-08-9	
Benzyl alcohol	ND	ug/kg	713	1	03/25/14 10:10	03/26/14 11:35	100-51-6	
4-Bromophenylphenyl ether	ND	ug/kg	356	1	03/25/14 10:10	03/26/14 11:35	101-55-3	
Butylbenzylphthalate	ND	ug/kg	356	1	03/25/14 10:10	03/26/14 11:35	85-68-7	
4-Chloro-3-methylphenol	ND	ug/kg	713	1	03/25/14 10:10	03/26/14 11:35	59-50-7	
4-Chloroaniline	ND	ug/kg	713	1	03/25/14 10:10	03/26/14 11:35	106-47-8	
bis(2-Chloroethoxy)methane	ND	ug/kg	356	1	03/25/14 10:10	03/26/14 11:35	111-91-1	
bis(2-Chloroethyl) ether	ND	ug/kg	356	1	03/25/14 10:10	03/26/14 11:35	111-44-4	
bis(2-Chloroisopropyl) ether	ND	ug/kg	356	1	03/25/14 10:10	03/26/14 11:35	108-60-1	
2-Chloronaphthalene	ND	ug/kg	356	1	03/25/14 10:10	03/26/14 11:35	91-58-7	
2-Chlorophenol	ND	ug/kg	356	1	03/25/14 10:10	03/26/14 11:35	95-57-8	
4-Chlorophenylphenyl ether	ND	ug/kg	356	1	03/25/14 10:10	03/26/14 11:35	7005-72-3	
Chrysene	**572**	ug/kg	356	1	03/25/14 10:10	03/26/14 11:35	218-01-9	
Dibenz(a,h)anthracene	ND	ug/kg	184	1	03/25/14 10:10	03/26/14 11:35	53-70-3	
Dibenzofuran	ND	ug/kg	356	1	03/25/14 10:10	03/26/14 11:35	132-64-9	
2,4-Dichlorophenol	ND	ug/kg	356	1	03/25/14 10:10	03/26/14 11:35	120-83-2	
Diethylphthalate	ND	ug/kg	356	1	03/25/14 10:10	03/26/14 11:35	84-66-2	
2,4-Dimethylphenol	ND	ug/kg	356	1	03/25/14 10:10	03/26/14 11:35	105-67-9	
Dimethylphthalate	ND	ug/kg	356	1	03/25/14 10:10	03/26/14 11:35	131-11-3	
Di-n-butylphthalate	ND	ug/kg	356	1	03/25/14 10:10	03/26/14 11:35	84-74-2	
4,6-Dinitro-2-methylphenol	ND	ug/kg	1730	1	03/25/14 10:10	03/26/14 11:35	534-52-1	
2,4-Dinitrophenol	ND	ug/kg	1730	1	03/25/14 10:10	03/26/14 11:35	51-28-5	
2,4-Dinitrotoluene	ND	ug/kg	356	1	03/25/14 10:10	03/26/14 11:35	121-14-2	
2,6-Dinitrotoluene	ND	ug/kg	356	1	03/25/14 10:10	03/26/14 11:35	606-20-2	
Di-n-octylphthalate	ND	ug/kg	356	1	03/25/14 10:10	03/26/14 11:35	117-84-0	
bis(2-Ethylhexyl)phthalate	ND	ug/kg	356	1	03/25/14 10:10	03/26/14 11:35	117-81-7	

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ANALYTICAL RESULTS

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095061

Sample: 58-SB-6 6-8' **Lab ID: 5095061011** Collected: 03/19/14 13:08 Received: 03/21/14 12:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV SHORT LIST MICROWAVE	Analytical Method: EPA 8270 Preparation Method: EPA 3546							
Fluoranthene	**1010**	ug/kg	356	1	03/25/14 10:10	03/26/14 11:35	206-44-0	
Fluorene	ND	ug/kg	356	1	03/25/14 10:10	03/26/14 11:35	86-73-7	
Hexachlorocyclopentadiene	ND	ug/kg	356	1	03/25/14 10:10	03/26/14 11:35	77-47-4	
Hexachloroethane	ND	ug/kg	356	1	03/25/14 10:10	03/26/14 11:35	67-72-1	
Indeno(1,2,3-cd)pyrene	ND	ug/kg	356	1	03/25/14 10:10	03/26/14 11:35	193-39-5	
Isophorone	ND	ug/kg	356	1	03/25/14 10:10	03/26/14 11:35	78-59-1	
2-Methylnaphthalene	ND	ug/kg	356	1	03/25/14 10:10	03/26/14 11:35	91-57-6	
2-Methylphenol(o-Cresol)	ND	ug/kg	356	1	03/25/14 10:10	03/26/14 11:35	95-48-7	
3&4-Methylphenol(m&p Cresol)	ND	ug/kg	713	1	03/25/14 10:10	03/26/14 11:35		
Naphthalene	ND	ug/kg	356	1	03/25/14 10:10	03/26/14 11:35	91-20-3	
2-Nitroaniline	ND	ug/kg	1730	1	03/25/14 10:10	03/26/14 11:35	88-74-4	
3-Nitroaniline	ND	ug/kg	1730	1	03/25/14 10:10	03/26/14 11:35	99-09-2	
4-Nitroaniline	ND	ug/kg	1730	1	03/25/14 10:10	03/26/14 11:35	100-01-6	
Nitrobenzene	ND	ug/kg	356	1	03/25/14 10:10	03/26/14 11:35	98-95-3	
2-Nitrophenol	ND	ug/kg	356	1	03/25/14 10:10	03/26/14 11:35	88-75-5	
4-Nitrophenol	ND	ug/kg	1730	1	03/25/14 10:10	03/26/14 11:35	100-02-7	
N-Nitroso-di-n-propylamine	ND	ug/kg	356	1	03/25/14 10:10	03/26/14 11:35	621-64-7	
N-Nitrosodiphenylamine	ND	ug/kg	356	1	03/25/14 10:10	03/26/14 11:35	86-30-6	
Phenanthrene	**625**	ug/kg	356	1	03/25/14 10:10	03/26/14 11:35	85-01-8	
Phenol	ND	ug/kg	356	1	03/25/14 10:10	03/26/14 11:35	108-95-2	
Pyrene	**959**	ug/kg	356	1	03/25/14 10:10	03/26/14 11:35	129-00-0	
2,4,5-Trichlorophenol	ND	ug/kg	356	1	03/25/14 10:10	03/26/14 11:35	95-95-4	
2,4,6-Trichlorophenol	ND	ug/kg	356	1	03/25/14 10:10	03/26/14 11:35	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	68	%.	28-101	1	03/25/14 10:10	03/26/14 11:35	4165-60-0	
2-Fluorobiphenyl (S)	74	%.	31-94	1	03/25/14 10:10	03/26/14 11:35	321-60-8	
p-Terphenyl-d14 (S)	79	%.	26-110	1	03/25/14 10:10	03/26/14 11:35	1718-51-0	
Phenol-d5 (S)	70	%.	28-101	1	03/25/14 10:10	03/26/14 11:35	4165-62-2	
2-Fluorophenol (S)	70	%.	24-104	1	03/25/14 10:10	03/26/14 11:35	367-12-4	
2,4,6-Tribromophenol (S)	79	%.	16-122	1	03/25/14 10:10	03/26/14 11:35	118-79-6	
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
Acetone	ND	mg/kg	0.11	1		03/27/14 22:33	67-64-1	
Acrolein	ND	mg/kg	0.11	1		03/27/14 22:33	107-02-8	
Benzene	ND	mg/kg	0.0054	1		03/27/14 22:33	71-43-2	
Bromobenzene	ND	mg/kg	0.0054	1		03/27/14 22:33	108-86-1	
Bromochloromethane	ND	mg/kg	0.0054	1		03/27/14 22:33	74-97-5	
Bromodichloromethane	ND	mg/kg	0.0054	1		03/27/14 22:33	75-27-4	
Bromoform	ND	mg/kg	0.0054	1		03/27/14 22:33	75-25-2	
Bromomethane	ND	mg/kg	0.0054	1		03/27/14 22:33	74-83-9	
2-Butanone (MEK)	ND	mg/kg	0.027	1		03/27/14 22:33	78-93-3	
n-Butylbenzene	ND	mg/kg	0.0054	1		03/27/14 22:33	104-51-8	
sec-Butylbenzene	ND	mg/kg	0.0054	1		03/27/14 22:33	135-98-8	
tert-Butylbenzene	ND	mg/kg	0.0054	1		03/27/14 22:33	98-06-6	
Carbon disulfide	ND	mg/kg	0.011	1		03/27/14 22:33	75-15-0	

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ANALYTICAL RESULTS

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095061

Sample: 58-SB-6 6-8' **Lab ID: 5095061011** Collected: 03/19/14 13:08 Received: 03/21/14 12:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
Carbon tetrachloride	ND	mg/kg	0.0054	1		03/27/14 22:33	56-23-5	
Chlorobenzene	ND	mg/kg	0.0054	1		03/27/14 22:33	108-90-7	
Chloroethane	ND	mg/kg	0.0054	1		03/27/14 22:33	75-00-3	
Chloroform	ND	mg/kg	0.0054	1		03/27/14 22:33	67-66-3	
Chloromethane	ND	mg/kg	0.0054	1		03/27/14 22:33	74-87-3	
2-Chlorotoluene	ND	mg/kg	0.0054	1		03/27/14 22:33	95-49-8	
4-Chlorotoluene	ND	mg/kg	0.0054	1		03/27/14 22:33	106-43-4	
Dibromochloromethane	ND	mg/kg	0.0054	1		03/27/14 22:33	124-48-1	
Dibromomethane	ND	mg/kg	0.0054	1		03/27/14 22:33	74-95-3	
1,2-Dichlorobenzene	ND	mg/kg	0.0054	1		03/27/14 22:33	95-50-1	
1,3-Dichlorobenzene	ND	mg/kg	0.0054	1		03/27/14 22:33	541-73-1	
1,4-Dichlorobenzene	ND	mg/kg	0.0054	1		03/27/14 22:33	106-46-7	
trans-1,4-Dichloro-2-butene	ND	mg/kg	0.11	1		03/27/14 22:33	110-57-6	
Dichlorodifluoromethane	ND	mg/kg	0.0054	1		03/27/14 22:33	75-71-8	
1,1-Dichloroethane	ND	mg/kg	0.0054	1		03/27/14 22:33	75-34-3	
1,2-Dichloroethane	ND	mg/kg	0.0054	1		03/27/14 22:33	107-06-2	
1,1-Dichloroethene	ND	mg/kg	0.0054	1		03/27/14 22:33	75-35-4	
cis-1,2-Dichloroethene	ND	mg/kg	0.0054	1		03/27/14 22:33	156-59-2	
trans-1,2-Dichloroethene	ND	mg/kg	0.0054	1		03/27/14 22:33	156-60-5	
1,2-Dichloropropane	ND	mg/kg	0.0054	1		03/27/14 22:33	78-87-5	
1,3-Dichloropropane	ND	mg/kg	0.0054	1		03/27/14 22:33	142-28-9	
2,2-Dichloropropane	ND	mg/kg	0.0054	1		03/27/14 22:33	594-20-7	
1,1-Dichloropropene	ND	mg/kg	0.0054	1		03/27/14 22:33	563-58-6	
cis-1,3-Dichloropropene	ND	mg/kg	0.0054	1		03/27/14 22:33	10061-01-5	
trans-1,3-Dichloropropene	ND	mg/kg	0.0054	1		03/27/14 22:33	10061-02-6	
Ethylbenzene	ND	mg/kg	0.0054	1		03/27/14 22:33	100-41-4	
Ethyl methacrylate	ND	mg/kg	0.11	1		03/27/14 22:33	97-63-2	
2-Hexanone	ND	mg/kg	0.11	1		03/27/14 22:33	591-78-6	
Iodomethane	ND	mg/kg	0.11	1		03/27/14 22:33	74-88-4	
Isopropylbenzene (Cumene)	ND	mg/kg	0.0054	1		03/27/14 22:33	98-82-8	
p-Isopropyltoluene	ND	mg/kg	0.0054	1		03/27/14 22:33	99-87-6	
Methylene Chloride	ND	mg/kg	0.022	1		03/27/14 22:33	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	mg/kg	0.027	1		03/27/14 22:33	108-10-1	
Methyl-tert-butyl ether	ND	mg/kg	0.0054	1		03/27/14 22:33	1634-04-4	
n-Propylbenzene	ND	mg/kg	0.0054	1		03/27/14 22:33	103-65-1	
Styrene	ND	mg/kg	0.0054	1		03/27/14 22:33	100-42-5	
1,1,1,2-Tetrachloroethane	ND	mg/kg	0.0054	1		03/27/14 22:33	630-20-6	
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.0054	1		03/27/14 22:33	79-34-5	
Tetrachloroethene	ND	mg/kg	0.0054	1		03/27/14 22:33	127-18-4	
Toluene	ND	mg/kg	0.0054	1		03/27/14 22:33	108-88-3	
1,2,3-Trichlorobenzene	ND	mg/kg	0.0054	1		03/27/14 22:33	87-61-6	
1,2,4-Trichlorobenzene	ND	mg/kg	0.0054	1		03/27/14 22:33	120-82-1	
1,1,1-Trichloroethane	ND	mg/kg	0.0054	1		03/27/14 22:33	71-55-6	
1,1,2-Trichloroethane	ND	mg/kg	0.0054	1		03/27/14 22:33	79-00-5	
Trichloroethene	ND	mg/kg	0.0054	1		03/27/14 22:33	79-01-6	
Trichlorofluoromethane	ND	mg/kg	0.0054	1		03/27/14 22:33	75-69-4	

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ANALYTICAL RESULTS

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095061

Sample: 58-SB-6 6-8' **Lab ID: 5095061011** Collected: 03/19/14 13:08 Received: 03/21/14 12:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
1,2,4-Trimethylbenzene	ND	mg/kg	0.0054	1		03/27/14 22:33	95-63-6	
1,3,5-Trimethylbenzene	ND	mg/kg	0.0054	1		03/27/14 22:33	108-67-8	
Vinyl acetate	ND	mg/kg	0.11	1		03/27/14 22:33	108-05-4	
Vinyl chloride	ND	mg/kg	0.0054	1		03/27/14 22:33	75-01-4	
Xylene (Total)	ND	mg/kg	0.011	1		03/27/14 22:33	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	98	%.	85-118	1		03/27/14 22:33	1868-53-7	
Toluene-d8 (S)	106	%.	71-128	1		03/27/14 22:33	2037-26-5	
4-Bromofluorobenzene (S)	93	%.	56-144	1		03/27/14 22:33	460-00-4	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**7.4**	%	0.10	1		03/24/14 15:45		

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QUALITY CONTROL DATA

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095061

QC Batch: GCV/17838 Analysis Method: EPA 8015 Mod Pur
QC Batch Method: EPA 8015 Mod Pur Analysis Description: 8015 Solid GCV
Associated Lab Samples: 5095061001, 5095061002, 5095061003, 5095061004, 5095061005, 5095061006, 5095061007

METHOD BLANK: 1067665 Matrix: Solid
Associated Lab Samples: 5095061001, 5095061002, 5095061003, 5095061004, 5095061005, 5095061006, 5095061007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
TPH (C06-C12)	mg/kg	ND	1.0	03/25/14 19:13	
4-Bromofluorobenzene (S)	%.	94	38-163	03/25/14 19:13	

LABORATORY CONTROL SAMPLE: 1067666

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
TPH (C06-C12)	mg/kg	10	9.5	95	75-139	
4-Bromofluorobenzene (S)	%.			101	38-163	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1067667 1067668

Parameter	Units	5095059007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
TPH (C06-C12)	mg/kg	<1.4	14.4	14.4	10	10.5	69	73	10-151	5	20	
4-Bromofluorobenzene (S)	%.						106	107	38-163			

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QUALITY CONTROL DATA

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095061

QC Batch: GCV/17840 Analysis Method: EPA 8015 Mod Pur
QC Batch Method: EPA 8015 Mod Pur Analysis Description: 8015 Solid GCV
Associated Lab Samples: 5095061009, 5095061010, 5095061011

METHOD BLANK: 1068256 Matrix: Solid
Associated Lab Samples: 5095061009, 5095061010, 5095061011

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
TPH (C06-C12)	mg/kg	ND	1.0	03/26/14 11:20	
4-Bromofluorobenzene (S)	%.	94	38-163	03/26/14 11:20	

LABORATORY CONTROL SAMPLE: 1068257

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
TPH (C06-C12)	mg/kg	10	9.7	97	75-139	
4-Bromofluorobenzene (S)	%.			100	38-163	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1068258 1068259

Parameter	Units	5095061010 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
TPH (C06-C12)	mg/kg	ND	12.7	12.7	11.6	12.2	91	96	10-151	5	20	
4-Bromofluorobenzene (S)	%.						109	114	38-163			

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QUALITY CONTROL DATA

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095061

QC Batch: GCV/17848
QC Batch Method: EPA 8015 Mod Pur
Analysis Method: EPA 8015 Mod Pur
Analysis Description: 8015 Solid GCV
Associated Lab Samples: 5095061008

METHOD BLANK: 1069364 Matrix: Solid
Associated Lab Samples: 5095061008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
TPH (C06-C12)	mg/kg	ND	1.0	03/27/14 15:55	
4-Bromofluorobenzene (S)	%.	92	38-163	03/27/14 15:55	

LABORATORY CONTROL SAMPLE: 1069365

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
TPH (C06-C12)	mg/kg	10	9.4	94	75-139	
4-Bromofluorobenzene (S)	%.			104	38-163	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1069366 1069367

Parameter	Units	5094884002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
TPH (C06-C12)	mg/kg	29.5	9.5	7.8	37.3	36.1	82	84	10-151	3	20	M0
4-Bromofluorobenzene (S)	%.						153	158	38-163			

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QUALITY CONTROL DATA

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095061

QC Batch: MSV/62969 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV 5030 Low
Associated Lab Samples: 5095061001, 5095061002, 5095061004, 5095061005, 5095061006, 5095061007, 5095061008, 5095061009, 5095061010, 5095061011

METHOD BLANK: 1069397 Matrix: Solid
Associated Lab Samples: 5095061001, 5095061002, 5095061004, 5095061005, 5095061006, 5095061007, 5095061008, 5095061009, 5095061010, 5095061011

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	mg/kg	ND	0.0050	03/27/14 13:47	
1,1,1-Trichloroethane	mg/kg	ND	0.0050	03/27/14 13:47	
1,1,2,2-Tetrachloroethane	mg/kg	ND	0.0050	03/27/14 13:47	
1,1,2-Trichloroethane	mg/kg	ND	0.0050	03/27/14 13:47	
1,1-Dichloroethane	mg/kg	ND	0.0050	03/27/14 13:47	
1,1-Dichloroethene	mg/kg	ND	0.0050	03/27/14 13:47	
1,1-Dichloropropene	mg/kg	ND	0.0050	03/27/14 13:47	
1,2,3-Trichlorobenzene	mg/kg	ND	0.0050	03/27/14 13:47	
1,2,4-Trichlorobenzene	mg/kg	ND	0.0050	03/27/14 13:47	
1,2,4-Trimethylbenzene	mg/kg	ND	0.0050	03/27/14 13:47	
1,2-Dichlorobenzene	mg/kg	ND	0.0050	03/27/14 13:47	
1,2-Dichloroethane	mg/kg	ND	0.0050	03/27/14 13:47	
1,2-Dichloropropane	mg/kg	ND	0.0050	03/27/14 13:47	
1,3,5-Trimethylbenzene	mg/kg	ND	0.0050	03/27/14 13:47	
1,3-Dichlorobenzene	mg/kg	ND	0.0050	03/27/14 13:47	
1,3-Dichloropropane	mg/kg	ND	0.0050	03/27/14 13:47	
1,4-Dichlorobenzene	mg/kg	ND	0.0050	03/27/14 13:47	
2,2-Dichloropropane	mg/kg	ND	0.0050	03/27/14 13:47	
2-Butanone (MEK)	mg/kg	ND	0.025	03/27/14 13:47	
2-Chlorotoluene	mg/kg	ND	0.0050	03/27/14 13:47	
2-Hexanone	mg/kg	ND	0.10	03/27/14 13:47	
4-Chlorotoluene	mg/kg	ND	0.0050	03/27/14 13:47	
4-Methyl-2-pentanone (MIBK)	mg/kg	ND	0.025	03/27/14 13:47	
Acetone	mg/kg	ND	0.10	03/27/14 13:47	
Acrolein	mg/kg	ND	0.10	03/27/14 13:47	
Benzene	mg/kg	ND	0.0050	03/27/14 13:47	
Bromobenzene	mg/kg	ND	0.0050	03/27/14 13:47	
Bromochloromethane	mg/kg	ND	0.0050	03/27/14 13:47	
Bromodichloromethane	mg/kg	ND	0.0050	03/27/14 13:47	
Bromoform	mg/kg	ND	0.0050	03/27/14 13:47	
Bromomethane	mg/kg	ND	0.0050	03/27/14 13:47	
Carbon disulfide	mg/kg	ND	0.010	03/27/14 13:47	
Carbon tetrachloride	mg/kg	ND	0.0050	03/27/14 13:47	
Chlorobenzene	mg/kg	ND	0.0050	03/27/14 13:47	
Chloroethane	mg/kg	ND	0.0050	03/27/14 13:47	
Chloroform	mg/kg	ND	0.0050	03/27/14 13:47	
Chloromethane	mg/kg	ND	0.0050	03/27/14 13:47	
cis-1,2-Dichloroethene	mg/kg	ND	0.0050	03/27/14 13:47	
cis-1,3-Dichloropropene	mg/kg	ND	0.0050	03/27/14 13:47	
Dibromochloromethane	mg/kg	ND	0.0050	03/27/14 13:47	
Dibromomethane	mg/kg	ND	0.0050	03/27/14 13:47	

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QUALITY CONTROL DATA

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095061

METHOD BLANK: 1069397 Matrix: Solid

Associated Lab Samples: 5095061001, 5095061002, 5095061004, 5095061005, 5095061006, 5095061007, 5095061008, 5095061009, 5095061010, 5095061011

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dichlorodifluoromethane	mg/kg	ND	0.0050	03/27/14 13:47	
Ethyl methacrylate	mg/kg	ND	0.10	03/27/14 13:47	
Ethylbenzene	mg/kg	ND	0.0050	03/27/14 13:47	
Iodomethane	mg/kg	ND	0.10	03/27/14 13:47	
Isopropylbenzene (Cumene)	mg/kg	ND	0.0050	03/27/14 13:47	
Methyl-tert-butyl ether	mg/kg	ND	0.0050	03/27/14 13:47	
Methylene Chloride	mg/kg	ND	0.020	03/27/14 13:47	
n-Butylbenzene	mg/kg	ND	0.0050	03/27/14 13:47	
n-Propylbenzene	mg/kg	ND	0.0050	03/27/14 13:47	
p-Isopropyltoluene	mg/kg	ND	0.0050	03/27/14 13:47	
sec-Butylbenzene	mg/kg	ND	0.0050	03/27/14 13:47	
Styrene	mg/kg	ND	0.0050	03/27/14 13:47	
tert-Butylbenzene	mg/kg	ND	0.0050	03/27/14 13:47	
Tetrachloroethene	mg/kg	ND	0.0050	03/27/14 13:47	
Toluene	mg/kg	ND	0.0050	03/27/14 13:47	
trans-1,2-Dichloroethene	mg/kg	ND	0.0050	03/27/14 13:47	
trans-1,3-Dichloropropene	mg/kg	ND	0.0050	03/27/14 13:47	
trans-1,4-Dichloro-2-butene	mg/kg	ND	0.10	03/27/14 13:47	
Trichloroethene	mg/kg	ND	0.0050	03/27/14 13:47	
Trichlorofluoromethane	mg/kg	ND	0.0050	03/27/14 13:47	
Vinyl acetate	mg/kg	ND	0.10	03/27/14 13:47	
Vinyl chloride	mg/kg	ND	0.0050	03/27/14 13:47	
Xylene (Total)	mg/kg	ND	0.010	03/27/14 13:47	
4-Bromofluorobenzene (S)	%.	101	56-144	03/27/14 13:47	
Dibromofluoromethane (S)	%.	98	85-118	03/27/14 13:47	
Toluene-d8 (S)	%.	102	71-128	03/27/14 13:47	

LABORATORY CONTROL SAMPLE: 1069398

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	mg/kg	.05	0.054	109	62-123	
1,1,1-Trichloroethane	mg/kg	.05	0.050	100	70-123	
1,1,2,2-Tetrachloroethane	mg/kg	.05	0.054	107	65-124	
1,1,2-Trichloroethane	mg/kg	.05	0.050	101	74-129	
1,1-Dichloroethane	mg/kg	.05	0.047	93	73-130	
1,1-Dichloroethene	mg/kg	.05	0.043	86	66-126	
1,1-Dichloropropene	mg/kg	.05	0.047	94	78-125	
1,2,3-Trichlorobenzene	mg/kg	.05	0.047	94	66-131	
1,2,4-Trichlorobenzene	mg/kg	.05	0.048	95	68-129	
1,2,4-Trimethylbenzene	mg/kg	.05	0.049	97	67-126	
1,2-Dichlorobenzene	mg/kg	.05	0.047	95	73-122	
1,2-Dichloroethane	mg/kg	.05	0.051	102	73-127	
1,2-Dichloropropane	mg/kg	.05	0.051	101	75-118	
1,3,5-Trimethylbenzene	mg/kg	.05	0.048	95	65-127	

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QUALITY CONTROL DATA

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095061

LABORATORY CONTROL SAMPLE: 1069398

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,3-Dichlorobenzene	mg/kg	.05	0.047	94	73-121	
1,3-Dichloropropane	mg/kg	.05	0.049	97	72-121	
1,4-Dichlorobenzene	mg/kg	.05	0.047	94	75-119	
2,2-Dichloropropane	mg/kg	.05	0.052	104	63-122	
2-Butanone (MEK)	mg/kg	.25	0.26	104	59-139	
2-Chlorotoluene	mg/kg	.05	0.048	96	72-121	
2-Hexanone	mg/kg	.25	0.27	108	56-139	
4-Chlorotoluene	mg/kg	.05	0.048	96	75-123	
4-Methyl-2-pentanone (MIBK)	mg/kg	.25	0.27	109	63-136	
Acetone	mg/kg	.25	0.32	127	46-156	
Acrolein	mg/kg	1	1.2	123	47-200	
Benzene	mg/kg	.05	0.046	91	74-119	
Bromobenzene	mg/kg	.05	0.047	95	69-129	
Bromochloromethane	mg/kg	.05	0.056	112	67-129	
Bromodichloromethane	mg/kg	.05	0.053	107	68-121	
Bromoform	mg/kg	.05	0.045	89	49-124	
Bromomethane	mg/kg	.05	0.048	95	44-142	
Carbon disulfide	mg/kg	.1	0.089	89	61-129	
Carbon tetrachloride	mg/kg	.05	0.053	106	58-127	
Chlorobenzene	mg/kg	.05	0.047	94	77-122	
Chloroethane	mg/kg	.05	0.044	88	59-141	
Chloroform	mg/kg	.05	0.048	97	75-124	
Chloromethane	mg/kg	.05	0.041	82	46-133	
cis-1,2-Dichloroethene	mg/kg	.05	0.049	98	72-122	
cis-1,3-Dichloropropene	mg/kg	.05	0.054	107	68-115	
Dibromochloromethane	mg/kg	.05	0.052	103	60-121	
Dibromomethane	mg/kg	.05	0.052	104	72-124	
Dichlorodifluoromethane	mg/kg	.05	0.043	85	26-186	
Ethyl methacrylate	mg/kg	.2	0.22	109	63-130	
Ethylbenzene	mg/kg	.05	0.048	96	72-123	
Iodomethane	mg/kg	.1	.083J	83	38-149	
Isopropylbenzene (Cumene)	mg/kg	.05	0.043	86	65-123	
Methyl-tert-butyl ether	mg/kg	.1	0.11	110	68-120	
Methylene Chloride	mg/kg	.05	0.046	92	57-142	
n-Butylbenzene	mg/kg	.05	0.048	97	68-125	
n-Propylbenzene	mg/kg	.05	0.047	94	68-122	
p-Isopropyltoluene	mg/kg	.05	0.049	98	66-133	
sec-Butylbenzene	mg/kg	.05	0.048	95	64-131	
Styrene	mg/kg	.05	0.049	98	70-126	
tert-Butylbenzene	mg/kg	.05	0.046	93	46-124	
Tetrachloroethene	mg/kg	.05	0.045	89	72-126	
Toluene	mg/kg	.05	0.047	94	71-121	
trans-1,2-Dichloroethene	mg/kg	.05	0.042	84	69-123	
trans-1,3-Dichloropropene	mg/kg	.05	0.057	114	66-114	
trans-1,4-Dichloro-2-butene	mg/kg	.2	0.22	110	61-124	
Trichloroethene	mg/kg	.05	0.051	102	74-123	
Trichlorofluoromethane	mg/kg	.05	0.046	91	72-146	
Vinyl acetate	mg/kg	.2	0.19	97	57-131	

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

QUALITY CONTROL DATA

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095061

LABORATORY CONTROL SAMPLE: 1069398

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Vinyl chloride	mg/kg	.05	0.043	86	55-128	
Xylene (Total)	mg/kg	.15	0.14	93	66-124	
4-Bromofluorobenzene (S)	%.			101	56-144	
Dibromofluoromethane (S)	%.			100	85-118	
Toluene-d8 (S)	%.			97	71-128	

MATRIX SPIKE SAMPLE: 1069399

Parameter	Units	5095061001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	mg/kg	ND	.065	0.072	111	10-129	
1,1,1-Trichloroethane	mg/kg	ND	.065	0.067	103	26-143	
1,1,2,2-Tetrachloroethane	mg/kg	ND	.065	0.082	125	10-156	
1,1,2-Trichloroethane	mg/kg	ND	.065	0.067	102	13-156	
1,1-Dichloroethane	mg/kg	ND	.065	0.063	97	36-150	
1,1-Dichloroethene	mg/kg	ND	.065	0.054	83	31-146	
1,1-Dichloropropene	mg/kg	ND	.065	0.053	81	26-145	
1,2,3-Trichlorobenzene	mg/kg	ND	.065	0.031	47	10-119	
1,2,4-Trichlorobenzene	mg/kg	ND	.065	0.027	41	10-122	
1,2,4-Trimethylbenzene	mg/kg	ND	.065	0.069	106	10-139	
1,2-Dichlorobenzene	mg/kg	ND	.065	0.047	73	10-132	
1,2-Dichloroethane	mg/kg	ND	.065	0.059	90	30-140	
1,2-Dichloropropane	mg/kg	ND	.065	0.065	99	29-135	
1,3,5-Trimethylbenzene	mg/kg	ND	.065	0.074	114	10-143	
1,3-Dichlorobenzene	mg/kg	ND	.065	0.043	65	10-130	
1,3-Dichloropropane	mg/kg	ND	.065	0.060	92	17-139	
1,4-Dichlorobenzene	mg/kg	ND	.065	0.039	60	10-128	
2,2-Dichloropropane	mg/kg	ND	.065	0.075	114	29-136	
2-Butanone (MEK)	mg/kg	ND	.33	0.53	162	22-176	
2-Chlorotoluene	mg/kg	ND	.065	0.065	99	10-146	
2-Hexanone	mg/kg	ND	.33	0.51	156	12-165	
4-Chlorotoluene	mg/kg	ND	.065	0.052	79	10-138	
4-Methyl-2-pentanone (MIBK)	mg/kg	ND	.33	0.39	120	22-155	
Acetone	mg/kg	ND	.33	0.98	301	11-200	L3
Acrolein	mg/kg	ND	1.3	1.5	114	10-200	
Benzene	mg/kg	ND	.065	0.057	88	27-140	
Bromobenzene	mg/kg	ND	.065	0.041	63	10-133	
Bromochloromethane	mg/kg	ND	.065	0.066	102	28-142	
Bromodichloromethane	mg/kg	ND	.065	0.061	93	13-139	
Bromoform	mg/kg	ND	.065	0.051	79	10-122	
Bromomethane	mg/kg	ND	.065	0.059	90	10-154	
Carbon disulfide	mg/kg	ND	.13	0.062	47	20-142	
Carbon tetrachloride	mg/kg	ND	.065	0.066	101	19-135	
Chlorobenzene	mg/kg	ND	.065	0.048	74	10-136	
Chloroethane	mg/kg	ND	.065	0.059	91	24-161	
Chloroform	mg/kg	ND	.065	0.063	96	36-138	
Chloromethane	mg/kg	ND	.065	0.054	83	28-143	
cis-1,2-Dichloroethene	mg/kg	ND	.065	0.051	78	29-136	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095061

MATRIX SPIKE SAMPLE: 1069399

Parameter	Units	5095061001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
cis-1,3-Dichloropropene	mg/kg	ND	.065	0.054	83	10-130	
Dibromochloromethane	mg/kg	ND	.065	0.056	87	10-124	
Dibromomethane	mg/kg	ND	.065	0.051	79	24-136	
Dichlorodifluoromethane	mg/kg	ND	.065	0.062	95	15-187	
Ethyl methacrylate	mg/kg	ND	.26	0.26	100	10-147	
Ethylbenzene	mg/kg	ND	.065	0.059	91	10-144	
Iodomethane	mg/kg	ND	.13	.11J	86	10-155	
Isopropylbenzene (Cumene)	mg/kg	ND	.065	0.058	88	10-134	
Methyl-tert-butyl ether	mg/kg	ND	.13	0.15	118	30-147	
Methylene Chloride	mg/kg	ND	.065	0.069	105	23-150	
n-Butylbenzene	mg/kg	ND	.065	0.056	86	10-141	
n-Propylbenzene	mg/kg	ND	.065	0.066	102	10-143	
p-Isopropyltoluene	mg/kg	ND	.065	0.073	112	10-146	
sec-Butylbenzene	mg/kg	ND	.065	0.073	113	10-150	
Styrene	mg/kg	ND	.065	0.044	67	10-138	
tert-Butylbenzene	mg/kg	ND	.065	0.079	122	10-135	
Tetrachloroethene	mg/kg	ND	.065	0.057	88	10-153	
Toluene	mg/kg	ND	.065	0.060	92	10-140	
trans-1,2-Dichloroethene	mg/kg	ND	.065	0.038	59	28-139	
trans-1,3-Dichloropropene	mg/kg	ND	.065	0.045	69	10-126	
trans-1,4-Dichloro-2-butene	mg/kg	ND	.26	0.17	64	10-132	
Trichloroethene	mg/kg	ND	.065	0.055	84	17-148	
Trichlorofluoromethane	mg/kg	ND	.065	0.064	97	31-177	
Vinyl acetate	mg/kg	ND	.26	0.17	67	10-131	
Vinyl chloride	mg/kg	ND	.065	0.050	77	30-145	
Xylene (Total)	mg/kg	ND	.2	0.17	87	10-143	
4-Bromofluorobenzene (S)	%.				89	56-144	
Dibromofluoromethane (S)	%.				100	85-118	
Toluene-d8 (S)	%.				107	71-128	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095061

QC Batch: MSV/63043
QC Batch Method: EPA 8260
Analysis Method: EPA 8260
Analysis Description: 8260 MSV 5030 Low
Associated Lab Samples: 5095061003

METHOD BLANK: 1070653
Matrix: Solid
Associated Lab Samples: 5095061003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	mg/kg	ND	0.0050	03/28/14 15:15	
1,1,1-Trichloroethane	mg/kg	ND	0.0050	03/28/14 15:15	
1,1,2,2-Tetrachloroethane	mg/kg	ND	0.0050	03/28/14 15:15	
1,1,2-Trichloroethane	mg/kg	ND	0.0050	03/28/14 15:15	
1,1-Dichloroethane	mg/kg	ND	0.0050	03/28/14 15:15	
1,1-Dichloroethene	mg/kg	ND	0.0050	03/28/14 15:15	
1,1-Dichloropropene	mg/kg	ND	0.0050	03/28/14 15:15	
1,2,3-Trichlorobenzene	mg/kg	ND	0.0050	03/28/14 15:15	
1,2,4-Trichlorobenzene	mg/kg	ND	0.0050	03/28/14 15:15	
1,2,4-Trimethylbenzene	mg/kg	ND	0.0050	03/28/14 15:15	
1,2-Dichlorobenzene	mg/kg	ND	0.0050	03/28/14 15:15	
1,2-Dichloroethane	mg/kg	ND	0.0050	03/28/14 15:15	
1,2-Dichloropropane	mg/kg	ND	0.0050	03/28/14 15:15	
1,3,5-Trimethylbenzene	mg/kg	ND	0.0050	03/28/14 15:15	
1,3-Dichlorobenzene	mg/kg	ND	0.0050	03/28/14 15:15	
1,3-Dichloropropane	mg/kg	ND	0.0050	03/28/14 15:15	
1,4-Dichlorobenzene	mg/kg	ND	0.0050	03/28/14 15:15	
2,2-Dichloropropane	mg/kg	ND	0.0050	03/28/14 15:15	
2-Butanone (MEK)	mg/kg	ND	0.025	03/28/14 15:15	
2-Chlorotoluene	mg/kg	ND	0.0050	03/28/14 15:15	
2-Hexanone	mg/kg	ND	0.10	03/28/14 15:15	
4-Chlorotoluene	mg/kg	ND	0.0050	03/28/14 15:15	
4-Methyl-2-pentanone (MIBK)	mg/kg	ND	0.025	03/28/14 15:15	
Acetone	mg/kg	ND	0.10	03/28/14 15:15	
Acrolein	mg/kg	ND	0.10	03/28/14 15:15	
Benzene	mg/kg	ND	0.0050	03/28/14 15:15	
Bromobenzene	mg/kg	ND	0.0050	03/28/14 15:15	
Bromochloromethane	mg/kg	ND	0.0050	03/28/14 15:15	
Bromodichloromethane	mg/kg	ND	0.0050	03/28/14 15:15	
Bromoform	mg/kg	ND	0.0050	03/28/14 15:15	
Bromomethane	mg/kg	ND	0.0050	03/28/14 15:15	
Carbon disulfide	mg/kg	ND	0.010	03/28/14 15:15	
Carbon tetrachloride	mg/kg	ND	0.0050	03/28/14 15:15	
Chlorobenzene	mg/kg	ND	0.0050	03/28/14 15:15	
Chloroethane	mg/kg	ND	0.0050	03/28/14 15:15	
Chloroform	mg/kg	ND	0.0050	03/28/14 15:15	
Chloromethane	mg/kg	ND	0.0050	03/28/14 15:15	
cis-1,2-Dichloroethene	mg/kg	ND	0.0050	03/28/14 15:15	
cis-1,3-Dichloropropene	mg/kg	ND	0.0050	03/28/14 15:15	
Dibromochloromethane	mg/kg	ND	0.0050	03/28/14 15:15	
Dibromomethane	mg/kg	ND	0.0050	03/28/14 15:15	
Dichlorodifluoromethane	mg/kg	ND	0.0050	03/28/14 15:15	
Ethyl methacrylate	mg/kg	ND	0.10	03/28/14 15:15	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095061

METHOD BLANK: 1070653 Matrix: Solid
Associated Lab Samples: 5095061003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Ethylbenzene	mg/kg	ND	0.0050	03/28/14 15:15	
Iodomethane	mg/kg	ND	0.10	03/28/14 15:15	
Isopropylbenzene (Cumene)	mg/kg	ND	0.0050	03/28/14 15:15	
Methyl-tert-butyl ether	mg/kg	ND	0.0050	03/28/14 15:15	
Methylene Chloride	mg/kg	ND	0.020	03/28/14 15:15	
n-Butylbenzene	mg/kg	ND	0.0050	03/28/14 15:15	
n-Propylbenzene	mg/kg	ND	0.0050	03/28/14 15:15	
p-Isopropyltoluene	mg/kg	ND	0.0050	03/28/14 15:15	
sec-Butylbenzene	mg/kg	ND	0.0050	03/28/14 15:15	
Styrene	mg/kg	ND	0.0050	03/28/14 15:15	
tert-Butylbenzene	mg/kg	ND	0.0050	03/28/14 15:15	
Tetrachloroethene	mg/kg	ND	0.0050	03/28/14 15:15	
Toluene	mg/kg	ND	0.0050	03/28/14 15:15	
trans-1,2-Dichloroethene	mg/kg	ND	0.0050	03/28/14 15:15	
trans-1,3-Dichloropropene	mg/kg	ND	0.0050	03/28/14 15:15	
trans-1,4-Dichloro-2-butene	mg/kg	ND	0.10	03/28/14 15:15	
Trichloroethene	mg/kg	ND	0.0050	03/28/14 15:15	
Trichlorofluoromethane	mg/kg	ND	0.0050	03/28/14 15:15	
Vinyl acetate	mg/kg	ND	0.10	03/28/14 15:15	
Vinyl chloride	mg/kg	ND	0.0050	03/28/14 15:15	
Xylene (Total)	mg/kg	ND	0.010	03/28/14 15:15	
4-Bromofluorobenzene (S)	%.	99	56-144	03/28/14 15:15	
Dibromofluoromethane (S)	%.	98	85-118	03/28/14 15:15	
Toluene-d8 (S)	%.	100	71-128	03/28/14 15:15	

LABORATORY CONTROL SAMPLE: 1070654

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	mg/kg	.05	0.053	107	62-123	
1,1,1-Trichloroethane	mg/kg	.05	0.050	100	70-123	
1,1,2,2-Tetrachloroethane	mg/kg	.05	0.053	106	65-124	
1,1,2-Trichloroethane	mg/kg	.05	0.051	102	74-129	
1,1-Dichloroethane	mg/kg	.05	0.047	95	73-130	
1,1-Dichloroethene	mg/kg	.05	0.044	88	66-126	
1,1-Dichloropropene	mg/kg	.05	0.048	96	78-125	
1,2,3-Trichlorobenzene	mg/kg	.05	0.048	95	66-131	
1,2,4-Trichlorobenzene	mg/kg	.05	0.048	95	68-129	
1,2,4-Trimethylbenzene	mg/kg	.05	0.049	99	67-126	
1,2-Dichlorobenzene	mg/kg	.05	0.048	96	73-122	
1,2-Dichloroethane	mg/kg	.05	0.051	101	73-127	
1,2-Dichloropropane	mg/kg	.05	0.051	102	75-118	
1,3,5-Trimethylbenzene	mg/kg	.05	0.049	98	65-127	
1,3-Dichlorobenzene	mg/kg	.05	0.048	96	73-121	
1,3-Dichloropropane	mg/kg	.05	0.049	98	72-121	
1,4-Dichlorobenzene	mg/kg	.05	0.048	96	75-119	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095061

LABORATORY CONTROL SAMPLE: 1070654

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2,2-Dichloropropane	mg/kg	.05	0.053	105	63-122	
2-Butanone (MEK)	mg/kg	.25	0.25	100	59-139	
2-Chlorotoluene	mg/kg	.05	0.049	99	72-121	
2-Hexanone	mg/kg	.25	0.26	104	56-139	
4-Chlorotoluene	mg/kg	.05	0.050	99	75-123	
4-Methyl-2-pentanone (MIBK)	mg/kg	.25	0.26	104	63-136	
Acetone	mg/kg	.25	0.31	125	46-156	
Acrolein	mg/kg	1	1.2	120	47-200	
Benzene	mg/kg	.05	0.046	93	74-119	
Bromobenzene	mg/kg	.05	0.048	97	69-129	
Bromochloromethane	mg/kg	.05	0.060	121	67-129	
Bromodichloromethane	mg/kg	.05	0.053	106	68-121	
Bromoform	mg/kg	.05	0.042	84	49-124	
Bromomethane	mg/kg	.05	0.032	63	44-142	
Carbon disulfide	mg/kg	.1	0.089	89	61-129	
Carbon tetrachloride	mg/kg	.05	0.051	103	58-127	
Chlorobenzene	mg/kg	.05	0.047	94	77-122	
Chloroethane	mg/kg	.05	0.044	88	59-141	
Chloroform	mg/kg	.05	0.050	100	75-124	
Chloromethane	mg/kg	.05	0.038	76	46-133	
cis-1,2-Dichloroethene	mg/kg	.05	0.050	101	72-122	
cis-1,3-Dichloropropene	mg/kg	.05	0.052	104	68-115	
Dibromochloromethane	mg/kg	.05	0.050	99	60-121	
Dibromomethane	mg/kg	.05	0.051	103	72-124	
Dichlorodifluoromethane	mg/kg	.05	0.040	79	26-186	
Ethyl methacrylate	mg/kg	.2	0.21	106	63-130	
Ethylbenzene	mg/kg	.05	0.049	98	72-123	
Iodomethane	mg/kg	.1	ND	48	38-149	
Isopropylbenzene (Cumene)	mg/kg	.05	0.044	88	65-123	
Methyl-tert-butyl ether	mg/kg	.1	0.11	108	68-120	
Methylene Chloride	mg/kg	.05	0.047	93	57-142	
n-Butylbenzene	mg/kg	.05	0.049	99	68-125	
n-Propylbenzene	mg/kg	.05	0.049	97	68-122	
p-Isopropyltoluene	mg/kg	.05	0.050	101	66-133	
sec-Butylbenzene	mg/kg	.05	0.049	99	64-131	
Styrene	mg/kg	.05	0.049	99	70-126	
tert-Butylbenzene	mg/kg	.05	0.048	96	46-124	
Tetrachloroethene	mg/kg	.05	0.046	91	72-126	
Toluene	mg/kg	.05	0.048	96	71-121	
trans-1,2-Dichloroethene	mg/kg	.05	0.043	86	69-123	
trans-1,3-Dichloropropene	mg/kg	.05	0.055	110	66-114	
trans-1,4-Dichloro-2-butene	mg/kg	.2	0.19	97	61-124	
Trichloroethene	mg/kg	.05	0.052	104	74-123	
Trichlorofluoromethane	mg/kg	.05	0.044	89	72-146	
Vinyl acetate	mg/kg	.2	0.19	95	57-131	
Vinyl chloride	mg/kg	.05	0.041	82	55-128	
Xylene (Total)	mg/kg	.15	0.14	94	66-124	
4-Bromofluorobenzene (S)	%.			99	56-144	

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QUALITY CONTROL DATA

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095061

LABORATORY CONTROL SAMPLE: 1070654

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Dibromofluoromethane (S)	%.			98	85-118	
Toluene-d8 (S)	%.			97	71-128	

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QUALITY CONTROL DATA

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095061

QC Batch: OEXT/35364 Analysis Method: EPA 8015 Mod Ext
QC Batch Method: EPA 3546 Analysis Description: EPA 8015 TPH Ohio
Associated Lab Samples: 5095061001, 5095061003, 5095061004, 5095061005, 5095061006, 5095061007, 5095061008

METHOD BLANK: 1067208 Matrix: Solid
Associated Lab Samples: 5095061001, 5095061003, 5095061004, 5095061005, 5095061006, 5095061007, 5095061008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/kg	ND	20.0	03/27/14 12:03	
TPH (C10-C20)	mg/kg	ND	10.0	03/27/14 12:03	
TPH (C20-C34)	mg/kg	ND	10.0	03/27/14 12:03	
n-Pentacosane (S)	%.	64	30-153	03/27/14 12:03	

LABORATORY CONTROL SAMPLE: 1067209

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/kg	83.3	43.5	52	43-88	
n-Pentacosane (S)	%.			58	30-153	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1067210 1067211

Parameter	Units	5095059001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Total Petroleum Hydrocarbons	mg/kg	<23.5	97.8	96.8	49.9	53.4	49	53	10-136	7	20	
n-Pentacosane (S)	%.						61	65	30-153			

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QUALITY CONTROL DATA

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095061

QC Batch: OEXT/35374 Analysis Method: EPA 8015 Mod Ext
QC Batch Method: EPA 3546 Analysis Description: EPA 8015 TPH Ohio
Associated Lab Samples: 5095061002, 5095061009, 5095061010, 5095061011

METHOD BLANK: 1067971 Matrix: Solid
Associated Lab Samples: 5095061002, 5095061009, 5095061010, 5095061011

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/kg	ND	20.0	03/26/14 16:46	
TPH (C10-C20)	mg/kg	ND	10.0	03/26/14 16:46	
TPH (C20-C34)	mg/kg	ND	10.0	03/26/14 16:46	
n-Pentacosane (S)	%.	71	30-153	03/26/14 16:46	

LABORATORY CONTROL SAMPLE: 1067972

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/kg	83.3	52.4	63	43-88	
n-Pentacosane (S)	%.			70	30-153	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1068003 1068004

Parameter	Units	5095061010 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Total Petroleum Hydrocarbons	mg/kg	ND	106	105	64.8	66.7	59	61	10-136	3	20	
n-Pentacosane (S)	%.						62	68	30-153			

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QUALITY CONTROL DATA

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095061

QC Batch: OEXT/35365 Analysis Method: EPA 8270
QC Batch Method: EPA 3546 Analysis Description: 8270 Solid MSSV Microwave Short Spike
Associated Lab Samples: 5095061001, 5095061002, 5095061003, 5095061004, 5095061005, 5095061006, 5095061007, 5095061008, 5095061009, 5095061010, 5095061011

METHOD BLANK: 1067212 Matrix: Solid
Associated Lab Samples: 5095061001, 5095061002, 5095061003, 5095061004, 5095061005, 5095061006, 5095061007, 5095061008, 5095061009, 5095061010, 5095061011

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
2,4,5-Trichlorophenol	ug/kg	ND	330	03/25/14 17:37	
2,4,6-Trichlorophenol	ug/kg	ND	330	03/25/14 17:37	
2,4-Dichlorophenol	ug/kg	ND	330	03/25/14 17:37	
2,4-Dimethylphenol	ug/kg	ND	330	03/25/14 17:37	
2,4-Dinitrophenol	ug/kg	ND	1600	03/25/14 17:37	
2,4-Dinitrotoluene	ug/kg	ND	330	03/25/14 17:37	
2,6-Dinitrotoluene	ug/kg	ND	330	03/25/14 17:37	
2-Chloronaphthalene	ug/kg	ND	330	03/25/14 17:37	
2-Chlorophenol	ug/kg	ND	330	03/25/14 17:37	
2-Methylnaphthalene	ug/kg	ND	330	03/25/14 17:37	
2-Methylphenol(o-Cresol)	ug/kg	ND	330	03/25/14 17:37	
2-Nitroaniline	ug/kg	ND	1600	03/25/14 17:37	
2-Nitrophenol	ug/kg	ND	330	03/25/14 17:37	
3&4-Methylphenol(m&p Cresol)	ug/kg	ND	660	03/25/14 17:37	
3-Nitroaniline	ug/kg	ND	1600	03/25/14 17:37	
4,6-Dinitro-2-methylphenol	ug/kg	ND	1600	03/25/14 17:37	
4-Bromophenylphenyl ether	ug/kg	ND	330	03/25/14 17:37	
4-Chloro-3-methylphenol	ug/kg	ND	660	03/25/14 17:37	
4-Chloroaniline	ug/kg	ND	660	03/25/14 17:37	
4-Chlorophenylphenyl ether	ug/kg	ND	330	03/25/14 17:37	
4-Nitroaniline	ug/kg	ND	1600	03/25/14 17:37	
4-Nitrophenol	ug/kg	ND	1600	03/25/14 17:37	
Acenaphthene	ug/kg	ND	330	03/25/14 17:37	
Acenaphthylene	ug/kg	ND	330	03/25/14 17:37	
Anthracene	ug/kg	ND	330	03/25/14 17:37	
Benzo(a)anthracene	ug/kg	ND	330	03/25/14 17:37	
Benzo(a)pyrene	ug/kg	ND	170	03/25/14 17:37	
Benzo(b)fluoranthene	ug/kg	ND	330	03/25/14 17:37	
Benzo(g,h,i)perylene	ug/kg	ND	330	03/25/14 17:37	
Benzo(k)fluoranthene	ug/kg	ND	330	03/25/14 17:37	
Benzyl alcohol	ug/kg	ND	660	03/25/14 17:37	
bis(2-Chloroethoxy)methane	ug/kg	ND	330	03/25/14 17:37	
bis(2-Chloroethyl) ether	ug/kg	ND	330	03/25/14 17:37	
bis(2-Chloroisopropyl) ether	ug/kg	ND	330	03/25/14 17:37	
bis(2-Ethylhexyl)phthalate	ug/kg	ND	330	03/25/14 17:37	
Butylbenzylphthalate	ug/kg	ND	330	03/25/14 17:37	
Chrysene	ug/kg	ND	330	03/25/14 17:37	
Di-n-butylphthalate	ug/kg	ND	330	03/25/14 17:37	
Di-n-octylphthalate	ug/kg	ND	330	03/25/14 17:37	
Dibenz(a,h)anthracene	ug/kg	ND	170	03/25/14 17:37	
Dibenzofuran	ug/kg	ND	330	03/25/14 17:37	

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QUALITY CONTROL DATA

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095061

METHOD BLANK: 1067212 Matrix: Solid

Associated Lab Samples: 5095061001, 5095061002, 5095061003, 5095061004, 5095061005, 5095061006, 5095061007, 5095061008, 5095061009, 5095061010, 5095061011

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diethylphthalate	ug/kg	ND	330	03/25/14 17:37	
Dimethylphthalate	ug/kg	ND	330	03/25/14 17:37	
Fluoranthene	ug/kg	ND	330	03/25/14 17:37	
Fluorene	ug/kg	ND	330	03/25/14 17:37	
Hexachlorocyclopentadiene	ug/kg	ND	330	03/25/14 17:37	
Hexachloroethane	ug/kg	ND	330	03/25/14 17:37	
Indeno(1,2,3-cd)pyrene	ug/kg	ND	330	03/25/14 17:37	
Isophorone	ug/kg	ND	330	03/25/14 17:37	
N-Nitroso-di-n-propylamine	ug/kg	ND	330	03/25/14 17:37	
N-Nitrosodiphenylamine	ug/kg	ND	330	03/25/14 17:37	
Naphthalene	ug/kg	ND	330	03/25/14 17:37	
Nitrobenzene	ug/kg	ND	330	03/25/14 17:37	
Phenanthrene	ug/kg	ND	330	03/25/14 17:37	
Phenol	ug/kg	ND	330	03/25/14 17:37	
Pyrene	ug/kg	ND	330	03/25/14 17:37	
2,4,6-Tribromophenol (S)	%.	74	16-122	03/25/14 17:37	
2-Fluorobiphenyl (S)	%.	70	31-94	03/25/14 17:37	
2-Fluorophenol (S)	%.	70	24-104	03/25/14 17:37	
Nitrobenzene-d5 (S)	%.	68	28-101	03/25/14 17:37	
p-Terphenyl-d14 (S)	%.	96	26-110	03/25/14 17:37	
Phenol-d5 (S)	%.	70	28-101	03/25/14 17:37	

LABORATORY CONTROL SAMPLE: 1067213

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2,4-Dinitrotoluene	ug/kg	3330	2410	72	39-103	
2-Chlorophenol	ug/kg	3330	2220	67	38-96	
2-Methylnaphthalene	ug/kg	3330	2390	72	36-94	
4-Chloro-3-methylphenol	ug/kg	3330	2440	73	38-104	
4-Nitrophenol	ug/kg	3330	2350	70	34-104	
Acenaphthene	ug/kg	3330	2190	66	43-99	
Acenaphthylene	ug/kg	3330	2260	68	42-101	
Anthracene	ug/kg	3330	2430	73	46-107	
Benzo(a)anthracene	ug/kg	3330	2500	75	45-108	
Benzo(a)pyrene	ug/kg	3330	2360	71	47-113	
Benzo(b)fluoranthene	ug/kg	3330	2210	66	41-110	
Benzo(g,h,i)perylene	ug/kg	3330	2290	69	42-112	
Benzo(k)fluoranthene	ug/kg	3330	2160	65	44-107	
Chrysene	ug/kg	3330	2470	74	43-103	
Dibenz(a,h)anthracene	ug/kg	3330	2340	70	43-110	
Fluoranthene	ug/kg	3330	2520	76	45-105	
Fluorene	ug/kg	3330	2480	74	42-103	
Indeno(1,2,3-cd)pyrene	ug/kg	3330	2290	69	43-111	
N-Nitroso-di-n-propylamine	ug/kg	3330	2140	64	37-96	

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QUALITY CONTROL DATA

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095061

LABORATORY CONTROL SAMPLE: 1067213

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Naphthalene	ug/kg	3330	2090	63	44-100	
Phenanthrene	ug/kg	3330	2480	74	44-104	
Phenol	ug/kg	3330	2270	68	37-101	
Pyrene	ug/kg	3330	2590	78	44-105	
2,4,6-Tribromophenol (S)	%.			75	16-122	
2-Fluorobiphenyl (S)	%.			70	31-94	
2-Fluorophenol (S)	%.			69	24-104	
Nitrobenzene-d5 (S)	%.			66	28-101	
p-Terphenyl-d14 (S)	%.			94	26-110	
Phenol-d5 (S)	%.			69	28-101	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1067236 1067237

Parameter	Units	5095061002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
2,4-Dinitrotoluene	ug/kg	ND	4320	4320	2320	2700	54	62	15-102	15	20	
2-Chlorophenol	ug/kg	ND	4320	4320	2710	2940	63	68	22-96	8	20	
2-Methylnaphthalene	ug/kg	ND	4320	4320	2840	3090	66	71	14-107	8	20	
4-Chloro-3-methylphenol	ug/kg	ND	4320	4320	2780	3050	64	70	21-105	9	20	
4-Nitrophenol	ug/kg	ND	4320	4320	2600	3040	60	70	12-107	16	20	
Acenaphthene	ug/kg	ND	4320	4320	2460	2750	57	64	19-110	11	20	
Acenaphthylene	ug/kg	ND	4320	4320	2510	2810	58	65	21-106	11	20	
Anthracene	ug/kg	ND	4320	4320	2600	3000	60	69	22-112	14	20	
Benzo(a)anthracene	ug/kg	ND	4320	4320	2500	3050	58	70	13-116	20	20	
Benzo(a)pyrene	ug/kg	ND	4320	4320	2320	2870	54	66	11-119	21	20	R1
Benzo(b)fluoranthene	ug/kg	ND	4320	4320	2130	2850	49	66	10-126	29	20	R1
Benzo(g,h,i)perylene	ug/kg	ND	4320	4320	1940	2370	45	55	10-114	20	20	
Benzo(k)fluoranthene	ug/kg	ND	4320	4320	2340	2640	54	61	10-117	12	20	
Chrysene	ug/kg	ND	4320	4320	2470	3000	57	69	14-107	19	20	
Dibenz(a,h)anthracene	ug/kg	ND	4320	4320	2120	2530	49	59	10-119	18	20	
Fluoranthene	ug/kg	ND	4320	4320	2650	3080	61	71	17-110	15	20	
Fluorene	ug/kg	ND	4320	4320	2720	3030	63	70	17-115	11	20	
Indeno(1,2,3-cd)pyrene	ug/kg	ND	4320	4320	2030	2450	47	57	11-111	19	20	
N-Nitroso-di-n-propylamine	ug/kg	ND	4320	4320	2590	2790	60	64	18-103	7	20	
Naphthalene	ug/kg	ND	4320	4320	2520	2700	58	62	16-102	7	20	
Phenanthrene	ug/kg	ND	4320	4320	2670	3060	62	71	10-128	14	20	
Phenol	ug/kg	ND	4320	4320	2770	3080	64	71	22-97	10	20	
Pyrene	ug/kg	ND	4320	4320	2680	3150	62	73	10-123	16	20	
2,4,6-Tribromophenol (S)	%.						68	77	16-122			
2-Fluorobiphenyl (S)	%.						61	67	31-94			
2-Fluorophenol (S)	%.						65	70	24-104			
Nitrobenzene-d5 (S)	%.						56	62	26-98			
p-Terphenyl-d14 (S)	%.						71	82	26-110			
Phenol-d5 (S)	%.						65	72	28-101			

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QUALITY CONTROL DATA

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095061

QC Batch: PMST/9265 Analysis Method: ASTM D2974-87
QC Batch Method: ASTM D2974-87 Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 5095061001, 5095061002, 5095061003, 5095061004, 5095061005, 5095061006, 5095061007, 5095061008, 5095061009, 5095061010, 5095061011

SAMPLE DUPLICATE: 1067020

Parameter	Units	5095061001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	23.3	24.1	3	5	

SAMPLE DUPLICATE: 1067021

Parameter	Units	5095061010 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	21.4	22.0	2	5	

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QUALIFIERS

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095061

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

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TNI - The NELAC Institute.

LABORATORIES

PASI-I	Pace Analytical Services - Indianapolis

ANALYTE QUALIFIERS

1d	Due to the extract's physical characteristics, the analysis was performed at dilution. NJ 3-26-14
L3	Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.
M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
R1	RPD value was outside control limits.
S3	Surrogate recovery exceeded laboratory control limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.
S4	Surrogate recovery not evaluated against control limits due to sample dilution.

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METHOD CROSS REFERENCE TABLE

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095061

Parameter	Matrix	Analytical Method	Preparation Method
8015 GRO 5035	Solid	SW-846 8015B	SW-846 5035A
8015 Gasoline Range Organics	Solid	SW-846 8015A	SW-846 5030A
8015 TPH Ohio Microwave	Solid	SW-846 8015B	SW-846 3546
8260 MSV 5030 Low Level	Solid	SW-846 8260A	SW-846 5030A
8270 MSSV SHORT LIST MICROWAVE	Solid	SW-846 8270C	SW-846 3546

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095061

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
5095061001	65-SB-1 10-12'	EPA 3546	OEXT/35364	EPA 8015 Mod Ext	GCSV/12271
5095061002	65-SB-2 8-12'	EPA 3546	OEXT/35374	EPA 8015 Mod Ext	GCSV/12276
5095061003	65-SB-4 4-6'	EPA 3546	OEXT/35364	EPA 8015 Mod Ext	GCSV/12271
5095061004	65-SB-5 4-8'	EPA 3546	OEXT/35364	EPA 8015 Mod Ext	GCSV/12271
5095061005	65-SB-6 8-10'	EPA 3546	OEXT/35364	EPA 8015 Mod Ext	GCSV/12271
5095061006	58-SB-1 2-4'	EPA 3546	OEXT/35364	EPA 8015 Mod Ext	GCSV/12271
5095061007	58-SB-2 2-4'	EPA 3546	OEXT/35364	EPA 8015 Mod Ext	GCSV/12271
5095061008	58-SB-3 6-8'	EPA 3546	OEXT/35364	EPA 8015 Mod Ext	GCSV/12271
5095061009	58-SB-4 2-4'	EPA 3546	OEXT/35374	EPA 8015 Mod Ext	GCSV/12276
5095061010	58-SB-5 4-6'	EPA 3546	OEXT/35374	EPA 8015 Mod Ext	GCSV/12276
5095061011	58-SB-6 6-8'	EPA 3546	OEXT/35374	EPA 8015 Mod Ext	GCSV/12276
5095061001	65-SB-1 10-12'	EPA 8015 Mod Pur	GCV/17838		
5095061002	65-SB-2 8-12'	EPA 8015 Mod Pur	GCV/17838		
5095061003	65-SB-4 4-6'	EPA 8015 Mod Pur	GCV/17838		
5095061004	65-SB-5 4-8'	EPA 8015 Mod Pur	GCV/17838		
5095061005	65-SB-6 8-10'	EPA 8015 Mod Pur	GCV/17838		
5095061006	58-SB-1 2-4'	EPA 8015 Mod Pur	GCV/17838		
5095061007	58-SB-2 2-4'	EPA 8015 Mod Pur	GCV/17838		
5095061008	58-SB-3 6-8'	EPA 8015 Mod Pur	GCV/17848		
5095061009	58-SB-4 2-4'	EPA 8015 Mod Pur	GCV/17840		
5095061010	58-SB-5 4-6'	EPA 8015 Mod Pur	GCV/17840		
5095061011	58-SB-6 6-8'	EPA 8015 Mod Pur	GCV/17840		
5095061001	65-SB-1 10-12'	EPA 3546	OEXT/35365	EPA 8270	MSSV/14864
5095061002	65-SB-2 8-12'	EPA 3546	OEXT/35365	EPA 8270	MSSV/14864
5095061003	65-SB-4 4-6'	EPA 3546	OEXT/35365	EPA 8270	MSSV/14864
5095061004	65-SB-5 4-8'	EPA 3546	OEXT/35365	EPA 8270	MSSV/14864
5095061005	65-SB-6 8-10'	EPA 3546	OEXT/35365	EPA 8270	MSSV/14864
5095061006	58-SB-1 2-4'	EPA 3546	OEXT/35365	EPA 8270	MSSV/14864
5095061007	58-SB-2 2-4'	EPA 3546	OEXT/35365	EPA 8270	MSSV/14864
5095061008	58-SB-3 6-8'	EPA 3546	OEXT/35365	EPA 8270	MSSV/14864
5095061009	58-SB-4 2-4'	EPA 3546	OEXT/35365	EPA 8270	MSSV/14864
5095061010	58-SB-5 4-6'	EPA 3546	OEXT/35365	EPA 8270	MSSV/14864
5095061011	58-SB-6 6-8'	EPA 3546	OEXT/35365	EPA 8270	MSSV/14864
5095061001	65-SB-1 10-12'	EPA 8260	MSV/62969		
5095061002	65-SB-2 8-12'	EPA 8260	MSV/62969		
5095061003	65-SB-4 4-6'	EPA 8260	MSV/63043		
5095061004	65-SB-5 4-8'	EPA 8260	MSV/62969		
5095061005	65-SB-6 8-10'	EPA 8260	MSV/62969		
5095061006	58-SB-1 2-4'	EPA 8260	MSV/62969		
5095061007	58-SB-2 2-4'	EPA 8260	MSV/62969		
5095061008	58-SB-3 6-8'	EPA 8260	MSV/62969		
5095061009	58-SB-4 2-4'	EPA 8260	MSV/62969		
5095061010	58-SB-5 4-6'	EPA 8260	MSV/62969		
5095061011	58-SB-6 6-8'	EPA 8260	MSV/62969		

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Pace Analytical Services, Inc.
Not NELAP Accredited
1233 Dublin Road
Columbus, OH 43215
(614)486-5421

Pace Analytical Services, Inc.
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: ODOT HAM-75-0.22 / 52888
Pace Project No.: 5095061

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
5095061001	**65-SB-1 10-12'**	ASTM D2974-87	PMST/9265		
5095061002	**65-SB-2 8-12'**	ASTM D2974-87	PMST/9265		
5095061003	**65-SB-4 4-6'**	ASTM D2974-87	PMST/9265		
5095061004	**65-SB-5 4-8'**	ASTM D2974-87	PMST/9265		
5095061005	**65-SB-6 8-10'**	ASTM D2974-87	PMST/9265		
5095061006	**58-SB-1 2-4'**	ASTM D2974-87	PMST/9265		
5095061007	**58-SB-2 2-4'**	ASTM D2974-87	PMST/9265		
5095061008	**58-SB-3 6-8'**	ASTM D2974-87	PMST/9265		
5095061009	**58-SB-4 2-4'**	ASTM D2974-87	PMST/9265		
5095061010	**58-SB-5 4-6'**	ASTM D2974-87	PMST/9265		
5095061011	**58-SB-6 6-8'**	ASTM D2974-87	PMST/9265		

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 1 of 2

1705835

Section A Required Client Information:

Company:	Burgess + Niple, Inc.
Address:	5085 Reed Road, Columbus, OH 43220
Email To:	scott.dailey@burgessniple.com
Phone:	614/459-7272
Fax:	
Requested Due Date/TAT:	3/28/14

Section B Required Project Information:

Report To:	Scott Dailey
Copy To:	
Purchase Order No.:	52888
Project Name:	ODOT HAM-75-0.22
Project Number:	52888

Section C Invoice Information:

Attention:	
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	
Pace Profile #:	

REGULATORY AGENCY: ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☑ UST ☐ RCRA ☑ OTHER VAP

Site Location STATE: OH

VAP + BUSTR

5095061

Section D Required Client Information

Matrix Codes MATRIX / CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N): N

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	TIME	COMPOSITE END/GRAB DATE	TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	BTEX/MTBE	GRO/DRO	GRO/DRO/ORO	VOCs	SVOCs	PAHs	MTBE	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	53-SB-1 2-4'	SL	G	3-17-14	10:25				2	✓										✓	✓	[illegible]	✓	✓		BUSTR Standards
2	53-SB-2 6-8'	↓	↓	↓	11:15				↓	↓										✓	✓		✓	✓		↓
3	53-SB-3 8-10'	↓	↓	↓	11:40				↓	↓										✓	✓		✓	✓		↓
4	53-SB-4 6-8'	↓	↓	↓	12:55				↓	↓										✓	✓		✓	✓		↓
5	49-SB-1 0-3'	↓	↓	↓	1:45				↓	↓								✓	✓							↓
6	49-SB-2 2-4'	↓	↓	↓	2:15				↓	↓								✓	✓							↓
7	17-SB-1 4-6'	↓	↓	3-18-14	9:00				2	✓								✓	✓							↓
8	17-SB-2 8-10	↓	↓	↓	9:20				↓	↓								✓	✓							↓
9	21-SB-1 2-4	↓	↓	↓	10:30				↓	↓								✓	✓							↓
10	21-SB-2 4-6	↓	↓	↓	10:50				↓	↓								✓	✓							↓
11	65-SB-1 10-12'	↓	↓	↓	1:08				↓	↓										✓	✓	✓				VAP Standards -001
12	65-SB-2 8-12'	↓	↓	↓	1:45				↓	↓										✓	✓	✓				VAP " -002

Logged separate

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	Scott Dailey / B+N	3/20/14	1:33	[illegible]	3/20/14	1333	

@Pace Indy MB 3/21/14 12:35 1.1°C
Fedex w/ice
5680 5235 5837

ORIGINAL

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Scott Dailey
SIGNATURE of SAMPLER: J Scott Dailey
DATE Signed (MM/DD/YY): 3/20/14

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-May-2007

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 2 of 2

1705836

Section A — Required Client Information:

- Company: Burgess & Niple
- Address: 5085 Reed R
- Columbus, OH
- Email To: scott.dailey@burgessniple.com
- Phone: 614/459-7272 Fax:
- Requested Due Date/TAT:

Section B — Required Project Information:

- Report To: Scott Dailey
- Copy To:
- Purchase Order No.: 52888
- Project Name: ODOT HAM-75-0.22
- Project Number: 5288

Section C — Invoice Information:

- Attention:
- Company Name:
- Address:
- Pace Quote Reference:
- Pace Project Manager:
- Pace Profile #:

REGULATORY AGENCY

- ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
- ☑ UST ☐ RCRA ☑ OTHER VAP

Site Location STATE: OH

Section D — Required Client Information

Matrix Codes MATRIX / CODE: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Tissue TS, Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Preservatives: Unpreserved, H_2SO_4, HNO_3, HCl, NaOH, $Na_2S_2O_3$, Methanol, Other

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID		MATRIX CODE	SAMPLE TYPE (G=GRAB C=COMP)	Composite Start DATE	Composite Start TIME	Composite End/Grab DATE	Composite End/Grab TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	BTEX/MTBE	GRO/DRO	GRO/DRO/ORO	VOCs	SVOCs	PAHs	MTBE	Residual Chlorine (Y/N)	Pace Project No./Lab I.D.
1	65-SB-4	4-6'	SL	G	3-18-14	3:15				2	✓			✓	✓	✓				VAP Standards -003
2	65-SB-5	4-8'	↓	↓	↓	3:35				↓	✓			✓	✓	✓				-004
3	65-SB-6	8-10'				4:10					✓			✓	✓	✓				-005
4	58-SB-1	2-4'			3-19-14	10:30					✓			✓	✓	✓				-006
5	58-SB-2	2-4'			↓	11:07					✓			✓	✓	✓				-007
6	58-SB-3	6-8'				11:35					✓			✓	✓	✓				-008
7	58-SB-4	2-4'				12:25					✓			✓	✓	✓				-009
8	58-SB-5	4-6'				12:50					✓			✓	✓	✓				-010
9	58-SB-6	6-8'				1:08					✓			✓	✓	✓				-011
10	51-SB-1	8-10'				2:20					✓	✓	✓							BUSTR Standards
11	51-SB-2	2-4'	↓	↓	↓	2:35				↓	✓	✓	✓							" "
12																				

Logged Separate

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	Scott Dailey / B+N	3/20/14	1:33	Dwayne R[illegible]	3/20/14	1333				
							Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

ORIGINAL

SAMPLER NAME AND SIGNATURE

- PRINT Name of SAMPLER: Scott Dailey
- SIGNATURE of SAMPLER: J Scott Dailey
- DATE Signed (MM/DD/YY): 3/20/14

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-May-2007

Sample Condition Upon Receipt

Pace Analytical Client Name: Burgess + Niple Project # 5095061

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____

Tracking #: 568052355837

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☑ yes ☐ no

Date/Time 5035A kits placed in freezer: _____

Packing Material: ☑ Bubble Wrap ☑ Bubble Bags ☐ None ☑ Other Ziploc

Thermometer Used 1 2 3 4 6 A B C D (E) Type of Ice: (Wet) Blue None ☑ Samples on ice, cooling process has begun

Cooler Temperature (Corrected, if applicable) 1.1°C Ice Visible in Sample Containers: ☐ yes ☑ no

Temp should be above freezing to 6°C

Comments:

Date and initials of person examining contents: MB 3/21/14

Chain of Custody Present:	☑Yes	☐No	☐N/A	1.
Chain of Custody Filled Out:	☑Yes	☐No	☐N/A	2.
Chain of Custody Relinquished:	☑Yes	☐No	☐N/A	3.
Sampler Name & Signature on COC:	☑Yes	☐No	☐N/A	4.
Short Hold Time Analysis (<72hr):	☐Yes	☐No	☑N/A	5.
Rush Turn Around Time Requested:	☐Yes	☑No	☐N/A	6. 3/28/14
Containers Intact:	☑Yes	☐No	☐N/A	7.
Sample Labels match COC: -Includes date/time/ID/Analysis	☐Yes	☑No	☐N/A	8. 2 vials recv w/ custody seal but no sample ID MB
All containers needing acid/base pres. have been checked? exceptions: VOA, coliform, TOC, O&G	☐Yes	☐No	☑N/A	9. (Circle) HNO3 H2SO4 NaOH HCl
All containers needing preservation are found to be in compliance with EPA recommendation (<2, >9, >12) unless otherwise noted.				
Headspace in VOA Vials (>6mm):	☐Yes	☑No	☐N/A	10.
Trip Blank Present:	☐Yes	☐No	☑N/A	11.
Trip Blank Custody Seals Present	☐Yes	☐No	☑N/A	
Samples Arrived within Hold Time:	☑Yes	☐No	☐N/A	12.
Sufficient Volume:	☑Yes	☐No	☐N/A	13.
Correct Containers Used:	☑Yes	☐No	☐N/A	14.

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: 2 vials recv were not custody sealed by Pace Indy MB 3/21/14

Project Manager Review: Kenneth Hunt Date: 3/21/14

Sample Container Count

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CLIENT: Burgess & Niple

COC PAGE 1 of 2

COC ID# 1705835

Project # 5095061

Sample Line Item	DG9H	AG1U	WGFU	AG0U	R	4/6	BP2N	BP2U	BP2S	BP3N	BP3U	BP3S	AG3S	AG1H	BP3C	BP1U	SPST	2oz	pH <2	pH>12	Comments
1			1															1			
2			1															1			
3			1															1			
4			1															1			
5			1															1			
6			1															1			
7			1															1			
8			1															1			
9			1															1			
10			1															1			
11			1															1			
12			1															1			

Container Codes

DG9H	40mL HCL amber voa vial	AG0U	100mL unpreserved amber gl	BP1N	1 liter HNO3 plastic	DG9P	40mL TSP amber vial
AG1U	1liter unpreserved amber gl	AG1H	1 liter HCL amber glass	BP1S	1 liter H2SO4 plastic	DG9S	40mL H2SO4 amber vial
WGFU	4oz clear soil jar	AG1S	1 liter H2SO4 amber glass	BP1U	1 liter unpreserved plastic	DG9T	40mL Na Thio amber vial
R	terra core kit	AG1T	1 liter Na Thiosulfate amber	BP1Z	1 liter NaOH, Zn, Ac	DG9U	40mL unpreserved amber vial
BP2N	500mL HNO3 plastic	AG2N	500mL HNO3 amber glass	BP2A	500mL NaOH, Asc Acid plastic	I	Wipe/Swab
BP2U	500mL unpreserved plastic	AG2S	500mL H2SO4 amber glass	BP2O	500mL NaOH plastic	JGFU	4oz unpreserved amber wide
BP2S	500mL H2SO4 plastic	AG2U	500mL unpreserved amber g	BP2Z	500mL NaOH, Zn Ac	U	Summa Can
BP3N	250mL HNO3 plastic	AG3U	250mL unpreserved amber g	AF	Air Filter	VG9H	40mL HCL clear vial
BP3U	250mL unpreserved plastic	BG1H	1 liter HCL clear glass	BP3C	250mL NaOH plastic	VG9T	40mL Na Thio. clear vial
BP3S	250mL H2SO4 plastic	BG1S	1 liter H2SO4 clear glass	BP3Z	250mL NaOH, Zn Ac plastic	VG9U	40mL unpreserved clear vial
AG3S	250mL H2SO4 glass amber	BG1T	1 liter Na Thiosulfate clear gl	C	Air Cassettes	VSG	Headspace septa vial & HCL
AG1S	1 liter H2SO4 amber glass	BG1U	1 liter unpreserved glass	DG9B	40mL Na Bisulfate amber vial	WGFX	4oz wide jar w/hexane wipe
BP1U	1 liter unpreserved plastic	BP1A	1 liter NaOH, Asc Acid plasti	DG9M	40mL MeOH clear vial	ZPLC	Ziploc Bag

F-IN-Q-270-rev.04.13Mar2014

Sample Container Count

CLIENT: Burgess & Niple

COC PAGE 2 of 2
COC ID# 1705836

Project # 5095061

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Sample Line Item	DG9H	AG1U	WGFU	AG0U	R	4/6	BP2N	BP2U	BP2S	BP3N	BP3U	BP3S	AG3S	AG1H	BP3C	BP1U	SPST	2oz	pH <2	pH>12	Comments
1			1															1			
2			1															1			
3			1															1			
4			1															1			
5			1															1			
6			1															1			
7			1															1			
8			1															1			
9			1															1			
10			1															1			
11			1															1			
12	2																				See SCURF MB 3/21/14

Container Codes

DG9H	40mL HCL amber voa vial	AG0U	100mL unpreserved amber gl	BP1N	1 liter HNO3 plastic	DG9P	40mL TSP amber vial
AG1U	1liter unpreserved amber gla	AG1H	1 liter HCL amber glass	BP1S	1 liter H2SO4 plastic	DG9S	40mL H2SO4 amber vial
WGFU	4oz clear soil jar	AG1S	1 liter H2SO4 amber glass	BP1U	1 liter unpreserved plastic	DG9T	40mL Na Thio amber vial
R	terra core kit	AG1T	1 liter Na Thiosulfate amber	BP1Z	1 liter NaOH, Zn, Ac	DG9U	40mL unpreserved amber vial
BP2N	500mL HNO3 plastic	AG2N	500mL HNO3 amber glass	BP2A	500mL NaOH, Asc Acid plastic	I	Wipe/Swab
BP2U	500mL unpreserved plastic	AG2S	500mL H2SO4 amber glass	BP2O	500mL NaOH plastic	JGFU	4oz unpreserved amber wide
BP2S	500mL H2SO4 plastic	AG2U	500mL unpreserved amber g	BP2Z	500mL NaOH, Zn Ac	U	Summa Can
BP3N	250mL HNO3 plastic	AG3U	250mL unpreserved amber g	AF	Air Filter	VG9H	40mL HCL clear vial
BP3U	250mL unpreserved plastic	BG1H	1 liter HCL clear glass	BP3C	250mL NaOH plastic	VG9T	40mL Na Thio. clear vial
BP3S	250mL H2SO4 plastic	BG1S	1 liter H2SO4 clear glass	BP3Z	250mL NaOH, Zn Ac plastic	VG9U	40mL unpreserved clear vial
AG3S	250mL H2SO4 glass amber	BG1T	1 liter Na Thiosulfate clear gl	C	Air Cassettes	VSG	Headspace septa vial & HCL
AG1S	1 liter H2SO4 amber glass	BG1U	1 liter unpreserved glass	DG9B	40mL Na Bisulfate amber vial	WGFX	4oz wide jar w/hexane wipe
BP1U	1 liter unpreserved plastic	BP1A	1 liter NaOH, Asc Acid plasti	DG9M	40mL MeOH clear vial	ZPLC	Ziploc Bag

Affidavit of VAP Certified Laboratory

[For VAP certified laboratories to attest to "certified data" under OAC 3745-300-13(N) and OAC 3745-300-04(A). Note that Ohio EPA is to receive a legible copy of the CL's affidavit. The entity that received the CL's analytical report under affidavit may retain the CL's affidavit original.]

State of Indiana)
) ss:
County of Marion)

I, Kenneth Hunt, being first duly sworn according to law, state that, to the best of my knowledge, information and belief:

1. I am an adult over the age of eighteen years old and competent to testify herein.

2. I am employed by Pace Analytical Services - Indianapolis ("the laboratory") as Project Manager. I am authorized to submit this affidavit on behalf of the laboratory.

3. The purpose of this submission is to support a request for a no further action letter or other aspects of a voluntary action, under Ohio's Voluntary Action Program (VAP) as set forth in Ohio Revised Code Chapter 3746 and Ohio Administrative Code (OAC) Chapter 3745-300.

4. Pace Analytical Services - Indianapolis performed analyses for Burgess & Niple, Inc. for a voluntary action at property known as ODOT HAM-75-0.22.

5. This affidavit applies to and is submitted with the following information, data, documents or reports for the property:

Document ID	Date of Document
5095061	March 31, 2014

6. Pace Analytical Services - Indianapolis was a VAP certified laboratory pursuant to OAC 3745-300-04 when it performed the analyses referenced herein.

7. All analyses under this affidavit consist of VAP "certified data" as described in OAC 3745-300-04(A) - - unless paragraph b., below, specifies the exceptions:

   a. The laboratory performed the analyses within its current VAP certification, number CL0065. The laboratory was certified for each analyte, parameter group and method used at the time that it performed the analyses – see Method Cross Reference Table. The analyses were performed consistent with the laboratory's standard operating procedures and quality assurance program plan as approved under OAC 3745-300-04.

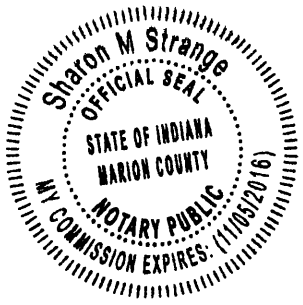
   b. Exceptions, if any: Not applicable

8. The information, data, documents and reports identified under this affidavit are true, accurate and complete.

Further affiant sayeth naught.

Signature of Affiant

Sworn to before me and subscribed in my presence this 3rd day of April, 2014.



Sharon M Strange
Notary Public

5095061

APPENDIX E

TABLES

Table 1
Analytical Soil Results
Site 17 - Large Apartment Complex
845 Ezzard Charles, Cincinnati, Ohio
HAM-75-0.22
PID 89068; Task Order #08-J
Seven Sites Associated with the Brent Spence Bridge Project
Ohio Department of Transportation - District 8

Parameter	BUSTR Re-Use[1]	VAP Residential [2]	VAP Commercial / Industrial [3]	17-SB-1 4-6'	17-SB-2 8-10'
BTEX/MTBE					
Benzene	0.015	64.00	140.00	<0.0072	<0.0061
Ethylbenzene	4.550	230.00	230.00	<0.0072	<0.0061
Methyl-tert-butyl ether	0.047	850.00	1,900.00	<0.0072	<0.0061
Toluene	4.910	520.00	520.00	<0.0072	<0.0061
Xylene (Total)	15.700	370.00	370.00	<0.014	<0.012
TPH					
TPH (C06-C12)	1,000	1,000		<1.4	<1.2
TPH (C10-C20)	2,000	2,000		<14.2	<12.1

All results and applicable standards expressed in mg/kg (parts per million).
1 = Bureau of Underground Storage Tank Regulations (BUSTR) soil re-use standards (OAC 1301:7-9-16).
2 = Ohio VAP Single Chemical Generic Direct Contact Standards for Residential Land Use (OAC 3745-300-08).
3 = Ohio VAP Single Chemical Generic Direct Contact Standards for Commercial/Industrial Land Use (OAC 3745-300-08).
Bold = BUSTR soil re-use standard Exceedance.
Bold and Italics = Ohio VAP Single Chemical Generic Direct Contact Standard Residential Land Use Exceedance.
Bold and Shaded = Ohio VAP Single Chemical Generic Direct Contact Standard for Commercial/Industrial Land Use Exceedance.

Table 2
Analytical Soil Results
Site 29 - City of Cincinnati right-of-way
817 Mound Street, Cincinnati, Ohio
HAM-75-0.22
PID 89068; Task Order #08-J
Seven Sites Associated with the Brent Spence Bridge Project
Ohio Department of Transportation - District 8

Parameter	BUSTR Re-Use[1]	VAP Residential [2]	VAP Commercial / Industrial [3]	29-SB-1 2-4'	29-SB-2 4-6'
BTEX/MTBE					
Benzene	0.015	64.00	140.00	<0.0063	<0.0061
Ethylbenzene	4.550	230.00	230.00	<0.0063	<0.0061
Methyl-tert-butyl ether	0.047	850.00	1,900.00	<0.0063	<0.0061
Toluene	4.910	520.00	520.00	<0.0063	<0.0061
Xylene (Total)	15.700	370.00	370.00	<0.013	<0.012
TPH					
TPH (C06-C12)	1,000	1,000		<1.3	--
TPH (C10-C20)	2,000	2,000		43.2	--
TPH (C06-C12)	1,000	8,000 *		--	<1.2
TPH (C10-C20)	2,000	10,000 *		--	<12.1

All results and applicable standards expressed in mg/kg (parts per million).
1 = Bureau of Underground Storage Tank Regulations (BUSTR) soil re-use standards (OAC 1301:7-9-16).
2 = Ohio VAP Single Chemical Generic Direct Contact Standards for Residential Land Use (OAC 3745-300-08).
3 = Ohio VAP Single Chemical Generic Direct Contact Standards for Commercial/Industrial Land Use (OAC 3745-300-08).
Bold = BUSTR soil re-use standard Exceedance.
Bold and Italics = Ohio VAP Single Chemical Generic Direct Contact Standard Residential Land Use Exceedance.
Bold and Shaded = Ohio VAP Single Chemical Generic Direct Contact Standard for Commercial/Industrial Land Use Exceedance.
* = Ohio VAP TPH standard for clay soils.

Table 3
Analytical Soil Results
Site 49 - ARTIMIS (ODOT) / Former Gas Station
508 West 3rd Street, Cincinnati, Ohio
HAM-75-0.22
PID 89068; Task Order #08-J
Seven Sites Associated with the Brent Spence Bridge Project
Ohio Department of Transportation - District 8

Parameter	BUSTR Re-Use[1]	VAP Residential [2]	VAP Commercial / Industrial [3]	49-SB-1 0-3'	49-SB-2 2-4'
BTEX/MTBE					
Benzene	0.015	64.00	140.00	<0.0059	<0.0061
Ethylbenzene	4.550	230.00	230.00	<0.0059	<0.0061
Methyl-tert-butyl ether	0.047	850.00	1,900.00	<0.0059	<0.0061
Toluene	4.910	520.00	520.00	<0.0059	<0.0061
Xylene (Total)	15.700	370.00	370.00	<0.012	<0.012
TPH					
TPH (C06-C12)	1,000	1,000		<1.2	<1.2
TPH (C10-C20)	2,000	2,000		<11.7	<12.2

All results and applicable standards expressed in mg/kg (parts per million).
1 = Bureau of Underground Storage Tank Regulations (BUSTR) soil re-use standards (OAC 1301:7-9-16).
2 = Ohio VAP Single Chemical Generic Direct Contact Standards for Residential Land Use (OAC 3745-300-08).
3 = Ohio VAP Single Chemical Generic Direct Contact Standards for Commercial/Industrial Land Use (OAC 3745-300-08).
Bold = BUSTR soil re-use standard Exceedance.
Bold and Italics = Ohio VAP Single Chemical Generic Direct Contact Standard Residential Land Use Exceedance.
Bold and Shaded = Ohio VAP Single Chemical Generic Direct Contact Standard for Commercial/Industrial Land Use Exceedance.

Table 4
Analytical Soil Results
Site 51 - Vacant Site owned by Cincinnati
4th Street & Central Avenue, Cincinnati, Ohio
HAM-75-0.22
PID 89068; Task Order #08-J
Seven Sites Associated with the Brent Spence Bridge Project
Ohio Department of Transportation - District 8

Parameter	BUSTR Re-Use[1]	VAP Residential [2]	VAP Commercial / Industrial [3]	51-SB-1 8-10'	51-SB-2 2-4'
BTEX/MTBE					
Benzene	0.015	64.00	140.00	<0.0059	<0.0055
Ethylbenzene	4.550	230.00	230.00	<0.0059	<0.0055
Methyl-tert-butyl ether	0.047	850.00	1,900.00	<0.0059	<0.0055
Toluene	4.910	520.00	520.00	<0.0059	<0.0055
Xylene (Total)	15.700	370.00	370.00	<0.012	<0.011
TPH					
TPH (C06-C12)	1,000	1,000		<1.2	<1.1
TPH (C10-C20)	2,000	2,000		<11.8	<54.3

All results and applicable standards expressed in mg/kg (parts per million).
1 = Bureau of Underground Storage Tank Regulations (BUSTR) soil re-use standards (OAC 1301:7-9-16).
2 = Ohio VAP Single Chemical Generic Direct Contact Standards for Residential Land Use (OAC 3745-300-08).
3 = Ohio VAP Single Chemical Generic Direct Contact Standards for Commercial/Industrial Land Use (OAC 3745-300-08).
Bold = BUSTR soil re-use standard Exceedance.
Bold and Italics = Ohio VAP Single Chemical Generic Direct Contact Standard Residential Land Use Exceedance.
Bold and Shaded = Ohio VAP Single Chemical Generic Direct Contact Standard for Commercial/Industrial Land Use Exceedance.

Table 5
Analytical Soil Results
Site 53 - Speedway SuperAmerica
605 West 3rd Street, Cincinnati, Ohio
HAM-75-0.22
PID 89068; Task Order #08-J
Seven Sites Associated with the Brent Spence Bridge Project
Ohio Department of Transportation - District 8

Parameter	BUSTR Re-Use[1]	VAP Residential [2]	VAP Commercial / Industrial [3]	53-SB-1 2-4'	53-SB-2 6-8'	53-SB-3 8-10'	53-SB-4 6-8'
VOCs - All laboratory results below laboratory reporting limit and applicable BUSTR / VAP standard.							
PAHs - All laboratory results below laboratory reporting limit and applicable BUSTR / VAP standard.							
TPH - All laboratory results below laboratory reporting limit and applicable BUSTR / VAP standard.							

1 = Bureau of Underground Storage Tank Regulations (BUSTR) soil re-use standards (OAC 1301:7-9-16).
2 = Ohio VAP Single Chemical Generic Direct Contact Standards for Residential Land Use (OAC 3745-300-08).
3 = Ohio VAP Single Chemical Generic Direct Contact Standards for Commercial/Industrial Land Use (OAC 3745-300-08).

Table 6
Analytical Soil Results
Site 58 - Parking Lot Owned by City of Cincinnati
West 3rd St./Pete Rose Way/Central Ave./Smith St. Block, Cincinnati, Ohio
HAM-75-0.22
PID 89068; Task Order #08-J
Seven Sites Associated with the Brent Spence Bridge Project
Ohio Department of Transportation - District 8

Parameter	BUSTR Re-Use[1]	VAP Residential [2]	VAP Commercial / Industrial [3]	58-SB-1 2-4'	58-SB-2 2-4'	58-SB-3 6-8'	58-SB-4 2-4'	58-SB-5 4-6'	58-SB-6 6-8'
VOCs									
1,2,4-Trimethylbenzene *	NS	85.00	120.00	<0.0058	<0.0059	<0.0061	0.0056	<0.0064	<0.0054
SVOCs									
2-Methylnaphthalene	NS	7,800.00	94,000.00	<0.380	<0.391	<0.403	1.82	<0.420	<0.356
Acenaphthene	NS	3,500.00	56,000.00	<0.380	<0.391	<0.403	3.51	<0.420	<0.356
Anthracene	NS	18,000.00	280,000.00	<0.380	<0.391	<0.403	9.34	<0.420	<0.356
Benzo(a)anthracene	2.200	11.00	76.00	<0.380	<0.391	<0.403	***12.3***	<0.420	0.445
Benzo(a)pyrene	1.100	1.10	7.70	<0.196	<0.201	<0.208	***9.51***	<0.216	0.461
Benzo(b)fluoranthene	5.530	11.00	77.00	<0.380	<0.391	<0.403	**7.63**	<0.420	0.425
Benzo(g,h,i)perylene	NS	1,700.00	23,000.00	<0.380	<0.391	<0.403	5.85	<0.420	<0.356
Benzo(k)fluoranthene	1.970	110.00	770.00	<0.380	<0.391	<0.403	**8.35**	<0.420	0.455
Chrysene	1.270	1,100.00	7,600.00	<0.380	<0.391	<0.403	**12.9**	<0.420	0.572
Dibenz(a,h)anthracene	0.940	1.10	7.70	<0.196	<0.201	<0.208	***1.86***	<0.216	<0.184
Dibenzofuran	NS	NS	NS	<0.380	<0.391	<0.403	2.20	<0.420	<0.356
Fluoranthene	NS	2,400.00	37,000.00	<0.380	<0.391	<0.403	30.9	<0.420	1.01
Fluorene	NS	2,400.00	37,000.00	<0.380	<0.391	<0.403	4.10	<0.420	<0.356
Indeno(1,2,3-cd)pyrene	0.150	11.00	77.00	<0.380	<0.391	<0.403	**5.33**	<0.420	<0.356
Phenanthrene	NS	24,000.00	870,000.00	<0.380	<0.391	<0.403	28.9	<0.420	0.625
Pyrene	NS	1,800.00	28,000.00	<0.380	<0.391	<0.403	23.7	<0.420	0.959
TPH									
TPH (C20-C34)	5,000	5,000		<11.5	14.9	12.8	196	--	<10.7
TPH (C20-C34)	5,000	40,000 **		--	--	--	--	<12.7	--

All results and applicable standards expressed in mg/kg (parts per million).
1 = Bureau of Underground Storage Tank Regulations (BUSTR) soil re-use standards (OAC 1301:7-9-16).
2 = Ohio VAP Single Chemical Generic Direct Contact Standards for Residential Land Use (OAC 3745-300-08).
3 = Ohio VAP Single Chemical Generic Direct Contact Standards for Commercial/Industrial Land Use (OAC 3745-300-08).
Bold = BUSTR soil re-use standard Exceedance.
Bold and Italics = Ohio VAP Single Chemical Generic Direct Contact Standard Residential Land Use Exceedance.
Bold and Shaded = Ohio VAP Single Chemical Generic Direct Contact Standard for Commercial/Industrial Land Use Exceedance.
NS = No default standard under specific program.
* = Parameter analyzed by laboratory as a VOC and VAP soil standards are categorized as SVOC.
** = Ohio VAP TPH standard for clay soils.

Table 6
Analytical Soil Results
Site 58 - Parking Lot Owned by City of Cincinnati
West 3rd St./Pete Rose Way/Central Ave./Smith St. Block, Cincinnati, Ohio
HAM-75-0.22
PID 89068; Task Order #08-J
Seven Sites Associated with the Brent Spence Bridge Project
Ohio Department of Transportation - District 8

Parameter	VAP Residential [2]	VAP Commercial / Industrial [3]	58-SB-1 2-4'	58-SB-2 2-4'	58-SB-3 6-8'	58-SB-4 2-4'	58-SB-5 4-6'	58-SB-6 6-8'
VOCs								
1,2,4-Trimethylbenzene *	85.00	120.00	<0.0058	<0.0059	<0.0061	0.0056	<0.0064	<0.0054
SVOCs								
2-Methylnaphthalene	7,800.00	94,000.00	<0.380	<0.391	<0.403	1.82	<0.420	<0.356
Acenaphthene	3,500.00	56,000.00	<0.380	<0.391	<0.403	3.51	<0.420	<0.356
Anthracene	18,000.00	280,000.00	<0.380	<0.391	<0.403	9.34	<0.420	<0.356
Benzo(a)anthracene	11.00	76.00	<0.380	<0.391	<0.403	**12.3**	<0.420	0.445
Benzo(a)pyrene	1.10	7.70	<0.196	<0.201	<0.208	**9.51**	<0.216	0.461
Benzo(b)fluoranthene	11.00	77.00	<0.380	<0.391	<0.403	7.63	<0.420	0.425
Benzo(g,h,i)perylene	1,700.00	23,000.00	<0.380	<0.391	<0.403	5.85	<0.420	<0.356
Benzo(k)fluoranthene	110.00	770.00	<0.380	<0.391	<0.403	8.35	<0.420	0.455
Chrysene	1,100.00	7,600.00	<0.380	<0.391	<0.403	12.9	<0.420	0.572
Dibenz(a,h)anthracene	1.10	7.70	<0.196	<0.201	<0.208	**1.86**	<0.216	<0.184
Dibenzofuran	NS	NS	<0.380	<0.391	<0.403	2.20	<0.420	<0.356
Fluoranthene	2,400.00	37,000.00	<0.380	<0.391	<0.403	30.9	<0.420	1.01
Fluorene	2,400.00	37,000.00	<0.380	<0.391	<0.403	4.10	<0.420	<0.356
Indeno(1,2,3-cd)pyrene	11.00	77.00	<0.380	<0.391	<0.403	5.33	<0.420	<0.356
Phenanthrene	24,000.00	870,000.00	<0.380	<0.391	<0.403	28.9	<0.420	0.625
Pyrene	1,800.00	28,000.00	<0.380	<0.391	<0.403	23.7	<0.420	0.959
TPH								
TPH (C20-C34)	5,000		<11.5	14.9	12.8	196	--	<10.7
TPH (C20-C34)	40,000 **		--	--	--	--	<12.7	--

All results and applicable standards expressed in mg/kg (parts per million).
1 = Bureau of Underground Storage Tank Regulations (BUSTR) soil re-use standards (OAC 1301:7-9-16).
2 = Ohio VAP Single Chemical Generic Direct Contact Standards for Residential Land Use (OAC 3745-300-08).
3 = Ohio VAP Single Chemical Generic Direct Contact Standards for Commercial/Industrial Land Use (OAC 3745-300-08).
Bold = Ohio VAP Single Chemical Generic Direct Contact Standard Residential Land Use Exceedance.
Bold and Shaded = Ohio VAP Single Chemical Generic Direct Contact Standard for Commercial/Industrial Land Use Exceedance.
NS = No default standard under specific program.
* = Parameter analyzed by laboratory as a VOC and VAP soil standards are categorized as SVOC.
** = Ohio VAP TPH standard for clay soils.

Table 7
Analytical Soil Results
Site 65 - Valley Asphalt
612 Mehring Way, Cincinnati, Ohio
HAM-75-0.22
PID 89068; Task Order #08-J
Seven Sites Associated with the Brent Spence Bridge Project
Ohio Department of Transportation - District 8

Parameter	BUSTR Re-Use[1]	VAP Residential [2]	VAP Commercial / Industrial [3]	65-SB-1 10-12'	65-SB-2 8-12'	65-SB-4 4-6'	65-SB-5 4-8'	65-SB-6 8-10'
VOCs								
Acetone	NS	64,000.00	100,000.00	<0.13	<0.13	<0.17	<0.15	0.29
SVOCs								
3&4-Methylphenol(m&p Cresol)	NS	310.00	5,600.00	<0.861	<0.857	<1.10	<0.996	1.57
Benzo(a)anthracene	2.200	11.00	76.00	<0.430	<0.428	0.582	<0.498	<0.519
Benzo(a)pyrene	1.100	1.10	7.70	<0.222	<0.221	0.338	<0.257	<0.268
Fluoranthene	NS	2,400.00	37,000.00	<0.430	<0.428	0.928	<0.498	<0.519
Phenanthrene	NS	24,000.00	870,000.00	<0.430	<0.428	1.06	<0.498	<0.519
Pyrene	NS	1,800.00	28,000.00	<0.430	<0.428	0.808	<0.498	<0.519
TPH								
TPH (C10-C20)	2,000	2,000		<13.0	<13.0	43.7	<14.9	36.9
TPH (C20-C34)	5,000	5,000		<13.0	<13.0	33.4	<14.9	57.2

All results and applicable standards expressed in mg/kg (parts per million).
1 = Bureau of Underground Storage Tank Regulations (BUSTR) soil re-use standards (OAC 1301:7-9-16).
2 = Ohio VAP Single Chemical Generic Direct Contact Standards for Residential Land Use (OAC 3745-300-08).
3 = Ohio VAP Single Chemical Generic Direct Contact Standards for Commercial/Industrial Land Use (OAC 3745-300-08).
Bold = Ohio VAP Single Chemical Generic Direct Contact Standard Residential Land Use Exceedance.
Bold and Shaded = Ohio VAP Single Chemical Generic Direct Contact Standard for Commercial/Industrial Land Use Exceedance.
Bold and Italics = BUSTR soil re-use standard Exceedance.
NS = No default standard under specific program.