PHASE II
PROPERTY ASSESSMENT

OF THE:
FORMER CHAMPION SPARK PLUG PROPERTY
900 UPTON AVENUE
TOLEDO, OHIO

PREPARED FOR:
CITY OF TOLEDO-DIVISION OF ENVIRONMENTAL SERVICES
348 SOUTH ERIE STREET
TOLEDO, OHIO 43604

PREPARED BY:
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SEPTEMBER 2015

HULL

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EXECUTIVE SUMMARY

General

The City of Toledo (Client) authorized Hull & Associates, Inc. (Hull) to complete a Phase II Environmental Site Assessment (Phase II) of the Former Champion Spark Plug property, comprised of approximately 18 acres formerly developed with industrial manufacturing buildings occupied by the Champion Sparkplug Company (Champion). The Site was first developed by Champion in 1936. Site buildings were razed in the early 1990s, 2000s and 2014. Many of the buildings razed in 2014 currently remain as debris piles at the Site with one of the buildings still partially standing. The Site has not been used for manufacturing purposes since the early 1990s. For the purposes of this report, the address is referred to as 900 Upton Avenue, Toledo, Lucas County, Ohio (Property). The location of the Property is shown on Figure 1.

WSP Environmental Strategies, LLC (WSP) conducted a Phase II assessment between June 2001 and August 2006 under the Ohio Voluntary Action Program (Ohio VAP). Activities conducted by WSP included installation of soil borings and monitoring wells, collection of soil, groundwater, and soil vapor samples, and closure of two underground storage tanks (USTs). Various Chemicals of Concern (COCs) were analyzed across the twelve (12) identified areas documented in the WSP Phase I. Results indicated that remedial activities were needed to address COCs in two identified areas: the South Manufacturing Bureau of Underground Storage Tank Regulations (BUSTR) Area (Area 5) and the South Manufacturing Area (Area 10). Soils were excavated in 2004 to remove polynuclear aromatic hydrocarbons (PAHs), with approximately 55 cubic yards removed from Area 5 and 22 cubic yards from Area 10. A No Further Action (NFA) letter was submitted on April 15, 2008. Ohio EPA issued a Covenant Not to Sue (CNS) with a groundwater use restriction and land use restriction to commercial/industrial use on November 17, 2008.

Hull completed a Phase I ESA (Phase I) in accordance with the scope and limitations of ASTM Practice E 1527-13, in December 2015 that identified the presence of potential impacts to media of the Property (*i.e.,* soil, groundwater and soil gas) based on previous use of the Property and adjacent properties. Based on correspondence with the City of Toledo, Phase II assessment activities for the on-Property recognized environmental conditions (RECs), which are identified below, were the focus of Hull's assessment activities.

IA/REC #	Description	COCs
REC 1	CREC – 2008 CNS	No Additional Investigation
REC 2	Suspected on-Property USTs	BTEX/MTBE, TPH-GRO
REC 3	Release from Transformer(s)	Information Received from US EPA Indicating No Further Action Required
REC 4	Debris Piles – Data Gap	VOCs, PAHs, TPH-GRO, TPH-DRO, Metals
REC 5	No Current Owner Interview – Data Gap	Attempt to Interview Current Owner during the Phase II

The Phase II assessment activities were conducted by Hull from May to June 2015. This report was executed under Hull project number COT235. The Property is currently undeveloped. Residential development is located adjacent west and north of the Site, while commercial/industrial use is present to the east and south. The objectives of the Phase II Property Assessment (Phase II PA) are to further characterize the environmental conditions at the Property and, due to the use of the property (demolition of structures) following the issuance of the CNS, to collect the necessary data to pursuant to ASTM E1903-11.

Phase II Assessment Activities

Although this Phase II was not Ohio VAP compliant, data were collected in accordance with Ohio Administrative Code (OAC) 3745-300-07(D) to identify and evaluate potential COCs in the RECs and to evaluate Property-specific geology and hydrogeology.

Although this is not an Ohio VAP compliant Phase II assessment, consistent with OAC 3745-300-07, sampling locations installed were biased toward areas where a release of hazardous substances has or may have occurred. Sampling was performed in general accordance with the sampling procedures specified in OAC 3745-300-07. A laboratory certified in accordance with OAC 3745-300-04 analyzed all samples.

The results of the Phase II Assessment indicated the following soil-related conclusions:

> Several COCs were detected above the method detection limit; however no COCs exceeded respective single chemical direct contact commercial/industrial or construction/excavation standards within the applicable point of compliance (POC) (i.e., 2-foot POC for commercial/industrial receptors and 10-foot POC for construction/excavation workers).

The results of the Phase II assessment indicated the following groundwater-related conclusions:

1. Groundwater samples were collected from all six temporary monitoring wells (TMW-1 thru TMW-6) on the Property on June 11, 2015. Based upon sampling review of the laboratory analytical results, groundwater collected from four of the temporary monitoring wells exceed the VAP generic Unrestricted Potable Use Standards (UPUS) for one or more of the following COCs: arsenic, benzene, and m,p-xylenes. The Property is located within an Urban Setting Designation (USD) and also has a groundwater use restriction and land use restriction under the November 17, 2008 CNS.

1.0 INTRODUCTION

1.1 General

The City of Toledo (Client) authorized Hull & Associates, Inc. (Hull) to complete a Phase II Site Assessment (Phase II) of the Former Champion Spark Plug property, comprised of approximately 18 acres formerly developed with industrial manufacturing buildings occupied by Champion. . For the purposes of this report, the address is referred to as 900 Upton Avenue, Toledo, Lucas County, Ohio (Property). The location of the Property is shown on Figure 1.

The Property is located on the south of Upton, east of Montrose Avenue, and the north side of Nebraska Avenue. The Property is accessible from Upton and Montrose. WSP Environmental Strategies, LLC (WSP) conducted a Phase II assessment between June 2001 and August 2006 under the Ohio Voluntary Action Program (Ohio VAP), which included installation of soil borings and monitoring wells. The Phase II assessment activities also included the collection of soil, groundwater, and soil vapor samples, and closure of two underground storage tanks (USTs). Various Chemicals of Concern (COCs) were analyzed across the twelve (12) identified areas from the Phase I. Results indicated that remedial activities were needed to address COCs in two identified areas: the South Manufacturing Bureau of Underground Storage Tank Regulations (BUSTR) Area (Area 5) and the South Manufacturing Area (Area 10). Soils were excavated in 2004 to remove polynuclear aromatic hydrocarbons (PAHs), with approximately 55 cubic yards removed from Area 5 and 22 cubic yards from Area 10. A No Further Action (NFA) letter was submitted on April 15, 2008 And Ohio EPA issued a Covenant Not to Sue (CNS) with a groundwater use restriction and land use restriction to commercial/industrial use on November 17, 2008.

Hull completed a Phase I ESA (Phase I) in accordance with the scope and limitations of ASTM Practice E 1527-13, in December 2014 that identified the presence of potential impacts to media of the Property (*i.e.,* soil, groundwater and soil gas) based on previous use of the Property and adjacent properties. Based on correspondence with the City of Toledo, Phase II assessment activities focused on the on-Property recognized environmental conditions (RECs), which are identified below.

REC 1 – CREC – 2008 CNS

The WSP Phase II assessment was conducted between June 2001 and August 2006. Activities included installation of soil borings and monitoring wells, and the subsequent collection of soil, groundwater, and soil vapor samples. Phase II activities also included the closure of two on-Property underground storage tanks. Various COCs were analyzed across the twelve (12) identified areas from the Phase I. Results indicated that remedial activities were needed to address COCs in two identified areas: the South Manufacturing BUSTR Area (Area 5) and the South Manufacturing Area (Area 10). Soils were excavated in 2004 to remove

elevated concentrations of PAHs, with approximately 55 cubic yards removed from Area 5 and 22 cubic yards from Area 10. A NFA letter was submitted on April 15, 2008. Ohio EPA issued a CNS with a groundwater use restriction and land use restriction to commercial/industrial use on November 17, 2008. This CREC is also considered a REC.

REC 2 - Suspected on-Property USTs

What appeared to be fill ports for five or more USTs was observed on the north-central portion of the Site. Although leak detection for the USTs was listed on BUSTRs website, all structures at the Site as well as the utilities have been disconnected, rendering the leak detection inoperable. Based on previous LUSTs at the Site and the current condition of the UST system, the five remaining USTs are considered a REC.

Size	Contents	Installation Date	COCs
6,000-gallons	gasoline	10/1/1987	BTEX/MTBE
6,000-gallons		10/1/1987	
6,000-gallons		10/1/1987	
2,500		2/1/1992	
2,500		2/1/1992	

REC 3 – Release from Transformer(s)

Several releases of oil from electrical transformers were documented at the Site in 2012. While the City of Toledo and the U.S. EPA responded to the incidents, samplings results for the oil were not provided during the file review. Release from electrical transformers at the Site is considered a REC.

REC 4 – Debris Piles – Data Gap

Several buildings were razed at the Site in 2014. As a result of the demolition activities, several debris piles were created. In addition to the demolition debris piles, several dozen piles of apparent uncontrolled dumping were observed at the Site. These debris piles generally consist of tires (several hundred in total) yard debris and construction remodeling debris (drywall, paint, roofing materials, household refuse, etc.) These debris piles restrict observation of a significant portion of the Site. The limitation results in a significant data gap resulting in a REC.

REC 5 – No Current Owner Interview – Data Gap

The Client indicated that the Site is owned by Moorhouse Real Estate, LLC. Hull attempted to interview the current owner, but all attempts resulted in unopened returned mail. The absence of Owner feedback is a significant data gap that results in a REC.

The Phase II assessment activities were executed under Hull project number COT235 and were conducted by Hull in June of 2015.

This report was conducted for the purpose of summarizing the findings consistent with ASTM E1903-11. Reporting for all Phase II assessment activities completed at the Property is summarized and provided herein.

This assessment was conducted by the following Hull personnel:

Project Managers:	**Hydrogeologists/Scientists**:
Mr. J Matthew Beil, CPG	Mr. James Carlson

Resumes for the personnel involved in the completion of this assessment are located in Appendix A.

1.2 Property Description

The location of the Property is shown in Figure 1. The Property is comprised of six parcels and is currently vacant. According to records maintained by the Lucas County Auditor, "Moorhouse Real Estate, LLC" currently owns the Property. The Property was previously developed as residential, commercial, and industrial uses.

The Property is currently vacant. The general Property features are illustrated on Figure 2. A general description of the Property information obtained from the Lucas County Auditor's Office is included below.

Address	Parcel ID	Acreage	Zoning
1102 Upton Avenue	04-11355	0.315	RD6 (Duplex Residence)
914 Upton Avenue	04-11370	14.761	Mx (Mixed Zone Parcel)
1013 Montrose Avenue	11-22444	0.080	RD6 (Duplex Residence)
1013 Montrose Avenue	11-22447	0.080	RD6 (Duplex Residence)
907 Montrose Avenue	11-22450	1.141	Mx (Mixed Zone Parcel)
719 Montrose Avenue	11-23980	1.585	IL (Limited Industrial)

Property Acreage: 17.962 acres

The Property was occupied by Champion Spark Plug from 1910 until2009. All structures at the Site have been razed, with the exception of one building. One wall of a building remains standing on the Site. Several subsurface rooms were observed during the Site reconnaissance. Some of these features appeared to be former basements, while others appeared to be utility tunnels. Debris piles from previous demolition activities, as well as apparent uncontrolled dumping are observed at the Site. Uses at the site since 1910 included residential and office building structures, gasoline fueling station, nickel plating and pickling building, metal rod cutting facility/factory, and a mill building.

1.3 Previous Investigations

WSP Environmental Strategies, LLC (WSP) conducted a Phase II assessment between June 2001 and August 2006 under the Ohio Voluntary Action Program (Ohio VAP), which included installation of soil borings and monitoring wells. The Phase II assessment activities also included the collection of soil, groundwater, and soil vapor samples, and closure of two underground storage tanks (USTs). Various Chemicals of Concern (COCs) were analyzed across the twelve (12) identified areas from the Phase I. Results indicated that remedial activities were needed to address COCs in two identified areas: the South Manufacturing Bureau of Underground Storage Tank Regulations (BUSTR) Area (Area 5) and the South Manufacturing Area (Area 10). Soils were excavated in 2004 to remove polynuclear aromatic hydrocarbons (PAHs), with approximately 55 cubic yards removed from Area 5 and 22 cubic yards from Area 10. A No Further Action (NFA) letter was submitted on April 15, 2008 And Ohio EPA issued a Covenant Not to Sue (CNS) with a groundwater use restriction and land use restriction to commercial/industrial use on November 17, 2008.

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The Phase II assessment activities were executed under Hull project number COT235 and were conducted by Hull in June of 2015.

1.4 Applicability and Recognized Environmental Conditions

The 2014 Phase I Assessment noted three RECs at the Property that had recommendations for further investigation, which are described above in Section 1.1 and are illustrated on Figure 2.

1.5 Purpose

This work was completed in accordance with ASTM Standard E1903-11, which covers the process for conducting Phase II ESAs with respect to the presence or the likely presence of substances including, but not

limited to, those within the scope of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) (e.g., hazardous substances), pollutants, contaminants, petroleum and petroleum products, etc. The assessment was conducted in sufficient detail to appropriately assess the RECs at the Property. The RECs are documented in the Phase I completed in December 2014, which is summarized in Section 1.1.

1.6 Limitations and Qualifications

Based on the current condition of the Site and the fact that the property received a CNS under the Ohio VAP, Hull focused the assessment to select areas that are most likely to have been negatively impacted during demolition activities, which post-dated the CNS issuance.

1.7 Current and Intended Land Use

The Property is currently vacant. The planned future land use at the Property is commercial/industrial with no developed structures intended for extended human occupancy.

2.0 PHASE II DATA QUALITY OBJECTIVES

Data quality objectives (DQOs) were developed and implemented in a manner consistent with U.S. EPA's "Guidance on Systemic Planning Using the Data Quality Objectives Process" according to their limitations and intended uses.

2.1 Phase II Assessment Goals

Based upon the RECs in Section 1.1, the goals for this Phase II assessment are as follows:

1. Collect data to further evaluate the nature and extent of the RECs identified above in Section 1.1.

2.2 Data and Information to Support the Phase II Objectives

Historical data and information for the Property was reviewed to attempt to identify any gaps that needed to be addressed during Phase II assessment activities, in order to evaluate the environmental conditions at the Property. Any data gaps identified were investigated through the collection of soil, groundwater, and/or vapor samples, as applicable. Chemical analytical methods for these samples were determined based on historical background information.

Although not a Ohio VAP compliant Phase II assessment, data obtained from the Phase II was evaluated in the context of the VAP generic numerical standards in accordance with the Property-specific pathway analyses and an emerging understanding of construction and redevelopment options. To the extent that the Phase II data exceed applicable standards, it was understood during all portions of the project that additional sampling may be required to more fully understand the potential effect of pathway completeness and exposures to receptor populations.

2.3 Decision Process and Project Approach

2.3.1 Inputs to the Decision Process

In consideration of future Property redevelopment efforts, a site conceptual model (SCM) was developed during the Phase II to identify complete exposure pathways, and current and reasonably anticipated future receptors. The SCM was developed to address exposures by both current and potential future receptor populations at the Property.

In development of the SCM and in the approach to developing the Phase II activities, the following questions were considered:

1. Do portions of the Property contain COCs that exceed applicable VAP standards, and do data gaps exist such that additional data are required to assess potentially complete exposure pathways and receptor populations?

2. For areas of the Property containing COCs exceeding applicable VAP standards, what are appropriate and cost-effective options for cleaning up the contamination or eliminating the pathways (*i.e.*, through engineering and/or institutional controls) such that Property redevelopment can be accomplished?

The investigative approach), was defined based on results from the Phase I in order to assess the RECs at the Property. These investigations included, but were not limited to: soil sampling conducted during the advancement of soil borings, groundwater sampling from monitoring wells, and soil gas sampling, as applicable, to:

1. identify the presence and concentrations of COCs in soil, groundwater, and soil vapor; and

2. characterize the hydrogeology.

During the Phase II activities, it was understood that the findings of the assessment activities could result in:

1. a decision to conduct additional investigations for the re-delineation of existing or new RECs and to further define the information required to meet applicable standards; and

2. a decision to adjust Property redevelopment plans, including implementation of remedial activities, as necessary, to meet applicable standards.

Following completion of each portion of the Phase II assessment, a pathway analysis was completed for the purpose of evaluating current and potential exposure pathways. The results of this evaluation are presented in Section 7.

2.3.2 Project Approach

A Work Plan was prepared by Hull and approved by the U.S. EPA for the completion of the Phase II activities. A copy of the Work Plan is included in Appendix B.

3.0 SAMPLING AND SAMPLE ANALYSIS

Laboratory analysis of samples described in this report was conducted by Belmont/Pace Analytical Labs (Certified Lab # CL0032) in Englewood, Ohio. Laboratory procedures were conducted in accordance with the substantive requirements of the selected test methods.

Acceptable quality assurance and quality control procedures were employed in accordance with the approved QAPP for the City of Toledo. The field quality assurance and quality control procedures include the review of the laboratory's quality assurance program plan and standard operating procedures (SOPs) for consistency with field quality assurance and quality control procedures.

The use of specific methodologies in the form of SOPs to address quality control procedures employed when collecting field data ensures that data collection, field testing, field screening, and sampling techniques are consistent with achieving the purpose of the Phase II. The Work Plan is provided in Appendix B.

4.0 PHASE II ACTIVITIES

4.1 General

In general, this assessment was conducted to investigate the RECs documented in the December 2014 Phase I Assessment. The Phase II activities completed as part of this assessment are as follows:

2015 Phase II Activities

June 8th thru June 9, 2015

- Installation and soil sampling of Hull temporary monitoring wells HTMW-1/HSB-17, HTMW-2/HSB-2, HTMW-3/HSB-8, HTMW-4/HSB-10, HTMW-5/HSB-12, and HTMW-6/HSB-9.
- Installation and sampling of Hull soil borings HSB-1 through HSB-18

June 11th and June 12, 2015

- Groundwater sampling of Hull temporary monitoring wells HTMW-1, HTMW-2, HTMW-3, HTMW-4, HTMW-5, and HTMW-6.

June 24, 2015

- Soil vapor sampling of soil vapor probes HSG-1 and HSG-2.

Data was collected to identify and evaluate potential COCs and to evaluate Property-specific geology and hydrogeology. Sampling locations were biased toward areas where a release of hazardous substances has or may have occurred. Sampling was performed to meet the data quality objectives defined within Section 2.0. A summary of all soil, groundwater and soil vapor samples collected during the Phase II assessment activities at the Property are presented in Tables 1, 2 and 3, respectively. The locations of the sampling locations (e.g., soil borings, temporary monitoring wells and soil vapor monitoring points) are shown on Figure 2.

4.2 Soil Borings

The geological and hydrogeological conditions, as well as the concentration and distribution of COCs in the surface and subsurface soils, were evaluated by installing continuously sampled, direct-push or hand-auger soil borings. The summary of the soil sampling is provided in Table 1. Locations of all soil borings are shown on Figure 2. Logs of the soil borings completed during this investigation are provided in Appendix C.

4.3 Soil Sampling and Analysis Methodology

Drilling and sampling operations for the above investigations were performed by Terra Probe using direct-push technology. Drilling and sampling activities were conducted under the supervision of a Hull hydrogeologist. Locations of the soil borings were selected based on the suspected location of potential on- and off-Property sources of contamination on the Property. Representative soil samples from these soil

borings were analyzed for the applicable COCs for each REC. Soil sample screening results are shown on the boring logs in Appendix C. A summary of the soil sample analytical results is provided in Table 1. The soil laboratory reports and chain-of-custody documentation is included in Appendix D.

All soil borings installed using the direct-push methods were continuously sampled utilizing either a two-inch outside diameter (O.D.) by 48-inch/60-inch long dual-tube sampler with single-use acetate sampler liners or 2 1/4-inch O.D. by 48-inch/60-inch long dual tube sampler with single use acetate liner. Soil samples were collected from each distinct stratigraphic unit or a minimum of one sample per two-foot interval, whichever was greater. The field hydrogeologist wore clean nitrile gloves while handling each soil sample to maintain the integrity of the samples. Furthermore, the soil samplers were decontaminated in a non-phosphate soap solution and then rinsed with potable water between each sampling interval to minimize the potential of cross contamination and to ensure the integrity of the samples. All decontamination procedures were performed on-site under the observation of Hull's hydrogeologist.

A representative portion of each sample was immediately placed in clean, laboratory-supplied sample jars with *Teflon*-lined lids. The sample jars were properly labeled and immediately placed on ice in a cooler. Where soil was analyzed for VOCs, sample preservation Method 5035 was used and soil was placed into Terra Core™ kits or equivalent to preserve the sample. The remaining soil from the appropriate sample interval was placed in a clean *Ziploc*® type bag for field headspace screening using a MiniRae photoionization detector (PID) equipped with a 10.6 or 11.7 eV lamp. Before screening any samples, the PID was calibrated in accordance with the manufacturer's specifications using a 100 parts per million (ppm) isobutylene gas standard. The portion of each soil sample collected for headspace screening was allowed to warm to ambient temperature to promote volatilization of any VOCs. The PID probe was carefully inserted through the seal of each bag and the maximum meter response from each sample was recorded in the soil boring log.

Visual observations and PID screening results were used to select samples from each soil boring location for laboratory analysis. Analyses included VOCs in accordance with U.S. EPA Method 8260; PAHs in accordance with U.S. EPA Method 8270, gasoline and diesel range total petroleum hydrocarbons (TPH GRO/DRO) in accordance with U.S. EPA Method 8015 Mod Ext/Mod Pur; and RCRA Metals in accordance with U.S. EPA Method 6010/7471 series.

Soil samples selected for analyses were analyzed by Belmont/Pace Labs (Certified Lab # CL0032).

4.4 Temporary Monitoring Well Installation

Sampling of groundwater was completed to identify the presence and concentration of COCs. The temporary monitoring well locations are illustrated on Figure 2. Monitoring well/boring logs and well construction diagrams are presented in Appendix C.

Six monitoring wells (HTMW-1 through HTMW-6) were installed at the Property on June 8 and June 9, 2015. Each monitoring well was constructed of 1-inch diameter PVC. Ten-foot screens were installed from six to sixteen feet below ground surface.

The six temporary monitoring wells (HTMW-1 through HTMW-6) are screened in the upper saturated zone, and were installed by Terra Probe, utilizing a Geoprobe drill rig.

A Hull hydrogeologist observed all drilling, sampling, well installation procedures, described the soil types, groundwater conditions, recorded well construction data, and observed decontamination activities.

4.5 Groundwater Sampling

Hull temporary monitoring wells, HTMW-1 through HTMW-6, were sampled on June 11 and June 12, 2015. The groundwater field data sheets are included in Appendix E. The groundwater laboratory analytical report and chain-of-custody documentation is included in Appendix D.

The temporary monitoring wells were sampled in accordance with the Phase II Work Plan developed for the Property. Attempts were made to sample the monitoring wells utilizing low flow sampling techniques. However, the sampler could not achieve stabilization at even the lowest setting on the low flow pump or the wells went dry. The monitoring wells were then sampled with a peristaltic pump within 24 hours of being pumped dry. Samples were submitted for laboratory analysis to evaluate the presence/absence of COCs in the uppermost saturated zone at the Property. Equipment was decontaminated with potable water and a non-phosphate detergent prior to use and between each monitoring well location to minimize the potential for cross contamination.

Samples were submitted for chemical analysis by Belmont/Pace Labs (Certified Lab # CL0032) in Englewood, Ohio. Groundwater samples were analyzed for one or more of the following: VOCs in accordance with U.S. EPA Method 8260; PAHs in accordance with U.S. EPA Method 8270 and Ohio VAP Metals in accordance with U.S. EPA Method 6010/7471 series.

4.6 Quality Assurance

In general, for all Hull 2015 Phase II Activities QA/QC samples (field duplicates, matrix spike/matrix spike duplicates (MS/MSDs), field blanks, etc.) were collected to meet the scope of work, QAPP, or FSAP requirements, as applicable. In general, one duplicate, and equipment blank were collected for approximately every 20 soil or groundwater samples collected, as applicable. A trip blank was also included for every shipment containing samples submitted for VOC analysis. Laboratory analytical quality assurance data is provided in Appendix D.

5.0 REGIONAL AND PROPERTY-SPECIFIC GEOLOGY, HYDROGEOLOGY, AND PHYSICAL CONDITIONS

A review and evaluation of existing regional and Property-specific geological, hydrological and physical characteristics of the Property was completed. These findings, as applicable and necessary, are summarized below.

5.1 Regional Geology and Hydrogeology

5.1.1 Regional Geology

The Property is located in the City of Toledo, in the Maumee River Basin. According to the ODNR, Lucas County lies on a relatively flat glacial lake plain comprised of glacial sediments of Wisconsinan Age (ODNR, 2005). The glacial deposits range in thickness from zero feet where bedrock outcrops to 144 feet across Lucas County, with an average thickness of approximately 80 feet or more in the vicinity of the Property (ODNR, 1986).

5.1.2 Regional Hydrogeology

The surface drainage is generally to the northeast toward Lake Erie. The main rivers draining the region are the Ottawa River, Maumee River, and Swan Creek, a tributary of the Maumee River. There is no major groundwater divide in Lucas County.

Groundwater resources can be obtained from semi-confined sand and gravel aquifers within the glacial till and from limestone and dolomite of Silurian and Devonian age, which underlie the till. No public water supply wells have been located by the ODNR within a 1/2-mile distance of the Property, but ODNR records outside of this distance indicated that wells produce water from the carbonate bedrock. Bedrock at the Site is present at approximately 490 feet USGS.

Ground-surface elevation at the Site is approximately 615 feet (USGS). The topography is generally flat near the Property. Drainage from the Property appears to be toward the northwest toward the Ottawa River. Note that much of the natural topographic expression of the region has been disturbed by development.

5.1.3 Regional Availability of Surface water and Groundwater as Sources for Drinking Water

The Public Water System Inventory provided by the Ohio EPA was reviewed to obtain records of public water supplies within one-half mile of the Property boundary. According to Ohio EPA records, there are no public water wells located within a one-half mile radius of the Property. The City of Toledo provides water

to the Property. The Property is located in a Toledo City USD approved by the Director of the Ohio EPA. A map is attached showing the location of the Property in relation to the USD (see Figure 1).

The area surrounding the Property is a very poor area for even minimal domestic water supplies within the region. Hull searched the ODNR Division of Water online database of located and unlocated well logs for private/public/monitoring wells within 0.5-mile of the Property. Seven water monitoring wells were identified within 0.5-mile of the Property. The presence of these monitoring wells is not anticipated to negatively impact the Property. Copies of the ODNR water well logs are included in Appendix F.

Potentiometric surface maps in the WGS Phase II ESA from May 2005 indicates that the shallow groundwater at the Site flows to the northwest on the northern two-thirds of the Site and to the southwest on the southern one-third of the Site. Static water levels ranged from approximately 1.5 feet below ground surface to just over 10 feet below ground surface.

5.2 Property-Specific Geology, Hydrogeology, and Other Characteristics

5.2.1 Property-Specific Geology

Review of soil boring logs completed at the Property by Hull indicates that the Property is primarily underlain by silts and clays. Fill material was observed in some of the soil borings at depths less than two feet.

5.2.2 Property Specific Hydrology and Hydrogeology

5.2.2.1 Recharge and Evaporation Rates

The average annual precipitation in Toledo, Ohio is approximately 34 inches per year. Evaporation and surface water runoff serve to reduce the groundwater recharge rate. In relatively recent history, transpiration has been minimal at the Property. Recharge rates for northwest Ohio have been documented between 2 to 10 inches per year (Halfrisch, 2002, revised by Sprowls, 2010). The rate of recharge varies dependent on the nature of the surface cover. Future recharge will probably be reduced following development of the Property with storm water runoff being carried to detention basins and then to off-Property locations via storm sewers.

5.2.2.2 Localized Groundwater Flow Conditions

Groundwater was encountered at depths ranging from approximately 6 to 10 feet below ground surface. Each of the four monitoring wells installed at the Property terminated in a grey or brown and grey clayey silt. Based on historical information as well as hydrogeological properties of clayey silts, these soil are likely acting as an aquitard, restriction vertical migration of groundwater at the Site.

6.0 IDENTIFICATION AND EVALUATION OF CHEMICALS OF CONCERN

6.1 Detected COCs in Soil

The Hull Phase I ESA listed the following RECS and corresponding COCs:

IA/REC #	Description	COCs
REC 1	CREC – 2008 CNS	No Additional Investigation
REC 2	Suspected on-Property USTs	BTEX/MTBE, TPH-GRO
REC 3	Release from Transformer(s)	Information Received from US EPA Indicating No Further Action Required
REC 4	Debris Piles – Data Gap	VOCs, PAHs, TPH-GRO, TPH-DRO, Metals
REC 5	No Current Owner Interview – Data Gap	Attempt to Interview Current Owner during the Phase II

During 2015 Phase II activities, metals, PAHs and VOCs were detected above laboratory practical quantitation limits (PQLs). None of the COCs exceeded the Ohio VAP Direct Contact for Commercial/Industrial or Construction/Excavation standards.

Detected metals in soil:

Arsenic	Barium	Chromium
Lead	Silver	

Detected PAHs in soil:

2-Methynahthalene	Acenaphthene	Benzo(a)anthracene
Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(ghi)perylene
Benzo(k)fluoranthene	Chrysene	Dibenz(ah)anthracene
Fluoranthene	Indeno(123,cd)pyrene	Naphthalene
Phenanthrene	Pyrene	

Detected VOCs in soil:

124-Trimethylbenzene	1,2-Dichlorobenzene	1,3,5-Trimethylbenzene
1,4-Dichlorobenzene	2-Butanone	4-Isopropyltoluene
Butylbenzene	Cis-1,2-Dichloroethene	Ethylbenzene
Hexane	Isopropylbenzene	m,p-Xylenes
Naphthalene	n-Propylbenzene	o-Xylenes
Sec-Butylbenzene	Tetrachloroethene	Toluene
Trans-1,2-Dichloroethene	Trichloroethene	

6.2 Detected COCs in Groundwater

Laboratory analyses of the groundwater samples collected from six temporary monitoring wells (TMW-1 through TMW-6) revealed the presence of several COCs above laboratory PQLs. A total of four metals, one PAH, and three VOCs were detected in the June 2015 groundwater samples. Of these, arsenic, benzene, and m,p-xylenes exceeded the Ohio VAP UPUS standards. Laboratory analytical results are summarized in Table 2 and shown on Figure 3. Laboratory analytical data is provided in Appendix D.

Detected metals in groundwater:

Arsenic	Barium
Chromium	Lead

Detected PAHs in groundwater:

Naphthalene

Detected VOCs in groundwater:

Benzene	m,p-Xylenes	Methyl-tert-butyl-ether

6.3 COCs Detected in Soil Gas:

Laboratory analyses of the soil gas samples collected from two soil gas implants (HSG-1 and HSG-2) identified several COCs above laboratory PQLs. Both sample locations were analyzed for BTEX and MTBE only. Each compound was detected in both samples with the exception of MTBE in HSG-2. Laboratory analytical results are summarized in Table 3. Laboratory analytical data is provided in Appendix D.

Detected VOCs in Soil Gas:
Benzene
Toluene
m,p-xylenes
Ethylbenzne
Methyl-tert-butyl-ether

6.4 Data Quality Assurance

Data collection activities and data analysis were reviewed to verify that analytical data generated as part of this Phase II investigation comply with the data quality objectives identified in Section 2.0.

Based on a review of the available data, it appears that no evidence of contamination was identified in trip blanks, field blanks or equipment blanks. Additionally, all data reported meet the appropriate reporting limits for comparison against applicable standards.

A summary of the analytical data is presented in Tables 1 through 3. Complete copies of the laboratory analytical data are provided in Appendix D.

7.0 DATA EVALUATION

Bulk soil data, bulk groundwater data and the results of two soil gas samples were evaluated assuming a commercial/industrial land use. Data evaluation was completed to provide a better understanding of the potential hazards and risks associated with a commercial/industrial use of the Property given the environmental conditions that have been identified on the basis of the surface and subsurface soils, soil gas and groundwater sampling that has been completed during this investigation.

7.1 Purpose of the Data Evaluation

Sampling and analysis activities conducted during the Phase II investigation identified COCs in soil, soil gas and groundwater at the Property. The data was evaluated with respect to the depth the soil sample was collected, the planned or anticipated end use of the property, and the recorded use restrictions on the property.

7.2 Evaluation of Data

Soil, soil vapor and groundwater analytical data were collected during the Phase II investigation. Soil analytical data identified 39 COCs detected above the PQL. While both acrolein and trichloroethene were detected at concentrations exceeding the respective direct contact generic numerical standard, neither detection were located within the two-foot point of compliance for commercial/industrial end use or the ten-foot point of compliance for construction and excavation work. Groundwater analytical data identified three chemicals that exceeded UPUS under the Ohio VAP; however, the groundwater underlying the property is not extracted for potable uses. Therefore, this exposure pathway is not complete. Finally, soil vapor analytical data collected from the property was evaluated using current guidelines of the Ohio VAP. There are currently no structures on the property and it is Hull's understanding that there are no plans for the construction of structures intended for extended human occupancy. Limited soil vapor data collected near the former UST area on the property suggests that no remedy is required to address soil vapor; however, this data set should be supplemented if structures are constructed on the property that are intended for extended human occupancy.

7.3 Identification of Receptor Populations and Exposure Pathways

The receptor populations are based on current use (i.e., undeveloped/vacant) and anticipated future use (*i.e.*, commercial/industrial use), and have been identified. The following receptor populations have been identified at the Property:

- Future on-Property Commercial/Industrial Worker; and
- On-Property Construction/Excavation Worker.

7.3.1 Future On-Property Commercial/Industrial Worker Receptor Population

Anticipated future use of the Property is assumed to be industrial use. The Ohio VAP generic numerical direct contact soil standards for the commercial and industrial land use categories were used as a point of comparison for soil analytical data collected on the property.

7.3.2 Construction/Excavation Worker Receptor Population

If the Property were to be redeveloped in the future, construction activities including grading, excavating and filling, and construction of a parking lot or new structures may take place. Thus, activities by construction and excavation workers at the Property were also evaluated herein.

7.4 Summary of Data Evaluation

Soil and groundwater analytical data were compared to generic numerical standards of the Ohio VAP as a point of comparison. As noted in Section 7.2, acrolein and trichloroethene were each detected in a single soil sample location at concentrations exceeding their respective direct contact soil standard; however, both samples were collected outside the direct contact point of compliance for industrial land use and construction/excavation activities.

Groundwater analytical data were compared to UPUS in the Ohio VAP as a point of comparison. Based on this comparison, the maximum detected concentrations of arsenic, benzene and m,p-xylenes in the upper saturated zone underlying the property exceed their respective UPUS at one or more locations. The upper saturated zone underlying the property is not utilized for potable purposes on or near the property. In addition, the property is located within an USD and a restriction on the extraction of groundwater underlying the property is recorded at the Lucas County Recorder's Office. Therefore, potable use of groundwater underlying the property is considered incomplete.

Soil vapor analytical data was evaluated in accordance with the Ohio VAP guidelines and was determined not to significantly contribute to the overall risk or hazard exposures at the property.

Chemical of Concern	Location
1,2,4-Trimethylbenzene	HSB-16 (also exceed at HSB-9)
1,4-Dichlorobenzene	HSB-18
Acrolein	HSB-9
Benzene	HSB-9
cis-1,2-Dichloroethene	HSB-16 (also exceed at HSB-13)
Ethylbenzene	HSB-18 (also exceeds at HSB-9)
Hexane	HSB-9 (also exceeds at HSB-18)
Isopropylbenzene	HSB-9 (also exceeds at HSB-18)
m,p-Xylenes	HSB-16 (also exceeds at HSB-9)
Naphthalene	HSB-18 (also exceeds at HSB-9)
n-Propylbenzene	HSB-9 (also exceeds at HSB-18)
o-Xylene	HSB-16
Tetrachloroethene	HSB-13 (also exceeds at HSB-16)
trans-1,2-Dichloroethene	HSB-16
Trichloroethene	HSB-13 (also exceeds at HSB-16)

8.0 FINDINGS

Data were collected to identify and evaluate potential COCs at the property.

Sampling locations installed were biased toward areas where a release of hazardous substances has or may have occurred. Sampling was performed in accordance with the approved Work Plan.

The results of the Phase II Assessment indicated the following:
Soil and groundwater analytical data were compared to generic numerical standards of the Ohio VAP as a point of comparison. As noted in Section 7.2, acrolein and trichloroethene were each detected in a single soil sample location at concentrations exceeding their respective direct contact soil standard; however, both samples were collected outside the direct contact point of compliance for industrial land use and construction/excavation activities.

Groundwater analytical data were compared to UPUS in the Ohio VAP as a point of comparison. Based on this comparison, the maximum detected concentrations of arsenic, benzene and m,p-xylenes in the upper saturated zone underlying the property exceed their respective UPUS at one or more locations. The upper saturated zone underlying the property is not utilized for potable purposes on or near the property. In addition, the property is located within an USD and a restriction on the extraction of groundwater underlying the property is recorded at the Lucas County Recorder's Office. Therefore, potable use of groundwater underlying the property is considered incomplete.

Soil vapor analytical data was evaluated in accordance with the Ohio VAP guidelines and was determined not to significantly contribute to the overall risk or hazard exposures at the property.

Chemical of Concern	Location
1,2,4-Trimethylbenzene	HSB-16 (also exceed at HSB-9)
1,4-Dichlorobenzene	HSB-18
Acrolein	HSB-9
Benzene	HSB-9
cis-1,2-Dichloroethene	HSB-16 (also exceed at HSB-13)
Ethylbenzene	HSB-18 (also exceeds at HSB-9)
Hexane	HSB-9 (also exceeds at HSB-18)
Isopropylbenzene	HSB-9 (also exceeds at HSB-18)
m,p-Xylenes	HSB-16 (also exceeds at HSB-9)
Naphthalene	HSB-18 (also exceeds at HSB-9)
n-Propylbenzene	HSB-9 (also exceeds at HSB-18)
o-Xylene	HSB-16
Tetrachloroethene	HSB-13 (also exceeds at HSB-16)
trans-1,2-Dichloroethene	HSB-16
Trichloroethene	HSB-13 (also exceeds at HSB-16)

9.0 REPORT LIMITATIONS

The conclusions and recommendations presented herein are based on the level of effort and investigative techniques defined under the Scope of Work. Hull has conducted this investigation in a manner consistent with sound engineering practices and with professional judgment. No other warranty or guarantee, expressed or implied, is made. This report does not attempt to evaluate past or present compliance with federal, state and local environmental or land use laws and regulations. Hull makes no guarantees regarding the completeness or accuracy of any information obtained in review of public or private files. Furthermore, this report is prepared for, and made available for the sole use of City of Toledo. The contents thereof may not be used or relied upon by any other person without the express written consent and authorization of City of Toledo.

10.0 REFERENCES

A variety of technical documents and publications were referred to during the course of this project. Some of the references consulted are presented below. Referenced documents and publications may or may not have been reviewed in their entirety. The guidelines and procedures presented in the documents and publications referenced have not been strictly adhered to unless stated otherwise.

Hallfrisch, Michael. Groundwater Pollution Potential of Lucas County, Ohio. 2002 (Revised 2010).

Ohio Administrative Code 3745-300-01, *Definitions Rule* for the Voluntary Action Program, March 2009.

Ohio Administrative Code 3745-300-07, *Phase II Property Assessment Procedures Rule* for the Voluntary Action Program, March 2009.

Ohio Administrative Code 3745-300-08, *Generic Numerical Standards Rule* for the Voluntary Action Program, March 2009.

Ohio Administrative Code 3745-300-10, Ground Water Classification and Response Requirements for the Voluntary Action Program, March 2009.

Ohio Department of Natural Resources, Division of Water. *Well Log and Drilling Reports.*

Ohio Department of Natural Resources, Division of Geological Survey. Glacial Map of Ohio, 2005.

Ohio Department of Natural Resources, County Bedrock Topography Maps.

WSP Environmental Strategies, LLC, June 2001 thru August 2006, *Phase II Environmental Site Assessment,* Former Champion Sparkplug Property.

Hull & Associates, Inc., *Phase I Environmental Site Assessment,* Former Champion Sparkplug Property, Hull Document #: COT235.100.0135, December 2014.

Hull & Associates, Inc., *Phase II Property Assessment Work Plan*, Hull Document #: COT235.100.0157, May 2015.

TABLES

CITY OF TOLEDO
FORMER CHAMPION SPARK PLUG PROPERTY
900 UPTON AVE, TOLEDO, LUCAS COUNTY, OHIO

TABLE 1

SOIL SAMPLING SUMMARY (mg/kg)

Parameter	CAS Number	Units	2014 VAP Commerical/ Industrial Generic Direct Contact	2014 VAP Construction/ Excavation Generic Direct Contact	Station Name	HSB-1	HSB-10	HSB-11	HSB-12	HSB-13	HSB-13	HSB-15	HSB-16	HSB-17	HSB-18	HSB-2	HSB-3	HSB-4	HSB-5	HSB-6	HSB-7	HSB-8	HSB-9
					Depth	4 - 6 ft	0 - 2 ft	0 - 2 ft	0 - 12 ft	10 - 12 ft	4 - 6 ft	2 - 4 ft	8 - 10 ft	4 - 6 ft	6 - 8 ft	4 - 5 ft	4 - 6 ft	0 - 2 ft	0 - 2 ft	0 - 2 ft	8 - 10 ft	6 - 8 ft
					Date	6/8/2015	6/8/2015	6/9/2015	6/8/2015	6/9/2015	6/9/2015	6/9/2015	6/9/2015	6/8/2015	6/9/2015	6/8/2015	6/9/2015	6/9/2015	6/9/2015	6/9/2015	6/9/2015	6/8/2015	6/8/2015
					Sample ID	COT235: HSB-1: S040060	COT235: HSB-10: S000020	COT235: HSB-11: S000020	COT235: HSB-12: S000020	COT235: HSB-13: S100120	COT235: HSB-13: S100120	COT235: HSB-15: S040060	COT235: HSB-16: S020040	COT235: HSB-17: S080100	COT235: HSB-18: S040060	COT235: HSB-2: S060080	COT235: HSB-3: S040050	COT235: HSB-4: S040060	COT235: HSB-5: S000020	COT235: HSB-6: S000020	COT235: HSB-7: S000020	COT235: HSB-8: S080100	COT235: HSB-9: S060080
ASTM D2974-87																							
Percent Moisture		%	NS	NS		--	**15.4**	**19.4**	**22.2**	**21.4**	--	**17**	**9.3**	**21.1**	**20.3**	--	--	--	**16.6**	**18.1**	**19.2**	**22.9**	**19.2**
D 2216																							
Percent Moisture		%	NS	NS		**16.9**	**21.1**	**20.6**	**17.7**	--	**21.8**	**21.4**	**10.3**	**22.7**	**20.3**	**22**	**19.6**	**20.2**	**16.5**	**16.7**	**8.1**	**24.4**	**22.4**
EPA 8015 Mod Ext																							
Total Petroleum Hydrocarbons		mg/kg	NS	NS		--	--	<24.7	--	<25.4	--	--	--	--	<25	--	--	--	<24	--	<24.4	--	<24.6
TPH (C06-C12)		mg/kg	NS	NS		<6	<6.23	<6.17	<5.92	--	<6.32	<6.2	**6.83**	<6.34	**16.8**	<6.2	<5.95	<6.17	<5.99	<5.88	<5.36	<6.48	**6.96**
TPH (C10-C20)		mg/kg	NS	NS		--	--	<12.4	--	<12.7	--	--	--	--	<12.5	--	--	--	<12	--	<12.2	--	<12.3
TPH (C20-C34)		mg/kg	NS	NS		--	--	<12.4	--	<12.7	--	--	--	--	<12.5	--	--	--	<12	--	<12.2	--	<12.3
EPA 8270 by SIM																							
2-Methylnaphthalene	91-57-6	mg/kg	6,000	5,200		--	<0.0059	**0.0092**	**0.027**	<0.0063	--	**0.014**	**0.34**	<0.0063	**2.9**	--	--	--	<0.03	<0.0061	<0.0061	<0.0064	**0.8**
Acenaphthene	83-32-9	mg/kg	90,000	780,000		--	<0.0059	<0.0062	<0.0064	<0.0063	--	<0.0059	<0.055	<0.0063	**0.0085**	--	--	--	<0.03	<0.0061	<0.0061	<0.0064	<0.0062
Acenaphthylene	208-96-8	mg/kg	90,000	780,000		--	<0.0059	<0.0062	<0.0064	<0.0063	--	<0.0059	<0.055	<0.0063	<0.0062	--	--	--	<0.03	<0.0061	<0.0061	<0.0064	<0.0062
Anthracene	120-12-7	mg/kg	450,000	1,000,000		--	<0.0059	<0.0062	<0.0064	<0.0063	--	<0.0059	<0.055	<0.0063	<0.0062	--	--	--	<0.03	<0.0061	<0.0061	<0.0064	<0.0062
Benzo(a)anthracene	56-55-3	mg/kg	58	1,200		--	<0.0059	**0.013**	**0.021**	<0.0063	--	**0.016**	**0.2**	<0.0063	<0.0062	--	--	--	<0.03	<0.0061	<0.0061	<0.0064	<0.0062
Benzo(a)pyrene	50-32-8	mg/kg	5.8	120		--	<0.0059	**0.014**	**0.032**	<0.0063	--	<0.0059	**0.19**	<0.0063	<0.0062	--	--	--	<0.03	<0.0061	<0.0061	<0.0064	<0.0062
Benzo(b)fluoranthene	205-99-2	mg/kg	58	1,200		--	<0.0059	**0.016**	**0.039**	<0.0063	--	<0.0059	**0.23**	<0.0063	<0.0062	--	--	--	<0.03	<0.0061	<0.0061	<0.0064	<0.0062
Benzo(g,h,i)perylene	191-24-2	mg/kg	45,000	390,000		--	<0.0059	**0.012**	**0.024**	<0.0063	--	<0.0059	**0.15**	<0.0063	<0.0062	--	--	--	<0.03	<0.0061	<0.0061	<0.0064	<0.0062
Benzo(k)fluoranthene	207-08-9	mg/kg	580	12,000		--	<0.0059	**0.014**	**0.042**	<0.0063	--	<0.0059	**0.24**	<0.0063	<0.0062	--	--	--	<0.03	<0.0061	<0.0061	<0.0064	<0.0062
Chrysene	218-01-9	mg/kg	5,800	120,000		--	<0.0059	**0.015**	**0.043**	<0.0063	--	**0.075**	**0.32**	<0.0063	<0.0062	--	--	--	<0.03	<0.0061	<0.0061	<0.0064	<0.0062
Dibenz(a,h)anthracene	53-70-3	mg/kg	5.8	120		--	<0.0059	<0.0062	**0.0088**	<0.0063	--	<0.0059	**0.064**	<0.0063	<0.0062	--	--	--	<0.03	<0.0061	<0.0061	<0.0064	<0.0062
Fluoranthene	206-44-0	mg/kg	60,000	160,000		--	<0.0059	**0.027**	**0.077**	**0.0065**	--	**0.024**	**0.52**	<0.0063	**0.0072**	--	--	--	**0.042**	<0.0061	**0.013**	<0.0064	<0.0062
Fluorene	86-73-7	mg/kg	60,000	520,000		--	<0.0059	<0.0062	<0.0064	<0.0063	--	<0.0059	<0.055	<0.0063	**0.013**	--	--	--	<0.03	<0.0061	<0.0061	<0.0064	**0.01**
Indeno(1,2,3-cd)pyrene	193-39-5	mg/kg	58	1,200		--	<0.0059	**0.01**	**0.021**	<0.0063	--	<0.0059	**0.14**	<0.0063	<0.0062	--	--	--	<0.03	<0.0061	<0.0061	<0.0064	<0.0062
Naphthalene	91-20-3	mg/kg	450	560		--	<0.0059	**0.0088**	**0.0072**	<0.0063	--	**0.0087**	**0.38**	<0.0063	**3.4**	--	--	--	<0.03	<0.0061	<0.0061	<0.0064	**0.29**
Phenanthrene	85-01-8	mg/kg	450,000	1,000,000		--	<0.0059	**0.018**	**0.043**	**0.0072**	--	**0.016**	**0.27**	<0.0063	**0.021**	--	--	--	**0.032**	<0.0061	**0.0081**	<0.0064	**0.019**
Pyrene	129-00-0	mg/kg	45,000	390,000		--	<0.0059	**0.022**	**0.071**	<0.0063	--	**0.031**	**0.42**	<0.0063	**0.0074**	--	--	--	**0.032**	<0.0061	**0.01**	<0.0064	**0.0091**
SW 6010B																							
Arsenic	7440-38-2	mg/kg	77	690		--	**18.8**	**7.59**	**17.2**	--	**26.6**	**16.2**	**2.22**	**16.7**	**8.92**	--	--	--	**5.8**	**2.27**	**3.59**	**9.31**	**3.98**
Barium	7440-39-3	mg/kg	680,000	320,000		--	**115**	**117**	**219**	--	**170**	**158**	**39.4**	**253**	**109**	--	--	--	**210**	**48.2**	**196**	**120**	**93.9**
Cadmium	7440-43-9	mg/kg	2,600	1,000		--	<0.587	<0.606	<0.524	--	<0.603	<0.578	<0.516	<0.622	<0.571	--	--	--	<0.554	<0.536	<0.533	<0.601	<0.62
Chromium	7440-47-3	mg/kg	NS	NS		--	**26.8**	**23.6**	**19.7**	--	**19.1**	**25.1**	**8.88**	**20**	**22.6**	--	--	--	**14.8**	**12.6**	**4.93**	**26.1**	**18.4**
Lead	7439-92-1	mg/kg	800	400		--	**16.8**	**12.4**	**20.7**	--	**14.3**	**18**	**16.2**	**11.7**	**12.6**	--	--	--	**7.77**	**7.09**	**11.4**	**13.9**	**8.43**
Selenium	7782-49-2	mg/kg	20,000	11,000		--	<5.87	<6.06	<5.24	--	<6.03	<5.78	<5.16	<6.22	<5.71	--	--	--	<5.54	<5.36	<5.33	<6.01	<6.2
Silver	7440-22-4	mg/kg	20,000	11,000		--	**1.65**	<1.21	**1.49**	--	<1.18	**1.86**	<1.03	**1.18**	**1.05**	--	--	--	<0.998	<1.11	<0.938	<1.25	<1.07
SW 7471A																							
Mercury	7439-97-6	mg/kg	3.1	3.1		--	<0.11	<0.11	<0.121	--	<0.118	<0.121	<0.104	<0.125	<0.111	--	--	--	<0.111	<0.12	<0.107	<0.12	<0.121
SW 8260A																							
1,1,1,2-Tetrachloroethane	630-20-6	mg/kg	240	680		<0.0119	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1-Trichloroethane	71-55-6	mg/kg	640	640		<0.0119	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	79-34-5	mg/kg	75	670		<0.0119	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichlorethane	79-00-5	mg/kg	140	1,200		<0.0119	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethane	75-34-3	mg/kg	420	1,700		<0.0119	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethene	75-35-4	mg/kg	1,200	360		<0.0119	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloropropene	563-58-6	mg/kg	NS	NS		<0.0119	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichlorobenzene	87-61-6	mg/kg	NS	NS		<0.0119	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichloropropane	96-18-4	mg/kg	3.8	19		<0.0119	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	120-82-1	mg/kg	400	400		<0.0119	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trimethyl-benzene	95-63-6	mg/kg	220	220		<0.0119	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane	96-12-8	mg/kg	1.7	15		<0.0238	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromoethane	106-93-4	mg/kg	4.4	38		<0.0119	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	95-50-1	mg/kg	380	380		<0.0119	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethane	107-06-2	mg/kg	56	480		<0.0119	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloropropane	78-87-5	mg/kg	120	180		<0.0119	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3,5-Trimethylbenzene	108-67-8	mg/kg	180	180		<0.0119	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	541-73-1	mg/kg	NS	NS		<0.0119	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichloropropane	142-28-9	mg/kg	1,500	1,500		<0.0119	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	106-46-7	mg/kg	310	2,600		<0.0119	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,2-Dichloropropane	594-20-7	mg/kg	NS	NS		<0.0119	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Butanone	78-93-3	mg/kg	28,000	28,000		<0.0476	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorotoluene	95-49-8	mg/kg	NS	NS		<0.0119	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Hexanone	591-78-6	mg/kg	NS	NS		<0.0476	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chlorotoluene	106-43-4	mg/kg	NS	NS		<0.0119	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Isopropyltoluene	99-87-6	mg/kg	160	160		<0.0119	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Methyl-2-pentanone	108-10-1	mg/kg	3,400	3,400		<0.0476	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acetone	67-64-1	mg/kg	110,000	110,000		<0.119	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acetonitrile	75-05-8	mg/kg	9,200	26,000		<0.0953	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

CITY OF TOLEDO
FORMER CHAMPION SPARK PLUG PROPERTY
900 UPTON AVE, TOLEDO, LUCAS COUNTY, OHIO

TABLE 1

SOIL SAMPLING SUMMARY (mg/kg)

			2014 VAP	2014 VAP	Station Name	HSB-1	HSB-10	HSB-11	HSB-12	HSB-13	HSB-13	HSB-15	HSB-16	HSB-17	HSB-18	HSB-2	HSB-3	HSB-4	HSB-5	HSB-6	HSB-7	HSB-8	HSB-9
					Depth	4 - 6 ft	0 - 2 ft	0 - 2 ft	0 - 2 ft	0 - 12 ft	10 - 12 ft	4 - 6 ft	2 - 4 ft	8 - 10 ft	4 - 6 ft	6 - 8 ft	4 - 5 ft	4 - 6 ft	0 - 2 ft	0 - 2 ft	0 - 2 ft	8 - 10 ft	6 - 8 ft
Acrolein	107-02-8	mg/kg	1.6	5.5		<0.119	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acrylonitrile	107-13-1	mg/kg	32	62		<0.0476	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Allyl Chloride	107-05-1	mg/kg	19	64		<0.0238	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzene	71-43-2	mg/kg	140	1,200		<0.0119	--	--	--	--	--	--	--	--	--	<0.0127	<0.0124	<0.0123	--	--	--	--	--
Bromobenzene	108-86-1	mg/kg	NS	NS		<0.0119	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromochloromethane	74-97-5	mg/kg	NS	NS		<0.0119	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromodichloromethane	75-27-4	mg/kg	35	300		<0.0119	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromoform	75-25-2	mg/kg	6,200	130,000		<0.0119	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Butylbenzene	104-51-8	mg/kg	110	110		<0.0119	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Disulfide	75-15-0	mg/kg	740	740		<0.0476	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Tetrachloride	56-23-5	mg/kg	79	460		<0.0119	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chlorobenzene	108-90-7	mg/kg	760	760		<0.0119	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroethane	75-00-3	mg/kg	2,100	2,100		<0.0119	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroform	67-66-3	mg/kg	38	320		<0.0119	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,2-Dichloroethene	156-59-2	mg/kg	2400	2400		<0.0119	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	10061-01-5	mg/kg	NS	NS		<0.0119	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane (chlorodibromomethane)	124-48-1	mg/kg	84	770		<0.0119	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dichlorodifluoromethane (Freon-12)	75-71-8	mg/kg	850	850		<0.0119	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	100-41-4	mg/kg	480	480		<0.0119	--	--	--	--	--	--	--	--	--	<0.0127	<0.0124	<0.0123	--	--	--	--	--
Hexachloro-1,3-butadiene	87-68-3	mg/kg	630	1,400		<0.0119	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexane	110-54-3	mg/kg	140	140		<0.0119	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isopropylbenzene	98-82-8	mg/kg	270	270		<0.0119	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
m,p-Xylenes	179601-23-1	mg/kg	NS	NS		<0.0238	--	--	--	--	--	--	--	--	--	<0.0254	<0.0248	<0.0246	--	--	--	--	--
Methyl Bromide	74-83-9	mg/kg	82	550		<0.0119	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl Chloride	74-87-3	mg/kg	1,300	1,300		<0.0119	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl Iodide	74-88-4	mg/kg	NS	NS		<0.0238	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylene Bromide	74-95-3	mg/kg	2,800	2,800		<0.0119	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylene Chloride	75-09-2	mg/kg	3,300	3,300		<0.0119	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl-tert-butyl-ether	1634-04-4	mg/kg	5,700	8,900		<0.0238	--	--	--	--	--	--	--	--	--	<0.0254	<0.0248	<0.0246	--	--	--	--	--
Naphthalene	91-20-3	mg/kg	450	560		<0.0119	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
n-Propylbenzene	103-65-1	mg/kg	260	260		<0.0119	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
o-Xylene	95-47-6	mg/kg	NS	NS		<0.0119	--	--	--	--	--	--	--	--	--	<0.0127	<0.0124	<0.0123	--	--	--	--	--
sec-Butylbenzene	135-98-8	mg/kg	140	140		<0.0119	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Styrene	100-42-5	mg/kg	870	870		<0.0119	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
tert-Butylbenzene	98-06-6	mg/kg	180	180		<0.0119	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tetrachloroethene	127-18-4	mg/kg	170	170		<0.0119	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toluene	108-88-3	mg/kg	820	820		<0.0119	--	--	--	--	--	--	--	--	--	<0.0127	<0.0124	<0.0123	--	--	--	--	--
trans-1,2-Dichloroethene	156-60-5	mg/kg	1,700	1,700		<0.0119	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	10061-02-6	mg/kg	NS	NS		<0.0119	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichloroethene	79-01-6	mg/kg	51	17		<0.0119	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichlorofluoromethane (Freon-11)	75-69-4	mg/kg	1,200	1,200		<0.0119	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl Acetate	108-05-4	mg/kg	2,700	620		<0.0238	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl Chloride	75-01-4	mg/kg	50	280		<0.0119	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SW 8260B																							
1,1,1,2-Tetrachloroethane	630-20-6	mg/kg	240	680		--	<0.121	<0.123	<0.107	--	<0.116	<0.121	<0.125	<0.135	<0.125	--	--	--	<0.126	<0.118	<0.106	<0.141	<0.141
1,1,1-Trichloroethane	71-55-6	mg/kg	640	640		--	<0.121	<0.123	<0.107	--	<0.116	<0.121	<0.125	<0.135	<0.125	--	--	--	<0.126	<0.118	<0.106	<0.141	<0.141
1,1,2,2-Tetrachloroethane	79-34-5	mg/kg	75	670		--	<0.121	<0.123	<0.107	--	<0.116	<0.121	<0.125	<0.135	<0.125	--	--	--	<0.126	<0.118	<0.106	<0.141	<0.141
1,1,2-Trichlorethane	79-00-5	mg/kg	140	1,200		--	<0.121	<0.123	<0.107	--	<0.116	<0.121	<0.125	<0.135	<0.125	--	--	--	<0.126	<0.118	<0.106	<0.141	<0.141
1,1-Dichloroethane	75-34-3	mg/kg	420	1,700		--	<0.121	<0.123	<0.107	--	<0.116	<0.121	<0.125	<0.135	<0.125	--	--	--	<0.126	<0.118	<0.106	<0.141	<0.141
1,1-Dichloroethene	75-35-4	mg/kg	1,200	360		--	<0.121	<0.123	<0.107	--	<0.116	<0.121	<0.125	<0.135	<0.125	--	--	--	<0.126	<0.118	<0.106	<0.141	<0.141
1,1-Dichloropropene	563-58-6	mg/kg	NS	NS		--	<0.121	<0.123	<0.107	--	<0.116	<0.121	<0.125	<0.135	<0.125	--	--	--	<0.126	<0.118	<0.106	<0.141	<0.141
1,2,3-Trichlorobenzene	87-61-6	mg/kg	NS	NS		--	<0.121	<0.123	<0.107	--	<0.116	<0.121	<0.125	<0.135	<0.125	--	--	--	<0.126	<0.118	<0.106	<0.141	<0.141
1,2,3-Trichloropropane	96-18-4	mg/kg	3.8	19		--	<0.121	<0.123	<0.107	--	<0.116	<0.121	<0.125	<0.135	<0.125	--	--	--	<0.126	<0.118	<0.106	<0.141	<0.141
1,2,4-Trichlorobenzene	120-82-1	mg/kg	400	400		--	<0.121	<0.123	<0.107	--	<0.116	<0.121	<0.125	<0.135	<0.125	--	--	--	<0.126	<0.118	<0.106	<0.141	<0.141
1,2,4-Trimethyl-benzene	95-63-6	mg/kg	220	220		--	<0.121	<0.123	<0.107	--	<0.116	<0.121	**0.873**	<0.135	<0.125	--	--	--	<0.126	<0.118	<0.106	<0.141	**0.341**
1,2-Dibromo-3-chloropropane	96-12-8	mg/kg	1.7	15		--	<0.242	<0.246	<0.215	--	<0.232	<0.242	<0.249	<0.27	<0.249	--	--	--	<0.252	<0.236	<0.213	<0.281	<0.282
1,2-Dibromoethane	106-93-4	mg/kg	4.4	38		--	<0.121	<0.123	<0.107	--	<0.116	<0.121	<0.125	<0.135	<0.125	--	--	--	<0.126	<0.118	<0.106	<0.141	<0.141
1,2-Dichlorobenzene	95-50-1	mg/kg	380	380		--	<0.121	<0.123	<0.107	--	<0.116	<0.121	<0.125	<0.135	**0.674**	--	--	--	<0.126	<0.118	<0.106	<0.141	<0.141
1,2-Dichloroethane	107-06-2	mg/kg	56	480		--	<0.121	<0.123	<0.107	--	<0.116	<0.121	<0.125	<0.135	<0.125	--	--	--	<0.126	<0.118	<0.106	<0.141	<0.141
1,2-Dichloropropane	78-87-5	mg/kg	120	180		--	<0.121	<0.123	<0.107	--	<0.116	<0.121	<0.125	<0.135	<0.125	--	--	--	<0.126	<0.118	<0.106	<0.141	<0.141
1,3,5-Trimethylbenzene	108-67-8	mg/kg	180	180		--	<0.121	<0.123	<0.107	--	<0.116	<0.121	**0.701**	<0.135	<0.125	--	--	--	<0.126	<0.118	<0.106	<0.141	<0.141
1,3-Dichlorobenzene	541-73-1	mg/kg	NS	NS		--	<0.121	<0.123	<0.107	--	<0.116	<0.121	<0.125	<0.135	<0.125	--	--	--	<0.126	<0.118	<0.106	<0.141	<0.141
1,3-Dichloropropane	142-28-9	mg/kg	1,500	1,500		--	<0.121	<0.123	<0.107	--	<0.116	<0.121	<0.125	<0.135	<0.125	--	--	--	<0.126	<0.118	<0.106	<0.141	<0.141
1,4-Dichlorobenzene	106-46-7	mg/kg	310	2,600		--	<0.121	<0.123	<0.107	--	<0.116	<0.121	<0.125	<0.135	**0.249**	--	--	--	<0.126	<0.118	<0.106	<0.141	<0.141
2,2-Dichloropropane	594-20-7	mg/kg	NS	NS		--	<0.121	<0.123	<0.107	--	<0.116	<0.121	<0.125	<0.135	<0.125	--	--	--	<0.126	<0.118	<0.106	<0.141	<0.141
2-Butanone	78-93-3	mg/kg	28,000	28,000		--	<0.483	<0.492	<0.43	--	<0.465	<0.483	<0.498	<0.54	**7.24**	--	--	--	<0.503	<0.472	<0.426	<0.562	**1.98**
2-Chlorotoluene	95-49-8	mg/kg	NS	NS		--	<0.121	<0.123	<0.107	--	<0.116	<0.121	<0.125	<0.135	<0.125	--	--	--	<0.126	<0.118	<0.106	<0.141	<0.141
2-Hexanone	591-78-6	mg/kg	NS	NS		--	<0.483	<0.492	<0.43	--	<0.465	<0.483	<0.498	<0.54	<0.498	--	--	--	<0.503	<0.472	<0.426	<0.562	<0.563
4-Chlorotoluene	106-43-4	mg/kg	NS	NS		--	<0.121	<0.123	<0.107	--	<0.116	<0.121	<0.125	<0.135	<0.125	--	--	--	<0.126	<0.118	<0.106	<0.141	<0.141
4-Isopropyltoluene	99-87-6	mg/kg	160	160		--	<0.121	<0.123	<0.107	--	<0.116	<0.121	<0.125	<0.135	**0.32**	--	--	--	<0.126	<0.118	<0.106	<0.141	**0.181**
4-Methyl-2-pentanone	108-10-1	mg/kg	3,400	3,400		--	<0.483	<0.492	<0.43	--	<0.465	<0.483	<0.498	<0.54	<0.498	--	--	--	<0.503	<0.472	<0.426	<0.562	<0.563
Acetone	67-64-1	mg/kg	110,000	110,000		--	<1.21	<1.23	<1.07	--	<1.16	<1.21	<1.25	<1.35	<1.25	--	--	--	<1.26	<1.18	<1.06	<1.41	<1.41

CITY OF TOLEDO
FORMER CHAMPION SPARK PLUG PROPERTY
900 UPTON AVE, TOLEDO, LUCAS COUNTY, OHIO

TABLE 1

SOIL SAMPLING SUMMARY (mg/kg)

			2014 VAP	2014 VAP	Station Name	HSB-1	HSB-10	HSB-11	HSB-12	HSB-13	HSB-13	HSB-15	HSB-16	HSB-17	HSB-18	HSB-2	HSB-3	HSB-4	HSB-5	HSB-6	HSB-7	HSB-8	HSB-9
					Depth	4 - 6 ft	0 - 2 ft	0 - 2 ft	0 - 2 ft	0 - 12 ft	10 - 12 ft	4 - 6 ft	2 - 4 ft	8 - 10 ft	4 - 6 ft	6 - 8 ft	4 - 5 ft	4 - 6 ft	0 - 2 ft	0 - 2 ft	0 - 2 ft	8 - 10 ft	6 - 8 ft
Acetonitrile	75-05-8	mg/kg	9,200	26,000		--	<0.966	<0.984	<0.859	--	<0.929	<0.967	<0.997	<1.08	<0.996	--	--	--	<1.01	<0.944	<0.851	<1.12	<1.13
Acrolein	107-02-8	mg/kg	1.6	5.5		--	<1.21	<1.23	<1.07	--	<1.16	<1.21	<1.25	<1.35	<1.25	--	--	--	<1.26	<1.18	<1.06	<1.41	**3.23**
Acrylonitrile	107-13-1	mg/kg	32	62		--	<0.483	<0.492	<0.43	--	<0.465	<0.483	<0.498	<0.54	<0.498	--	--	--	<0.503	<0.472	<0.426	<0.562	<0.563
Allyl Chloride	107-05-1	mg/kg	19	64		--	<0.242	<0.246	<0.215	--	<0.232	<0.242	<0.249	<0.27	<0.249	--	--	--	<0.252	<0.236	<0.213	<0.281	<0.282
Benzene	71-43-2	mg/kg	140	1,200		--	<0.121	<0.123	<0.107	--	<0.116	<0.121	<0.125	<0.135	<0.125	--	--	--	<0.126	<0.118	<0.106	<0.141	**3.51**
Bromobenzene	108-86-1	mg/kg	NS	NS		--	<0.121	<0.123	<0.107	--	<0.116	<0.121	<0.125	<0.135	<0.125	--	--	--	<0.126	<0.118	<0.106	<0.141	<0.141
Bromochloromethane	74-97-5	mg/kg	NS	NS		--	<0.121	<0.123	<0.107	--	<0.116	<0.121	<0.125	<0.135	<0.125	--	--	--	<0.126	<0.118	<0.106	<0.141	<0.141
Bromodichloromethane	75-27-4	mg/kg	35	300		--	<0.121	<0.123	<0.107	--	<0.116	<0.121	<0.125	<0.135	<0.125	--	--	--	<0.126	<0.118	<0.106	<0.141	<0.141
Bromoform	75-25-2	mg/kg	6,200	130,000		--	<0.121	<0.123	<0.107	--	<0.116	<0.121	<0.125	<0.135	<0.125	--	--	--	<0.126	<0.118	<0.106	<0.141	<0.141
Butylbenzene	104-51-8	mg/kg	110	110		--	<0.121	<0.123	<0.107	--	<0.116	<0.121	<0.125	<0.135	**2.34**	--	--	--	<0.126	<0.118	<0.106	<0.141	**2.06**
Carbon Disulfide	75-15-0	mg/kg	740	740		--	<0.483	<0.492	<0.43	--	<0.465	<0.483	<0.498	<0.54	<0.498	--	--	--	<0.503	<0.472	<0.426	<0.562	<0.563
Carbon Tetrachloride	56-23-5	mg/kg	79	460		--	<0.121	<0.123	<0.107	--	<0.116	<0.121	<0.125	<0.135	<0.125	--	--	--	<0.126	<0.118	<0.106	<0.141	<0.141
Chlorobenzene	108-90-7	mg/kg	760	760		--	<0.121	<0.123	<0.107	--	<0.116	<0.121	<0.125	<0.135	<0.125	--	--	--	<0.126	<0.118	<0.106	<0.141	<0.141
Chloroethane	75-00-3	mg/kg	2,100	2,100		--	<0.121	<0.123	<0.107	--	<0.116	<0.121	<0.125	<0.135	<0.125	--	--	--	<0.126	<0.118	<0.106	<0.141	<0.141
Chloroform	67-66-3	mg/kg	38	320		--	<0.121	<0.123	<0.107	--	<0.116	<0.121	<0.125	<0.135	<0.125	--	--	--	<0.126	<0.118	<0.106	<0.141	<0.141
cis-1,2-Dichloroethene	156-59-2	mg/kg	2,400	2,400		--	<0.121	<0.123	<0.107	--	**3.74**	<0.121	**5.24**	<0.135	<0.125	--	--	--	<0.126	<0.118	<0.106	<0.141	<0.141
cis-1,3-Dichloropropene	10061-01-5	mg/kg	NS	NS		--	<0.121	<0.123	<0.107	--	<0.116	<0.121	<0.125	<0.135	<0.125	--	--	--	<0.126	<0.118	<0.106	<0.141	<0.141
Dibromochloromethane (chlorodibromomethane)	124-48-1	mg/kg	84	770		--	<0.121	<0.123	<0.107	--	<0.116	<0.121	<0.125	<0.135	<0.125	--	--	--	<0.126	<0.118	<0.106	<0.141	<0.141
Dichlorodifluoromethane (Freon-12)	75-71-8	mg/kg	850	850		--	<0.121	<0.123	<0.107	--	<0.116	<0.121	<0.125	<0.135	<0.125	--	--	--	<0.126	<0.118	<0.106	<0.141	<0.141
Ethylbenzene	100-41-4	mg/kg	480	480		--	<0.121	<0.123	<0.107	--	<0.116	<0.121	**0.13**	<0.135	**1.65**	--	--	--	<0.126	<0.118	<0.106	<0.141	**1.08**
Hexachloro-1,3-butadiene	87-68-3	mg/kg	630	1,400		--	<0.121	<0.123	<0.107	--	<0.116	<0.121	<0.125	<0.135	<0.125	--	--	--	<0.126	<0.118	<0.106	<0.141	<0.141
Hexane	110-54-3	mg/kg	140	140		--	<0.121	<0.123	<0.107	--	<0.116	<0.121	<0.125	<0.135	**2.42**	--	--	--	<0.134	<0.118	<0.106	<0.141	**2.5**
Isopropylbenzene	98-82-8	mg/kg	270	270		--	<0.121	<0.123	<0.107	--	<0.116	<0.121	<0.125	<0.135	**0.456**	--	--	--	<0.126	<0.118	<0.106	<0.141	**0.892**
m,p-Xylenes	179601-23-1	mg/kg	NS	NS		--	<0.242	<0.246	<0.215	--	<0.232	<0.242	**0.593**	<0.27	<0.249	--	--	--	<0.252	<0.236	<0.213	<0.281	**0.463**
Methyl Bromide	74-83-9	mg/kg	82	550		--	<0.121	<0.123	<0.107	--	<0.116	<0.121	<0.125	<0.135	<0.125	--	--	--	<0.126	<0.118	<0.106	<0.141	<0.141
Methyl Chloride	74-87-3	mg/kg	1,300	1,300		--	<0.121	<0.123	<0.107	--	<0.116	<0.121	<0.125	<0.135	<0.125	--	--	--	<0.126	<0.118	<0.106	<0.141	<0.141
Methyl Iodide	74-88-4	mg/kg	NS	NS		--	<0.242	<0.246	<0.215	--	<0.232	<0.242	<0.249	<0.27	<0.249	--	--	--	<0.252	<0.236	<0.213	<0.281	<0.282
Methylene Bromide	74-95-3	mg/kg	2,800	2,800		--	<0.121	<0.123	<0.107	--	<0.116	<0.121	<0.125	<0.135	<0.125	--	--	--	<0.126	<0.118	<0.106	<0.141	<0.141
Methylene Chloride	75-09-2	mg/kg	3,300	3,300		--	<0.121	<0.123	<0.107	--	<0.116	<0.121	<0.125	<0.135	<0.125	--	--	--	<0.126	<0.118	<0.106	<0.141	<0.141
Methyl-tert-butyl-ether	1634-04-4	mg/kg	5,700	8,900		--	<0.242	<0.246	<0.215	--	<0.232	<0.242	<0.249	<0.27	<0.249	--	--	--	<0.252	<0.236	<0.213	<0.281	<0.282
Naphthalene	91-20-3	mg/kg	450	560		--	<0.121	<0.123	<0.107	--	<0.116	<0.121	<0.125	<0.135	**8.69**	--	--	--	<0.126	<0.118	<0.106	<0.141	**1.36**
n-Propylbenzene	103-65-1	mg/kg	260	260		--	<0.121	<0.123	<0.107	--	<0.116	<0.121	<0.125	<0.135	**2.35**	--	--	--	<0.126	<0.118	<0.106	<0.141	**4.18**
o-Xylene	95-47-6	mg/kg	NS	NS		--	<0.121	<0.123	<0.107	--	<0.116	<0.121	**0.703**	<0.135	<0.125	--	--	--	<0.126	<0.118	<0.106	<0.141	<0.141
sec-Butylbenzene	135-98-8	mg/kg	140	140		--	<0.121	<0.123	<0.107	--	<0.116	<0.121	**0.145**	<0.135	**0.903**	--	--	--	<0.126	<0.118	<0.106	<0.141	**0.9**
Styrene	100-42-5	mg/kg	870	870		--	<0.121	<0.123	<0.107	--	<0.116	<0.121	<0.125	<0.135	<0.125	--	--	--	<0.126	<0.118	<0.106	<0.141	<0.141
tert-Butylbenzene	98-06-6	mg/kg	180	180		--	<0.121	<0.123	<0.107	--	<0.116	<0.121	<0.125	<0.135	<0.125	--	--	--	<0.126	<0.118	<0.106	<0.141	<0.141
Tetrachloroethene	127-18-4	mg/kg	170	170		--	<0.121	<0.123	<0.107	--	**0.361**	<0.121	**0.195**	<0.135	<0.125	--	--	--	<0.126	<0.118	<0.106	<0.141	<0.141
Toluene	108-88-3	mg/kg	820	820		--	<0.121	<0.123	<0.107	--	<0.116	<0.121	**0.505**	<0.135	<0.125	--	--	--	<0.126	<0.118	<0.106	<0.141	<0.141
trans-1,2-Dichloroethene	156-60-5	mg/kg	1,700	1,700		--	<0.121	<0.123	<0.107	--	<0.116	<0.121	**0.125**	<0.135	<0.125	--	--	--	<0.126	<0.118	<0.106	<0.141	<0.141
trans-1,3-Dichloropropene	10061-02-6	mg/kg	NS	NS		--	<0.121	<0.123	<0.107	--	<0.116	<0.121	<0.125	<0.135	<0.125	--	--	--	<0.126	<0.118	<0.106	<0.141	<0.141
Trichloroethene	79-01-6	mg/kg	51	17		--	<0.121	<0.123	<0.107	--	**123**	<0.121	**14.4**	<0.135	<0.125	--	--	--	<0.126	<0.118	<0.106	<0.141	<0.141
Trichlorofluoromethane (Freon-11)	75-69-4	mg/kg	1,200	1,200		--	<0.121	<0.123	<0.107	--	<0.116	<0.121	<0.125	<0.135	<0.125	--	--	--	<0.126	<0.118	<0.106	<0.141	<0.141
Vinyl Acetate	108-05-4	mg/kg	2,700	620		--	<0.242	<0.246	<0.215	--	<0.232	<0.242	<0.249	<0.27	<0.249	--	--	--	<0.252	<0.236	<0.213	<0.281	<0.282
Vinyl Chloride	75-01-4	mg/kg	50	280		--	<0.121	<0.123	<0.107	--	<0.116	<0.121	<0.125	<0.135	<0.125	--	--	--	<0.126	<0.118	<0.106	<0.141	<0.141

orange	Cidars standard was utilized due to no VAP standard developed for the chemical oc concern.
NS	No Standard developed for the chemical of concern.
green	Exceeds Standard/Action Level.
BOLD	Result is below VAP standards/action levels but above laboratory detection limits.

CITY OF TOLEDO
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900 UPTON AVE, TOLEDO, LUCAS COUNTY, OHIO

TABLE 2

GROUNDWATER SAMPLING SUMMARY (ug/L)

Parameters	CAS Number	Units	2014 VAP Generic Unrestricted Potable Use Standard	Station Name	HTMW-1	HTMW-1	HTMW-2	HTMW-3	HTMW-4	HTMW-5	HTMW-6
				Date	6/11/2015	6/11/2015	6/11/2015	6/11/2015	6/12/2015	6/12/2015	6/11/2015
				Sample ID	COT235: HTMW-1: G061115	COT235: HTMW-1: G061115A	COT235: HTMW-2: G061115	COT235: HTMW-3: G061115	COT235: HTMW-4: G061215	COT235: HTMW-5: G061215	COT235: HTMW-6: G061215
EPA 8270 by SIM LVE											
2-Methylnaphthalene	91-57-6	ug/l	27		<1	<1	<1	<1	<1	**3**	<1
Acenaphthene	83-32-9	ug/l	400		<1	<1	<1	<1	<1	<1	<1
Acenaphthylene	208-96-8	ug/l	390		<1	<1	<1	<1	<1	<1	<1
Anthracene	120-12-7	ug/l	1,300		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	56-55-3	ug/l	0.92		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	50-32-8	ug/l	0.2		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b)fluoranthene	205-99-2	ug/l	0.92		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	191-24-2	ug/l	470		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	207-08-9	ug/l	9.2		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	218-01-9	ug/l	92		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a,h)anthracene	53-70-3	ug/l	0.092		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	206-44-0	ug/l	630		<1	<1	<1	<1	<1	<1	<1
Fluorene	86-73-7	ug/l	220		<1	<1	<1	<1	<1	<1	<1
Indeno(1,2,3-cd)pyrene	193-39-5	ug/l	0.92		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Naphthalene	91-20-3	ug/l	1.4		<1	<1	<1	<1	<1	**1.2**	<1
Phenanthrene	85-01-8	ug/l	3,400		<1	<1	<1	<1	<1	<1	<1
Pyrene	129-00-0	ug/l	87		<1	<1	<1	<1	<1	<1	<1
SW 6010B											
Arsenic	7440-38-2	ug/l	10		**9.9**	<5	**32**	**5.3**	**27**	<5	**27**
Barium	7440-39-3	ug/l	2,000		**107**	<5	**234**	**165**	**257**	**123**	**1,420**
Cadmium	7440-43-9	ug/l	5		<2	<2	<2	<2	<2	<2	<2
Chromium	7440-47-3	ug/l	100		<5	<5	**17**	**5.9**	**21**	**5.6**	**5.8**
Lead	7439-92-1	ug/l	15		<5	<5	**7.7**	<5	**9**	<5	**5.4**
Selenium	7782-49-2	ug/l	50		<10	<10	<10	<10	<10	<10	<10
Silver	7440-22-4	ug/l	71		<2	<2	<2	<2	<2	<2	<2
SW 7470A											
Mercury	7439-97-6	ug/l	2		<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
SW 8260B											
1,1,1,2-Tetrachloroethane	630-20-6	ug/l	5		<5	<5	<5	<5	<5	<5	<5
1,1,1-Trichloroethane	71-55-6	ug/l	200		<5	<5	<5	<5	<5	<5	<5
1,1,2,2-Tetrachloroethane	79-34-5	ug/l	0.66		<5	<5	<5	<5	<5	<5	<5
1,1,2-Trichlorethane	79-00-5	ug/l	5		<5	<5	<5	<5	<5	<5	<5
1,1-Dichloroethane	75-34-3	ug/l	24		<5	<5	<5	<5	<5	<5	<5
1,1-Dichloroethene	75-35-4	ug/l	7		<5	<5	<5	<5	<5	<5	<5
1,1-Dichloropropene	563-58-6	ug/l	NS		<5	<5	<5	<5	<5	<5	<5

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900 UPTON AVE, TOLEDO, LUCAS COUNTY, OHIO

TABLE 2

GROUNDWATER SAMPLING SUMMARY (ug/L)

Parameters	CAS Number	Units	2014 VAP Generic Unrestricted Potable Use Standard	Station Name	HTMW-1	HTMW-1	HTMW-2	HTMW-3	HTMW-4	HTMW-5	HTMW-6
				Date	6/11/2015	6/11/2015	6/11/2015	6/11/2015	6/12/2015	6/12/2015	6/11/2015
				Sample ID	COT235: HTMW-1: G061115	COT235: HTMW-1: G061115A	COT235: HTMW-2: G061115	COT235: HTMW-3: G061115	COT235: HTMW-4: G061215	COT235: HTMW-5: G061215	COT235: HTMW-6: G061215
1,2,3-Trichlorobenzene	87-61-6	ug/l	NS		<5	<5	<5	<5	<5	<5	<5
1,2,3-Trichloropropane	96-18-4	ug/l	0.02		<5	<5	<5	<5	<5	<5	<5
1,2,4-Trichlorobenzene	120-82-1	ug/l	70		<5	<5	<5	<5	<5	<5	<5
1,2,4-Trimethylbenzene	95-63-6	ug/l	15		<5	<5	<5	<5	<5	<5	<5
1,2-Dibromo-3-chloropropane	96-12-8	ug/l	0.2		<10	<10	<10	<10	<10	<10	<10
1,2-Dibromoethane	106-93-4	ug/l	0.05		<5	<5	<5	<5	<5	<5	<5
1,2-Dichlorobenzene	95-50-1	ug/l	600		<5	<5	<5	<5	<5	<5	<5
1,2-Dichloroethane	107-06-2	ug/l	5		<5	<5	<5	<5	<5	<5	<5
1,2-Dichloropropane	78-87-5	ug/l	5		<5	<5	<5	<5	<5	<5	<5
1,3,5-Trimethylbenzene	108-67-8	ug/l	87		<5	<5	<5	<5	<5	<5	<5
1,3-Dichlorobenzene	541-73-1	ug/l	NS		<5	<5	<5	<5	<5	<5	<5
1,3-Dichloropropane	142-28-9	ug/l	290		<5	<5	<5	<5	<5	<5	<5
1,4-Dichlorobenzene	106-46-7	ug/l	75		<5	<5	<5	<5	<5	<5	<5
2,2-Dichloropropane	594-20-7	ug/l	NS		<5	<5	<5	<5	<5	<5	<5
2-Butanone	78-93-3	ug/l	4900		<20	<20	<20	<20	<20	<20	<20
2-Chlorotoluene	95-49-8	ug/l	NS		<5	<5	<5	<5	<5	<5	<5
2-Hexanone	591-78-6	ug/l	NS		<20	<20	<20	<20	<20	<20	<20
4-Chlorotoluene	106-43-4	ug/l	NS		<5	<5	<5	<5	<5	<5	<5
4-Isopropyltoluene	99-87-6	ug/l	170		<5	<5	<5	<5	<5	<5	<5
4-Methyl-2-pentanone	108-10-1	ug/l	1000		<20	<20	<20	<20	<20	<20	<20
Acetone	67-64-1	ug/l	12000		<20	<20	<20	<20	<20	<20	<20
Acetonitrile	75-05-8	ug/l	130		<40	<40	<40	<40	<40	<40	<40
Acrolein	107-02-8	ug/l	0.041		<20	<20	<20	<20	<20	<20	<20
Acrylonitrile	107-13-1	ug/l	0.45		<20	<20	<20	<20	<20	<20	<20
Allyl Chloride	107-05-1	ug/l	2.1		<5	<5	<5	<5	<5	<5	<5
Benzene	71-43-2	ug/l	5		<5	<5	<5	<5	<5	<5	**6.87**
Bromobenzene	108-86-1	ug/l	NS		<5	<5	<5	<5	<5	<5	<5
Bromochloromethane	74-97-5	ug/l	NS		<5	<5	<5	<5	<5	<5	<5
Bromodichloromethane	75-27-4	ug/l	80		<5	<5	<5	<5	<5	<5	<5
Bromoform	75-25-2	ug/l	80		<5	<5	<5	<5	<5	<5	<5
Butylbenzene	104-51-8	ug/l	780		<5	<5	<5	<5	<5	<5	<5
Carbon Disulfide	75-15-0	ug/l	720		<20	<20	<20	<20	<20	<20	<20
Carbon Tetrachloride	56-23-5	ug/l	5		<5	<5	<5	<5	<5	<5	<5
Chlorobenzene	108-90-7	ug/l	100		<5	<5	<5	<5	<5	<5	<5
Chloroethane	75-00-3	ug/l	21000		<5	<5	<5	<5	<5	<5	<5
Chloroform	67-66-3	ug/l	80		<5	<5	<5	<5	<5	<5	<5
cis-1,2-Dichloroethene	156-59-2	ug/l	5		<5	<5	<5	<5	<5	<5	<5

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900 UPTON AVE, TOLEDO, LUCAS COUNTY, OHIO

TABLE 2

GROUNDWATER SAMPLING SUMMARY (ug/L)

Parameters	CAS Number	Units	2014 VAP Generic Unrestricted Potable Use Standard	Station Name	HTMW-1	HTMW-1	HTMW-2	HTMW-3	HTMW-4	HTMW-5	HTMW-6
				Date	6/11/2015	6/11/2015	6/11/2015	6/11/2015	6/12/2015	6/12/2015	6/11/2015
				Sample ID	COT235: HTMW-1: G061115	COT235: HTMW-1: G061115A	COT235: HTMW-2: G061115	COT235: HTMW-3: G061115	COT235: HTMW-4: G061215	COT235: HTMW-5: G061215	COT235: HTMW-6: G061215
cis-1,3-Dichloropropene	10061-01-5	ug/l	5		<5	<5	<5	<5	<5	<5	<5
Dibromochloromethane (chlorodibromomethane)	124-48-1	ug/l	80		<5	<5	<5	<5	<5	<5	<5
Dichlorodifluoromethane (Freon-12)	75-71-8	ug/l	2800		<5	<5	<5	<5	<5	<5	<5
Ethylbenzene	100-41-4	ug/l	700		<5	<5	<5	<5	<5	<5	<5
Hexachloro-1,3-butadiene	87-68-3	ug/l	5		<5	<5	<5	<5	<5	<5	<5
Hexane	110-54-3	ug/l	250		<5	<5	<5	<5	<5	<5	<5
Isopropylbenzene	98-82-8	ug/l	5		<5	<5	<5	<5	<5	<5	<5
m,p-Xylenes	179601-23-1	ug/l	5		<10	<10	<10	<10	**13.3**	**11.9**	<10
Methyl Bromide	74-83-9	ug/l	7		<5	<5	<5	<5	<5	<5	<5
Methyl Chloride	74-87-3	ug/l	190		<5	<5	<5	<5	<5	<5	<5
Methyl Iodide	74-88-4	ug/l	5		<10	<10	<10	<10	<10	<10	<10
Methylene Bromide	74-95-3	ug/l	150		<5	<5	<5	<5	<5	<5	<5
Methylene Chloride	75-09-2	ug/l	5		<5	<5	<5	<5	<5	<5	<5
Methyl-tert-butyl-ether	1634-04-4	ug/l	120		<10	<10	**26.6**	**58**	<10	<10	**18.5**
Naphthalene	91-20-3	ug/l	1.4		<5	<5	<5	<5	<5	<5	<5
n-Propylbenzene	103-65-1	ug/l	5		<5	<5	<5	<5	<5	<5	<5
o-Xylene	95-47-6	ug/l	5		<5	<5	<5	<5	<5	<5	<5
sec-Butylbenzene	135-98-8	ug/l	5		<5	<5	<5	<5	<5	<5	<5
Styrene	100-42-5	ug/l	100		<5	<5	<5	<5	<5	<5	<5
tert-Butylbenzene	98-06-6	ug/l	5		<5	<5	<5	<5	<5	<5	<5
Tetrachloroethene	127-18-4	ug/l	5		<5	<5	<5	<5	<5	<5	<5
Toluene	108-88-3	ug/l	1000		<5	<5	<5	<5	<5	<5	<5
trans-1,2-Dichloroethene	156-60-5	ug/l	100		<5	<5	<5	<5	<5	<5	<5
trans-1,3-Dichloropropene	10061-02-6	ug/l	NS		<5	<5	<5	<5	<5	<5	<5
Trichloroethene	79-01-6	ug/l	5		<5	<5	<5	<5	<5	<5	<5
Trichlorofluoromethane (Freon-11)	75-69-4	ug/l	1100		<5	<5	<5	<5	<5	<5	<5
Vinyl Acetate	108-05-4	ug/l	410		<10	<10	<10	<10	<10	<10	<10
Vinyl Chloride	75-01-4	ug/l	2		<1	<1	<1	<1	<1	<1	<1

orange	Cidars standard was utilized due to no VAP standard developed for the chemical oc concern.
NS	No Standard developed for the chemical of concern.
green	Exceeds Standard/Action Level.
BOLD	Result is below VAP standards/action levels but above laboratory detection limits.

CITY OF TOLEDO
FORMER CHAMPION SPARK PLUG PROPERTY
900 UPTON AVE, TOLEDO, LUCAS COUNTY, OHIO

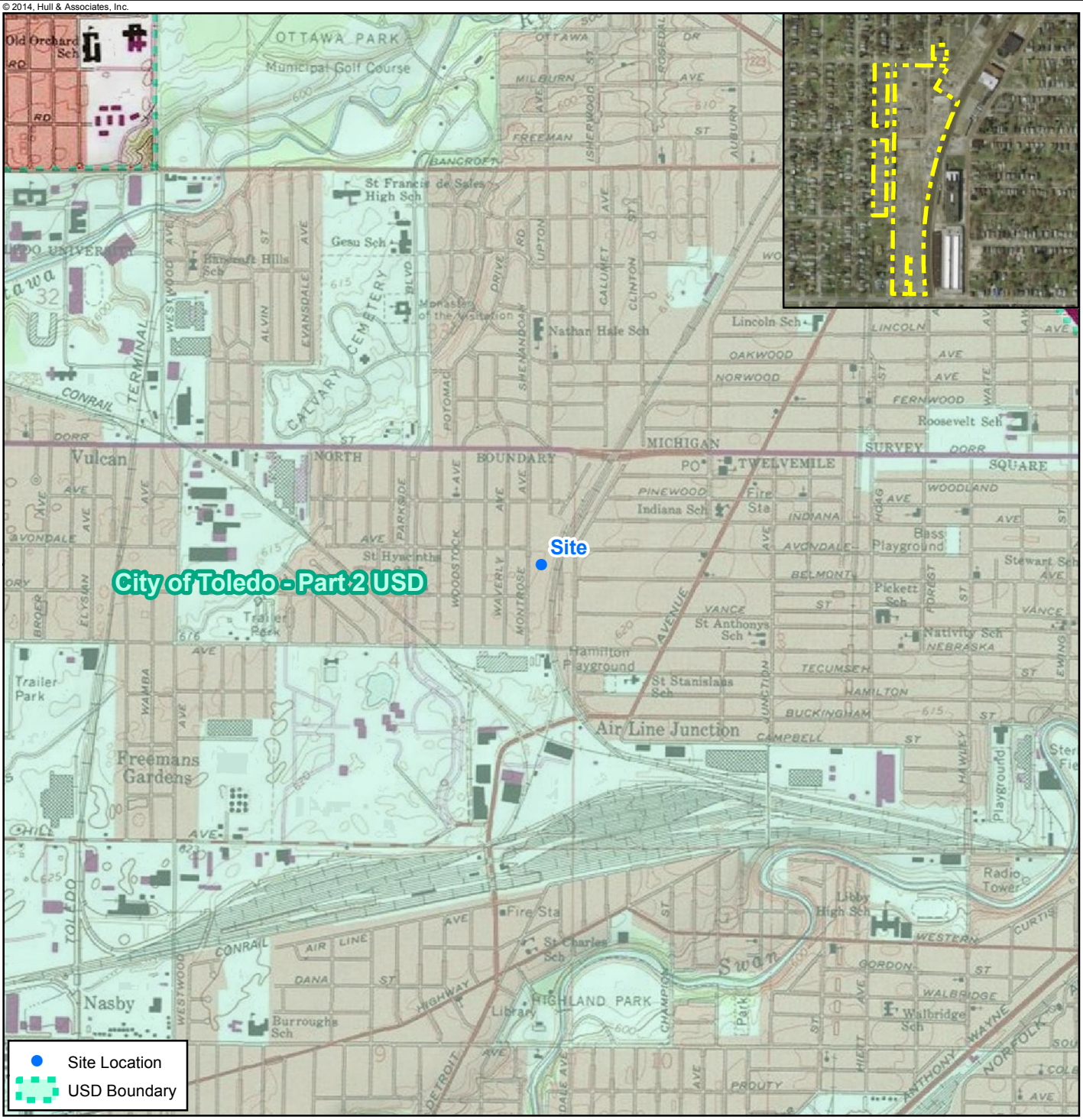
TABLE 3

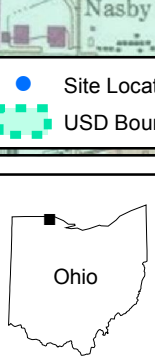
SOIL-GAS (AIR) SAMPLING SUMMARY (ug/m3)

Parameters	CAS Number	Units	2014 VAP Generic Indoor Air Numerical Standard (commercial/ industrial land use category)	Station Name	HSG-1	HSG-2
				Date	6/24/2015	6/24/2015
				Sample ID	COT235: HSG-1: A062415	COT235: HSG-2: A062415
TO15 MSV AIR						
Benzene	71-43-2	ug/m3	16		**10.3**	**9**
Ethylbenzene	100-41-4	ug/m3	49		**2.7**	**5.6**
Methyl-tert-butyl-ether	1634-04-4	ug/m3	470		**5**	<1.2
Toluene	108-88-3	ug/m3	22,000		**13.8**	**23.5**
m,p-Xylenes	179601-23-1	ug/m3	NS		**9.5**	**17.3**
o-Xylene	95-47-6	ug/m3	NS		**4.4**	**9.7**

NS No Standard developed for the chemical of concern.
BOLD Result is below VAP standards/action levels but above laboratory detection limits.

FIGURES





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0 500 1,000 2,000 Feet

1:24,000

Quad: Toledo

Source: The topographic map was acquired through the USGS Topographic Map web service.

The aerial photo in the inset was acquired through the ESRI Imagery web service. Aerial photography dated 2012.

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Phase II Site Assessment
Former Champion Sparkplug

Site Location Map

914 Upton Avenue
Toledo, Lucas County, Ohio

Date:
September 2015

File Name:
COT235_20_Fig01_ChampSpkSLM.mxd

Edited: 9/9/2015 By: jslifer

Figure
1

Produced using ArcGIS 10.0 SP1

0 40 80 160 Feet
1:960

HSB-1
HSB-3
HSG-2
Fill Ports
HSB-2/HTMW-2
HSG-1
HSB-4
Area 1
Area 3
HSB-8/HTMW-3
Former Research and Engineering Building
S #1
S #2
#3
#4
#10
Incident # 488279-03
Former Recovery Sump
#5
#6
#7
#8
#9
HSB-9/HTMW-6
Former Manfield House
Incident # 488279-00
Cardox AST
1 inch = 20 feet

Pole Mounted Transformer
Area 11
Former Hastings Warehouse
HSB-5
HSB-6
Former Tech. Services Bldg.
Fill Ports
HSB-17/TMW-1
HSB-7
#1
#2
Incident # 488279-0?
Incident # 488279-01
REC-2
Area 1
Incident # 488279-03
Area 3
S #2
#3
#4
S #1
#10
Former Recovery Sump
Former Research and Engineering Building
Former Manfield House
#5
#6
#9
#8
Incident # 488279-00
Cardox AST
#7
REC-3
REC-4
HSB-11
Transformers
Area 9
Former 6 Story Office Building
HSB-10/HTMW-4
Former Production and Engineering Building
Area 4
#14
Incident # 488279-05
HSB-12/HTMW-5
#15
HSB-18
Incident # 488279-02
#11
#13
#12
Area 2
Incident # 488279-0?
#16
HSB-13
Area 7
Former Above Ground Vapor Degreaser
Former 1-Story Production Bldg.
HSB-14
Boiler House
HSB-15
10,000 Gal Fuel Oil Tank with Concrete Dike
Area 10
Former Manufacturing Building
HSB-16
Above Ground Heating Oil Tank
Substation High Voltage Transformers
Oil Recovery Sump at Monrose Street
Pump Room
Incident # 488279-04
#17
Former Blaw Knox Bldg.
Oil Recovery Sump
Buried Drum Containing Metal Hydroxide Filter Cake
#19
Area 5
#18
3 Manholes
#22
2 Manhole
#20 #21
Incident # 488279-06
RCRA Waste Storage Area
Area 8
Incident # 488279-07
Area 6
#23
Oil Recovery Sump at MonroseSt
Area 10
Pump Room
#17
Incident # 488279-04
Substation High Voltage Transformers
Area 5
Incident # 488279-06
#18
#19
3 Manholes
#22
2 Manhole
#20
#21
1 inch = 20 feet
Former REX Research, Inc. (?) (Insecticides) Office Building and outline
Area 12

Property Boundary
Zone of Contamination from Oil Overflow (WSP Environmental Strategies Locations)
AST (WSP Environmental Strategies Locations)
UST (WSP Environmental Strategies Locations)
Identified Areas (WSP Environmental Strategies Locations)
Incidents (BUSTR Incident ID)
Electrical Duct
Storm Line
Product Fill Line
Underground Piping Runs
Underground Tunnel
Manhole
Sump

Recognized Environmental Conditions
REC-2
REC-3
REC-4

Recognized Environmental Condition (REC)
REC-1: Ground water Restriction and Lane Use Restricted to Commercial/Industrial Use
REC-2: Five Out-of-Service USTS
REC-3: Oil Release from Electrical Transformers
REC-4: Debris Piles Prohibiting Observation Resulting in a Data Gap

Notes:
-The aerial photo was acquired through the ESRI Imagery web service. Aerial photography dated 2012.
-Information was obtained from WSP Strategies 2001-2006 Reports.

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September 2015

Phase II Site Assessment
Former Champion Sparkplug

Site Map

914 Upton Avenue
Toledo, Lucas County, Ohio

Figure
2

Produced using ArcGIS 10.0 SP1

File Name: COT235_20_Fig02_ChampSpkSite.mxd

Edited: 9/9/2015 By: jslifer

0 40 80 160 Feet
1:960

	HTMW-2	2014 VAP Generic Unrestricted Potable Use Standard
	6/11/2015	
	COT235:HTMW-2: G061115	
Arsenic	**32**	10

	HTMW-6	2014 VAP Generic Unrestricted Potable Use Standard
	6/11/2015	
	COT235:HTMW-6: G061215	
Arsenic	**27**	10
Benzene	**6.87**	5.0

	HTMW-4	2014 VAP Generic Unrestricted Potable Use Standard
	6/12/2015	
	COT235:HTMW-4: G061215	
Arsenic	**27**	10
m,p-Xylenes	**13.3**	5

	HSB-9	2014 VAP Commerical/ Industrial Generic Direct Contact	2014 VAP Construction /Excavation Generic Direct Contact
	6/8/2015		
	6' - 8 '		
Acrolein	**3.23**	1.6	5.5

	HTMW-5	2014 VAP Generic Unrestricted Potable Use Standard
	6/12/2015	
	COT235:HTMW-5: G061215	
m,p-Xylenes	**11.9**	5

	HSB-13	2014 VAP Commerical/ Industrial Generic Direct Contact	2014 VAP Construction /Excavation Generic Direct Contact
	6/9/2015		
	10' - 12'		
Trichloroethene	**123**	51	17

1 inch = 20 feet

1 inch = 20 feet

Notes:
-The aerial photo was acquired through the ESRI Imagery web service. Aerial photography dated 2012.
-Information was obtained from WSP Strategies 2001-2006 Reports.

Recognized Environmental Condition (REC)
REC-1: Ground water Restriction and Lane Use Restricted to Commercial/Industrial Use
REC-2: Five Out-of-Service USTS
REC-3: Oil Release from Electrical Transformers
REC-4: Debris Piles Prohibiting Observation Resulting in a Data Gap

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September 2015

Phase II Site Assessment
Former Champion Sparkplug

Site Map with Soil and Groundwater Results

914 Upton Avenue
Toledo, Lucas County, Ohio

Figure 3

Property Boundary
Zone of Contamination from Oil Overflow (WSP Environmental Strategies Locations)
AST (WSP Environmental Strategies Locations)
UST (WSP Environmental Strategies Locations)
Identified Areas (WSP Environmental Strategies Locations)
Incidents (BUSTR Incident ID)
Electrical Duct
Storm Line
Product Fill Line
Underground Piping Runs
Underground Tunnel
Manhole
Sump

Recognized Environmental Conditions
REC-2
REC-3
REC-4

Produced using ArcGIS 10.0 SP1

File Name: COT235_20_Fig03_ChampSpkSamp.mxd

Edited: 9/9/2015 By: jslifer

APPENDIX A

Project Personnel Resumes

J MATTHEW BEIL, CPG | Project Hydrogeologist

HULL

EDUCATION:
- Bachelor of Science, Geology, The University of Toledo, 2002

TRAINING:
- OSHA 1910.120, 40-Hour Health and Safety Training Course and Annual 8- Hour OSHA Refresher
- HeartSaver First Aid and CPR/AED
- Smith Systems Defensive Driving

CERTIFICATIONS:
- Certified Professional Geologist (AIPG)

Matt has extensive experience in the environmental field, including groundwater sampling, soil sampling, explosive gas monitoring, installation of gas probes, vents, monitoring wells and piezometers. He also has been involved in construction observation and cost estimating for large industrial facilities. He completes comprehensive site history investigations, site walkovers, regulatory agency file reviews, and Phase I/II site assessments. Additionally, Matt has served as a field representative on construction projects that typically included demolition, excavation and placement of backfill, contract compliance assurance, and documentation for permanent records.

Matt's expertise includes:

Remedial Activities
- Conducts free product recovery, UST removal oversight, and associated closure sampling including field screening of excavated soils for presence of hydrocarbons with a PID.
- Performs contractor observation and documentation for site preparation and remedial activities such as chemical oxidation injection for remediation of groundwater.
- Performs cost estimating.
- Has assisted and performed asbestos surveys on a variety of facilties.

Environmental Assessment
- Serves as lead investigator and author for multiple Phase I and Phase II reports pursuant to ASTM and Ohio Voluntary Action Program (VAP) standards at residential, commercial, industrial, military, and agricultural sites in multiple states.
- Serves as staff hydrogeologist for Phase II ESAs. Responsible for soil boring and monitoring well installation; air, soil, water, and leachate field sampling and monitoring activities; explosive gas monitoring; data analysis and evaluation; and report preparation. Also develops project scopes and cost estimates.
- Decommissions monitoring and production wells to obtain compliance.
- Provides general GIS mapping support for many projects including Phase I and Phase II ESAs.

Geotechnical Investigations
- Conducts geotechnical drilling and sampling to obtain subsurface geologic information and to determine relevant engineering properties of site soils.

Selected project experience:
- Major Rehabilitation and Widening of Interstate IR 75 | Red Flag Study Geotechnical Investigation | Lucas and Wood Counties, Ohio
- Multi-million Dollar Remediation Project | Contractor Observation and Documentation | Confidential Site, Northwest Ohio

JAMES CARLSON | Scientist II

EDUCATION:

- Bachelor of Environmental Science, Bowling Green State University, 1997

TRAINING:

- OSHA 40-Hour Health and Safety Training (2010) and Annual Refreshers
- American Heart Association – Heart Saver First Aid (2012)
- BP Safety ATW/PTW Trained, Re-fresher (2010)
- Trenching and Excavation Workshop (2005)
- Radiation Safety and Nuclear Densitometer Operator Certification (2006)

James Carlson has more than ten years of experience in the environmental field, specializing in soil sampling and groundwater monitoring. He has worked on numerous projects overseeing petroleum underground storage tank closures, interim response action excavations, tier I and tier II evaluations, BIOSCREEN and Ohio Bureau of Underground Storage Tank (BUSTR)-SCREEN projects, and geotechnical sampling for agricultural projects across Ohio and Indiana. James also has considerable experience in contractor oversight for demolition, construction, and remediation projects.

James' expertise includes:

Environmental Assessment and Remediation

- Conducts geotechnical soil sampling for engineering and other projects in the states of Ohio and Indiana by gathering soil, water, and air samples, analyzing and compiling data, and reporting findings.
- Oversees petroleum underground storage tank closures/excavations; also operates petroleum remediation systems. Responsibilities include sampling, maintenance, reporting, compliance measures, and interaction with property owners and local state agencies.
- Conducts Tier I & II evaluations for the state of Ohio; collects samples using a drill and geoprobe rigs and sets groundwater monitoring wells across Ohio.

Regulatory Compliance

- Assists with the management of environmental monitoring programs to comply with federal, state, and local regulations.
- Assumes leadership in evaluation and interpreting laboratory and analytical data from a variety of media including soil and sediments, surface water, and groundwater.
- Performs groundwater modeling and applies stastistical techniques to assess potential impacts in groundwater quality at petroleum and other facilities.
- Develops reports for submission to regulatory agencies, private industries, and municipalities.

Selected project experience:

- Ohio Turnpike (SP-1) Demolition and Environmental Oversight Through Construction of New Plaza | West Unity, Ohio
- Ohio Turnpike (SP-2) Demolition and Environmental Oversight | Swanton, Ohio
- Ohio Turnpike (Swanton Maintenance Facility) Environmental and Excavation Activities Oversight | Swanton, Ohio
- Ohio Department of Transportation (Northwood Outpost) Geotechnical Drilling for Wind Turbine Project | Northwood, Ohio

APPENDIX B

Work Plan

WORK PLAN
FOR A
PHASE II PROPERTY ASSESSMENT

FOR THE:
FORMER CHAMPION SPARK PLUG PROPERTY
900 UPTON AVENUE
TOLEDO, OHIO

PREPARED FOR:
CITY OF TOLEDO-DIVISION OF ENVIRONMENTAL SERVICES
348 SOUTH ERIE STREET
TOLEDO, OHIO 43604

PREPARED BY:
HULL & ASSOCIATES, INC.
3401 GLENDALE AVENUE
SUITE 300
TOLEDO, OHIO 43614

MAY 2015

HULL

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1.0 INTRODUCTION

1.1 General

This Work Plan has been prepared for the City of Toledo (Client) by Hull & Associates, Inc. (Hull) for field sampling at the Former Champion Spark Plug property to satisfy the Data Quality Objectives (DQOs) requirements under OAC 3745-300-07(C)(6). All work performed under this Work Plan is subject to the conditions listed in the February 18, 2013 QAPP update for the City of Toledo's Hazardous Substances and Petroleum Contaminated Sites 2012 Community-wide Coalition Assessment Grant. The property subject to this work plan is located at 900 Upton Avenue, Toledo, Lucas County, Ohio (Property) and is comprised of approximately 18 acres that is currently undeveloped. The location of the Property is shown on Figure 1.

1.2 Background

WSP Environmental Strategies, LLC (WSP) conducted a Phase II assessment between June 2001 and August 2006 under the Ohio Voluntary Action Program (Ohio VAP). Activities included installation of monitoring wells, collection of soil, groundwater, and soil vapor samples, and closure of two underground storage tanks (USTs). Various Chemicals of Concern (COCs) were analyzed across the twelve (12) identified areas from the Phase I. Results indicated that remedial activities were needed to address COCs in two identified areas: the South Manufacturing Bureau of Underground Storage Tank Regulations (BUSTR) Area (Area 5) and the South Manufacturing Area (Area 10). Soils were excavated in 2004 to remove polynuclear aromatic hydrocarbons (PAHs), with approximately 55 cubic yards removed from Area 5 and 22 cubic yards from Area 10. A No Further Action (NFA) letter was submitted on April 15, 2008. Ohio EPA issued a Covenant Not to Sue (CNS) with a groundwater use restriction and land use restriction to commercial/industrial use on November 17, 2008.

At the Request of the City of Toledo – Division of Environmental Services, Hull conducted a Phase I ESA at the Site in December 2015. The Phase I ESA identified the following Recognized Environmental Conditions (RECs):

IA/REC #	Description	COCs
REC 1	CREC – 2008 CNS	No Additional Investigation
REC 2	Suspected on-Property USTs	BTEX/MTBE, TPH-GRO
REC 3	Release from Transformer(s)	Information Received from US EPA Indicating No Further Action Required
REC 4	Debris Piles – Data Gap	VOCs, PAHs, TPH-GRO, TPH-DRO, Metals
REC 5	No Current Owner Interview – Data Gap	Attempt to Interview Current Owner during the Phase II

1.3 Property-specific Geology/Hydrogeology

The Property is located in the City of Toledo, in the north central portion of Lucas County, Ohio, and lies on the Lake Plain deposits of Central Lowland Physiographic Province. The county is situated on a lake plain formed largely as the result of post-glacial events following the Wisconsinan glacial epoch. The lake plain region is typified by relatively flat topography sloping regionally southeastward toward the Maumee River and northeastward toward Lake Erie, with minor undulations scattered throughout the county.

The surface drainage is generally to the northeast toward Lake Erie. The main rivers draining the region are the Ottawa River, Maumee River, and Swan Creek, a tributary of the Maumee River. There is no major groundwater divide in Lucas County.

Groundwater resources can be obtained from semi-confined sand and gravel aquifers within the glacial till and from limestone and dolomite of Silurian and Devonian age, which underlie the till. No public water supply wells have been located by the ODNR within a 1/2-mile distance of the Property, but ODNR records outside of this distance indicated that wells produce water from the carbonate bedrock. Bedrock at the Site is present at approximately 490 feet USGS.

Ground-surface elevation at the Site is approximately 615 feet (USGS). The topography is generally flat near the Property. Drainage from the Property appears to be toward the northwest toward the Ottawa River. Note that much of the natural topographic expression of the region has been disturbed by development.

Potentiometric surface maps in the WGS Phase II ESA from May 2005 indicates that the shallow groundwater at the Site flows to the northwest on the northern two-thirds of the Site and to the southwest on the southern one-third of the Site. Static water levels ranged from approximately 1.5 feet below ground surface to just over 10 feet below ground surface.

2.0 DATA QUALITY OBJECTIVES

2.1 Problem Statement

The Property is currently undeveloped. Residential development is located adjacent west and north of the Site, while commercial/industrial use is present to the east and south. The objectives of the Phase II Property Assessment (Phase II PA) are to characterize the environmental conditions at the Property, due to the use of the property (demolition of structures) after the CNS was issued and, based on investigation findings, to identify the remediation needs and collect the necessary data to pursuant to ASTM E1903-11.

Data obtained from the Phase II PA will be evaluated in the context of VAP risk-based cleanup goals given assumptions of Property-specific pathway analyses. To the extent Phase II PA data exceed risk-based standards, additional delineation sampling may be required to more fully define the nature and extent of contamination.

2.1.1 Project Team

The proposed project team is presented below. The team members have been selected based on individual project experience related to the specific tasks required. A brief description of each individual's project responsibilities is provided below:

J Matthew Beil, Hull Project Manager (PM)

Mr. Beil will be the Hull Project Manager and oversee the implementation of the assessment activities and coordinate all work schedules/agendas with the Client. His responsibilities will also consist of the following:

1. administrate and supervise all phases of the project;
2. determine that project objectives are met within financial and time constraints;
3. work with the Quality Assurance Officer (QAO) and field personnel to plan and conduct project operations, progress meetings, etc.; and
4. review reports and other work products prior to their issuance.

A designated Sample Team Leader and Health and Safety Officer for drilling and sampling activities will report to Mr. Beil, and will serve as Hull's on-site contact during drilling and sampling activities.

Michael T. Coonfare, Hull Senior Project Manager (SPM) – Certified Professional (CP)

Mr. Coonfare will be the Senior Project Manager and will review and oversee the completion of the Phase II Property Assessment.

Laboratory Director

The Laboratory Director will be primarily responsible for the overall operation of the laboratory including all samples analyzed and data reported. The Laboratory Director will also be responsible for initiating corrective action measures when analytical data do not meet the requirements of this plan or the laboratory's Quality Assurance Plan (QAP). The Client will maintain direct contact with the Laboratory.

Laboratory Project Manager

The Laboratory Project Manager will be the primary communications link between the laboratory and the Client. The Laboratory Project Manager will be responsible for relating any special needs of the field operations personnel to the laboratory. The Laboratory Project Manager will also provide the final review of all data packages before reporting results.

Laboratory QAO

The Laboratory QAO will be primarily responsible for implementing and monitoring compliance with the laboratory's QAP. The Laboratory QAO's duties will also include: conducting audits, reviewing all QC data, and reporting problems to the Laboratory Director for corrective action.

Site Safety Officer

A Site Safety Officer will be designated for the implementation of all fieldwork. The Site Safety Officer will ensure compliance with the health and safety plan (HASP) for the project. The purpose of the HASP is to define the health and safety considerations for on-site activities by Hull employees and subcontractors. The HASP is required by **OSHA 29 CFR 1910.120**. The basic requirements for the HASP of the project are delineated in the standard health and safety policies and procedures. All personnel on-site will be informed about the pertinent sections of the HASP. The Site Safety Officer assumes responsibility for providing leadership in safety and health matters for site operations by:

1. performing daily site-safety audits;
2. communicating safety and health information to those working at the site;
3. communicating and coordinating safety practices with contractors;
4. conducting daily "tail-gate" safety discussions;
5. ensuring that emergency plans specific to the site have been established, discussed with personnel on-site, and are understood;
6. ensuring that communications equipment is readily available on-site;

7. checking that Hull employees, visitors and contractors read the HASP before entering or beginning work on the site;

8. ensuring that all minimum training and education requirements are met for on-site personnel;

9. advising or seeking advice from the Project Manager and safety and health consultant on issues that may require attention and/or correction; and

10. ensuring that electrical work is performed safely, i.e., de-energize all circuits, if feasible, when doing electrical work. If de-energizing is not feasible, adherence to NFPA 70E requirements is required.

2.1.2 Conceptual Site Model

A Conceptual Site Model (CSM) forms an understanding of the chemical source areas, chemical release mechanisms, environmental transport media, potential human intake routes, and potential human receptors for the Property. The purpose of the CSM is to provide a framework for problem definition, identification of exposure pathways that may result in human health risks, indication of data gaps, and aid in identification of appropriate assessment and remediation measures. Chemical release mechanisms, environmental transport media, and potential human intake routes are identified for each potentially exposed receptor.

COCs were determined from the potential on- and off-Property sources as identified during the Phase I. Potential COCs identified include Volatile Organic Compounds (VOCs), Polynuclear Aromatic Hydrocarbons (PAHs), metals, Total Petroleum Hydrocarbons – Gasoline Range Organics (TPH-GRO), and TPH-Diesel Range Organics (TPH-DRO). These COCs may be governed by the following Property-specific transport mechanisms in association with applicable points of exposure:

1. volatilization of COCs in soil to ambient air (outdoor and/or indoor);

2. dust emissions of COCs in soil to ambient air;

3. direct contact with soil and/or groundwater;

4. leaching of COCs in soil to groundwater;

5. volatilization of COCs in groundwater to ambient air (indoor and/or outdoor);

6. surface water run-off; and

7. free-phase migration.

The preliminary CSM (Figure 3) provides a baseline assessment of the Property and will be modified as additional data are obtained.

2.2 Decision Identification

Phase II PA data will be compared to applicable VAP risk-based cleanup goals. Data gaps will be identified and, to the extent appropriate, supplemental investigations may be necessary to address those data gaps.

The following decisions will be made from the Phase II PA:

1. Do portions of the Property contain COCs that exceed VAP risk-based cleanup goals; and
2. Do data gaps exist such that additional data are required to define nature and extent?

2.3 Inputs to the Decision

The investigative approach described in this FSAP was defined based on the findings of previous investigations and the Phase I Environmental Site Assessment (ESA) prepared by Hull. In general, points of investigation have been designated within REC areas at locations biased toward areas of greatest potential impact and sufficient to be representative of spatial distribution and temporal variations, where applicable. The investigation will employ soil sampling conducted during advancement of soil borings, groundwater sampling from temporary 1" monitoring wells and soil gas/vapor sampling to:

1. identify the presence and concentrations of COCs in soil, soil gas/vapor and groundwater;
2. assist in defining (to the extent feasible) the vertical and lateral extent of COCs in soils, soil gas and groundwater; and
3. identify and/or eliminate potential migration and exposure pathways.

Phase II PA findings may result in:

1. a decision to conduct additional investigations for the purpose of delineating the horizontal and vertical extent of COCs; and
2. a decision to implement Property remedial activities, as necessary.

2.4 Study Boundaries

The spatial boundary of the environmental investigation will be limited to areas that have been cleared by the City of Toledo at the request of Hull. Based on the available budget, Hull focused the investigation on areas where petroleum products were historically used, stored or processed. These areas include the Tech Services Building, Research and Development Building, Engineering Center and UST area located northwest of the Engineering Center. Proposed sampling locations are illustrated on Figure 2.

Soils will be investigated to various depths depending on depth to saturation, potential sources, and/or potential receptors. A groundwater characterization will be performed to evaluate the potential presence

of COCs in the upper saturated unit. If the intended end use of the Property is modified prior to the execution of this work plan that in turn modifies the point of compliance, the depth of soil investigation may be adjusted accordingly. It is further estimated that the temporary monitoring wells will not be installed at depths greater than 16 feet bgs.

2.5 Decision Rule

A decision rule usually compares an output parameter to an action level, which is then used to determine a course of action for the Property. Soil analytical results characterizing the upper two-foot soil horizon will be initially compared to the Ohio VAP Generic Numerical Standards for the anticipated commercial-industrial land use of the Property and soil analytical results characterizing the upper ten foot soil horizon will be initially compared to construction/excavation activity standards. Groundwater analytical results will be compared initially to Unrestricted Potable Use Standards and Risk-Derived Unrestricted Potable Use Standards. Soil gas analytical data will be reviewed in accordance with the current VAP rules.

Based on analytical results obtained from soil, soil gas/vapor and groundwater samples, the decision will be made whether to further investigate the Property. Should analytical concentrations of COCs exceed VAP cleanup goals, additional investigative activities may be needed to delineate the extent of contamination. Additionally, property-specific risk based criteria may be developed to determine if remedial activities are required.

Proposed groundwater sampling locations have been chosen to maximize the potential of detecting of COCs and further delineation of VOC concentrations on the Property. However, drilling locations may need to be altered due to inaccessibility. Relocation of soil borings will be acceptable if they are generally near the original proposed location (i.e. approximately 20 feet) and remain within the respective identified area they are intended to assess.

2.6 Decision Error Limits

The proposed sampling locations have been biased towards characterization of the RECs (2 and 4) and the COCs have been determined based on the potential sources resulting from these RECs. The possibility of not sampling an unsuspected impacted area or not analyzing for a chemical present in the environment does exist. At the same time, a decision was made to bias the sample locations to where the potential for maximum concentration of COCs may exist, which initially may be an overestimation.

2.7 Design Optimization

Optimization of the sampling and analysis was based on existing non-intrusive data such as record searches, previous intrusive sampling data from previous assessments, and a Property reconnaissance, evaluated as part of the Phase I. As mentioned previously, sampling and analysis will be directed towards the RECs, potentially resulting in a conservative interpretation of environmental conditions. Furthermore, field screening and visual observations may result in a subset of the samples being collected at depths that contain the highest concentrations of COCs.

2.8 Quality Assurance Objectives for Measurement

The overall QA objective for each project is to develop and implement procedures for field sampling, chain-of-custody, laboratory analysis, and reporting that will provide legally defensible results. Specific procedures for field sampling, chain-of-custody, and documentation are provided in later sections of this document. Laboratory procedures will be conducted in accordance with the substantive requirements of the selected test methods and the laboratory's Quality Assurance Plan.

2.9 Special Considerations

Quality assurance and control guidelines and specific methodologies in the form of Standard Operating Procedures (SOPs) that apply to this Work Plan are contained in the February 18, 2013 QAPP update for the City of Toledo's Hazardous Substances and Petroleum Contaminated Sites 2012 Community-wide Coalition Assessment Grant.

3.0 SOIL ASSESSMENT

3.1 Objectives

Soil sampling will be completed to identify Property hydrogeology and to characterize COCs within the on-Property RECs (2 and 4).

3.2 Soil Boring and Subsurface Investigation

The soil investigation will consist of installing sixteen soil borings and collecting surface soil grab samples on the Property to assess the soils to the appropriate point of compliance (*i.e.* commercial/industrial worker and construction and excavation worker receptor populations). All soil borings will terminate at a depth of approximately 16 feet bgs.

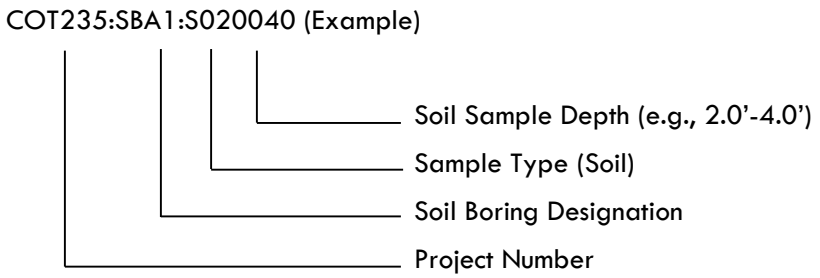
One soil sample will be collected for chemical analysis from each soil boring based on field screening (i.e., headspace screening using a photoionization detector (PID)) with an 11.7 eV lamp or direct observation (i.e., identification of coloration of soils suspected to be due to past activities). Visual soil descriptions (textural) will be documented on each boring log. Sample collection will be vertically distributed to address point of compliance considerations for commercial/industrial end use as well as potential exposure to the construction and excavation worker. A tabulation of sample intervals and chemical analytical parameters for the proposed soil samples at the Property is summarized on Table 1. The chemical analytical methods are described in section 3.2.5.

3.2.1 Sample Locations and Frequency

Proposed soil boring locations are shown on Figure 2. One soil sample will be collected from each soil boring for chemical analysis. Sample intervals will be biased towards the known point of compliance and depths where soils show the greatest evidence of impact by past activities at the Property. In some cases, samples deeper than ten feet bgs may be collected. For example, soils at the base of a former underground storage tank may exhibit the greatest signs of impact, but may be located greater than ten feet bgs. Hull reserves the right to modify the sampling intervals based on field observations of criteria discussed in Section 2.4.

3.2.2 Sample Designation

Soil samples will be identified according to the following sample identification number (SIN):



The soil sample identification will identify the station number (e.g., soil boring number SBA-1) and the depth interval of the sample.

3.2.3 Sampling Equipment and Procedures

Soil borings will be advanced using direct-push technology utilizing a *Geoprobe* sampling system. Soil samples will be collected continuously with a four-foot by two-inch diameter macrosampler equipped with an acetate sleeve consistent with ASTM D 6282-98. Standard Operating Procedures for direct push sampling is provided in the February 18, 2013 QAPP update for the City of Toledo's Hazardous Substances and Petroleum Contaminated Sites 2012 Community-wide Coalition Assessment Grant.

Six of the soil borings will be converted to one-inch temporary groundwater monitoring wells using 3" Geoprobe ® drill rods.

3.2.4 Headspace Screening of Soil Samples

Soil samples will be field screened using a photo-ionization detector (PID) using an 11.7 eV lamp, as described in SOP No. F4008. The PID will be calibrated daily in the field consistent with the manufacturer's specifications.

3.2.5 Sample Handling-Chemical Analyses

At a minimum, soil samples will be collected to identify concentrations of COCs in potential source areas and affected material. One soil sample from each boring will be selected for chemical analysis to evaluate the concentration of COCs in soil. Visual observations and additional field screening techniques (i.e., PID screening) will be used to identify samples to submit for laboratory analysis. Sample selection may deviate from the above with the approval of Hull's Project Managers or Assessment Coordinator.

The soil analysis regime is presented in Table 1.

3.2.5.1 Sample Preservation

Samples collected for chemical or physical analysis will be stored in a manner to prevent the samples from freezing in cold weather. Samples collected in weather conditions above freezing for chemical analysis will be stored at approximately 4° Celsius by placing them on ice in a laboratory-supplied cooler immediately after the samples are collected. In addition, the samples will be packed for shipping in a manner to avoid disturbing the sample.

All soil samples being submitted to the laboratory for VOC analysis will be sampled and preserved in the field in accordance with U.S. EPA Method 5035 using commercially-prepared sampling kits.

3.2.5.2 Special Handling Considerations

Volatile Organics

Those samples that are to be analyzed for VOCs will not be transferred from one container to another. Transferring samples between containers may cause a loss of VOCs onto the walls of the sampling containers. Headspace will not be present in the sample container, thus minimizing the volatilization of organics from the sample. The laboratory will supply the appropriate glass containers with *Teflon*-lined lids.

Blanks

Both trip blanks and equipment blanks will be collected to verify that sample handling and equipment have not affected the integrity of the field samples.

Trip blanks will be prepared by the laboratory and will consist of filling bottles associated with VOCs analysis with laboratory supplied reagent water. The trip blank will be subject to the same handling and transportation procedures as the samples. Trip blanks will be required at the rate of one per shipping container that contains VOC samples. Trip blanks will accompany sample containers during sample collection and transportation. Trip blanks will be analyzed for VOCs only or as directed by the Quality Assurance Officer.

To evaluate whether the sampling device has been effectively cleaned, equipment blanks will be prepared by filling the sampling device with laboratory supplied reagent water, transferring the sample to bottles, and submitting the sample to the laboratory for analysis. The water will be collected in properly preserved containers specified by the laboratory. The sample will be analyzed for identical methods as the soil sample.

The number of equipment blanks analyzed for a class of compounds will be equal to at least 5% of the total samples to be analyzed for those methods. It will be the sample team leader's responsibility to collect the appropriate number of equipment blanks for the day's sampling efforts.

3.2.6 Chain-of-Custody

The chain-of-custody will allow for the tracing of possession and handling of individual samples from the time of field collection through laboratory analysis. The chain-of-custody program will include: sample labels, sample seals, field logbook, and chain-of-custody form/sample analysis request sheet and laboratory logbook. All chain-of-custody procedures will be performed in accordance with SOP No. F3014.

3.2.6.1 Sample Labels

All sample labels will contain the following information:

1. sample I.D. number
2. sample collector's ID number
3. date and time of collection
4. place of collection
5. parameter(s) requested for analysis

3.2.6.2 Sample Seal

A seal will be placed on the sample container or on the shipping container to ensure that samples have not been disturbed during transportation.

3.2.6.3 Field Logbook

An up-to-date field logbook will be kept by each sampling team to document daily activities (if more than one group of individuals is sampling). The logbook will include a general list of tasks performed, additional data, or observations not listed on field data sheets, and document communication with on-site personnel or visitors as it applies to the project.

3.2.6.4 Chain-of-Custody Record Sheet

The chain-of-custody record will be maintained to trace sample possession and time of collection. The chain-of-custody will accompany each sample and record the:

1. sample number

2. signature of collectors
3. date and time of collection
4. sample type
5. sample location identification
6. number of containers
7. analytical parameters requested
8. signature of relinquished and dates of possession by each party
9. preservatives

3.2.6.5 Laboratory Logbook

The laboratory will maintain a record of the processing steps that are applied to each sample (i.e., sample preparation techniques, instrumental methods, experimental conditions, QC results). The time, date, and name of the person performing each processing will also be recorded.

3.2.7 Soil Classification and Field Descriptions

Samples will be classified in the field consistent with SOP No. F1006. In addition, pertinent observations noted during installation of the soil borings will be documented on the soil boring logs.

3.2.8 Decontamination of Equipment

Soil sampling equipment such as drilling tools will be decontaminated prior to arrival on-site consistent with SOP No. F1000. Decontamination will consist of washing each sampler with non-phosphate detergent and rinsing with distilled water between each sampling interval and decontaminating rods with a high-pressure steam cleaner. Rinseates will be placed in Department of Transportation (DOT) approved fifty-five gallon steel drums.

3.2.9 Decommissioning of Soil Borings

To the extent that no well is installed in the borehole, soil borings will be decommissioned consistent with SOP No. F2022. The surface will be finished to grade with asphalt or soil commensurate with the original surface conditions.

3.2.10 Disposal of Cuttings and Unused Soil Samples

Minimal cuttings should be generated during the installation of soil borings; however, excess soil generated will be properly stored and secured. Cuttings will be staged in a common area as agreed upon by the Property owner. The drummed cuttings will be sampled for proper disposal (returned to Property or taken to appropriate disposal facility).

4.0 SOIL GAS ASSESSMENT

4.1 Objectives

Soil gas sampling will be completed to characterize volatile COCs within the on-Property REC in the UST area only. The analytical data obtained through this sampling effort will be used to assess potential risk and hazard associated with the vapor intrusion to indoor air to the on-Property and off-Property industrial/commercial receptor population.

4.2 Soil Vapor Investigation

At each soil vapor sampling location, soils will be screened to determine the depth to saturation using direct push technologies. Once depth to saturation is recorded, a double woven stainless steel soil gas implant will be installed in the borehole, above saturation. Sand will be used to backfill the borehole to approximately two-inches above the top of the implant. Hydrated granular bentonite will be placed atop the sand pack to ground surface and ¼" poly tubing extended from the top of the soil gas implant to approximately two-feet above ground surface. Quick connect fittings will be placed at the end of the fittings to prevent ambient surface air from entering the soil vapor sampling system. A PID will be used to record the headspace for each sample point and at the same time the PID pump will be used to purge the soil vapor sampling system. After approximately one minute, the pump will be turned off and disconnected from the one-way quick-connect valve. A 6-liter summa canister, fitted with 8-hr flow control valve, will then be connected to the poly tubing and the valve will be opened to initiate sample collection.

After approximately 8 hours, the Summa canister's valves will be closed, disconnected, and shipped to a laboratory certified under the Ohio VAP for analysis using U.S. EPA Method TO-15.

As a quality control measure and in general accordance with Section 5.0 of the Ohio EPA's "Sample Collection and Evaluation of Vapor Intrusion to Indoor Air Guidance, dated May 2010", Hull will conduct leak testing for the sub-slab soil vapor probes installed at the Property. Following the installation and purging of one soil vapor sampling point, Hull will introduce clean water to the sample point to check for seal integrity.

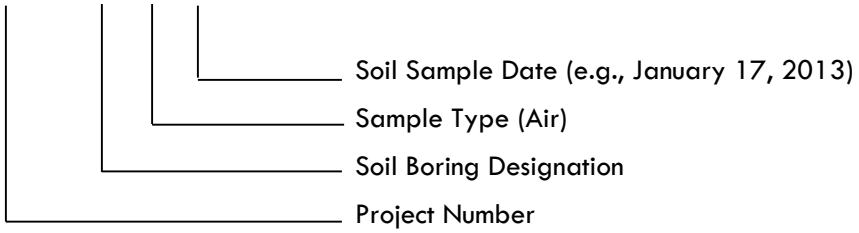
4.2.1 Sample Locations and Frequency

Proposed soil vapor sample locations are shown on Figure 2. Two soil vapor collection points will be set as discussed in Section 4.2.

4.2.2 Sample Designation

Soil samples will be identified according to the following sample identification number (SIN):

COT235:BSG1:A011713 (Example)



The soil sample identification will identify the station number (e.g., soil boring number SG-1) and the date the sample was collected.

4.2.3 Sample Handling-Chemical Analyses

One sub-slab soil vapor sample from each sample location will be selected for chemical analysis to evaluate the concentration of volatile COCs in soil vapor.

Soil samples selected for chemical analysis will be analyzed for VOCs in accordance with U.S. EPA Method TO-15.

4.2.4 Chain-of-Custody

The chain-of-custody will allow for the tracing of possession and handling of individual samples from the time of field collection through laboratory analysis. The chain-of-custody program will include: sample labels, sample seals, field logbook, and chain-of-custody form/sample analysis request sheet and laboratory logbook. All chain-of-custody procedures will be performed in accordance with SOP No. F3014.

4.2.4.1 Sample Labels

All sample labels will contain the following information:

1. sample I.D. number
2. sample collector's ID number
3. date and time of collection
4. place of collection
5. parameter(s) requested for analysis

4.2.4.2 Sample Seal

A seal will be placed on the sample container or on the shipping container to ensure that samples have not been disturbed during transportation.

4.2.4.3 Field Logbook

An up-to-date field logbook will be kept to document daily activities. The logbook will include a general list of tasks performed, additional data, or observations not listed on field data sheets, and document communication with on-site personnel or visitors as it applies to the project.

4.2.4.4 Chain-of-Custody Record Sheet

The chain-of-custody record will be maintained to trace sample possession and time of collection. The chain-of-custody will accompany each sample and record the:

1. sample number
2. signature of collectors
3. date and time of collection
4. sample type
5. sample location identification
6. number of containers
7. analytical parameters requested
8. signature of relinquished and dates of possession by each party
9. preservatives

4.2.4.5 Laboratory Logbook

The laboratory will maintain a record of the processing steps that are applied to each sample (i.e., sample preparation techniques, instrumental methods, experimental conditions, QC results). The time, date, and name of the person performing each processing will also be recorded.

4.2.5 Decontamination of Equipment

Soil sampling equipment such as drilling tools will be decontaminated prior to arrival on-site consistent with SOP No. F1000. Sample equipment is single-use; therefore, decontamination of equipment is not applicable.

5.0 GROUNDWATER ASSESSMENT

5.1 Objectives

An evaluation of groundwater occurrence will be completed to characterize the uppermost hydrogeologic conditions beneath the Property. COCs derived from potential on-Property sources, will also be considered.

5.2 Soil Boring/One-inch Temporary Monitoring Well Construction and Installation Procedures

5.2.1 One-inch Temporary Monitoring Well Screen Depth

The actual depth of the monitoring well will be determined during advancement of soil borings based on observations of hydrogeologic conditions. The well screen will be placed so that a minimum of 80% of the upper saturated unit is screened. The sand pack will extend a minimum of one foot above the screened interval as long as the soil above the saturated unit does not exhibit concentrations of chemicals of concern. The sand pack will also extend six inches below the base of the screened interval.

5.2.2 One-inch Temporary Monitoring Well Designation

Temporary monitoring well designation will use a chronological designation number for the Property being investigated (e.g., HTMW-2) as means of identifying the groundwater sample. The proposed monitoring well locations are provided on Figure 2.

5.2.3 Temporary One-inch Monitoring Well Installation, Equipment, and Procedures

5.2.3.1 Direct Push Technology

One-inch PVC screen and riser will be placed into the open borehole of select direct push borings at the Site. These temporary one-inch monitoring wells will be removed after groundwater sample collection.

5.2.3.2 Monitoring Well Construction Specifications

Each temporary monitoring well will be constructed of schedule 40 one-inch PVC screen and riser. Because these sampling locations are temporary, no bentonite seal be installed. Each temporary one-inch monitoring well will be removed after groundwater sample collection.

5.2.3.3 Temporary One-inch Monitoring Well Development

Monitoring well development methods that may be used include bailing, surging, or over pumping. The method used will be determined by Hull based on field conditions; however, it is anticipated that development activities will generally consist of bailing or surging using a *VOSS* disposable bailer, properly decontaminated stainless steel bailer, Waterra tubing or a peristaltic pump.

Monitoring well development will consist of surging then removing a minimum of three to five well volumes. Water generated during development will be contained in Department of Transportation (DOT) approved fifty-five gallon closed-top steel drums and temporarily stored on the Property.

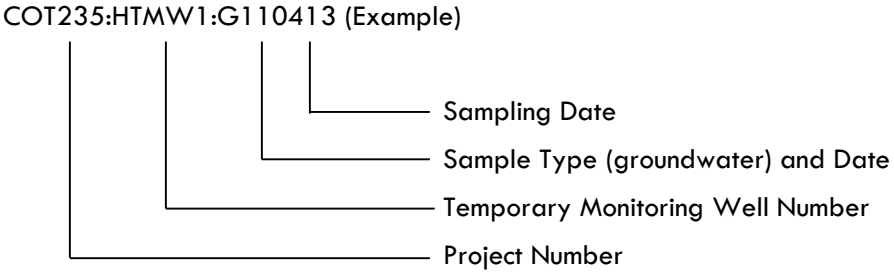
5.3 Monitoring Well Sampling

5.3.1 Sample Locations and Frequency

Groundwater samples will be collected from the monitoring wells and submitted to the laboratory for chemical analysis of a combination of VOCs, PAHs and VAP metals. The groundwater sampling regime is provided in Table 3. Sampling activities will include water level and immiscible layer measurements and sampling. Further details of sampling procedures are included in the following discussions.

5.3.2 Sample Designation

Groundwater samples will be identified according to the following SIN:



5.3.3 Sampling Equipment and Procedures

Following installation and development of a new monitoring well or acceptable inspection of an existing well, the procedures that will be performed at each monitoring well include:

1. measurement for immiscible layers
2. recording the water level measurement within the monitoring well
3. purging of the water within the well casing prior to sampling
4. collecting samples

These items are discussed below and will be performed in the order that they are presented in this document.

5.3.3.1 Detection of Immiscible Layers

Floating (light) and/or sinking (dense) non aqueous-phase liquids, if present, will be measured in the monitoring wells using an interface probe. Light non-aqueous phase liquids (LNAPL) will be detected by carefully lowering the interface probe into the monitoring well until the approximate static water

level is reached (i.e., water/immiscible layer interface). Dense non aqueous-phase liquids (DNAPL) will be detected by carefully lowering the probe to the bottom of each monitoring well. SOP No. F3008 provides a detailed description of the procedures that will be used to detect immiscible layers. The interface probe will be decontaminated in a manner consistent with the procedure used for the water level indicator as discussed in SOP No. F1000.

5.3.3.2 Water Level Measurements

An electric water level indicator will be used to measure the static water level elevation in each monitoring well. As a substitute, an interface probe may also be used to obtain water level measurements. Groundwater measurements will be conducted consistent with SOP No. F3008. The measurement will be taken to the nearest 0.01 foot using the Property's reference datum from the designated reference point on each monitoring well (e.g., top of the PVC riser). When measuring the total depth of the monitoring well with the water level indicator, it is necessary to add the distance from the sensor to the tip of the probe to the tape reading. The total depth of the monitoring well may also be determined using the interface probe, which does not require the addition of the distance between the sensor and the tip of the probe. In addition, the volume of water present in the monitoring well will be calculated as discussed in SOP No. F3008. A detailed description of the procedures to be followed when collecting groundwater samples is found in SOP No. F3008.

The water level indicator/interface probe will be decontaminated using a non-phosphate detergent wash, followed by rinsing with potable water, and then rinsing with distilled water. SOP No. F1000 provides a more detailed description of decontamination procedures.

5.3.3.3 Groundwater Purging

An attempt will be made to remove 3-5 well screen volumes prior to sample collection.

5.3.3.4 Sample Withdrawal

Groundwater will be extracted from the wells using low flow sampling techniques generally consistent with Hull SOP 3008. Due to the temporary nature of the monitoring wells at the Site, samples will be collected immediately after purging activities. Groundwater samples will be collected in laboratory-prepared glassware. In order to preserve sample quality, the sampling order will be as follows: volatile organic compounds, non-volatile organic compounds, and in-situ parameters (e.g., pH, specific conductance, and temperature).

Used sampling equipment, including poly tubing, gloves, or other protective clothing, will be properly disposed following contact with groundwater. Waste sampling equipment will be temporarily stored in a plastic trash bag until it can be transported to a dedicated waste receptacle. Field equipment will be decontaminated between wells in accordance with Hull SOP F1000. Purge water will be measured using a flow through cell, then collected and containerized in drums pending appropriate disposal.

5.3.3.5 Slug/Bail Down Tests

No slug/bail down tests will be conducted as part of this assessment.

5.3.4 Sample Handling and Analysis

Sample containers and preservatives will be provided by the laboratory.

5.3.4.1 Sample Preservation

Laboratory supplied containers may be pre-preserved. Alternatively, the laboratory may supply applicable preservatives that would be added to the sample containers in the field by sampling personnel. Further preservation following the collection of each sample will consist of placing the sample on ice in a cooler immediately after the sample is collected and properly labeled.

5.3.4.2 Special Handling Considerations

Volatile Organics

Those samples that are to be analyzed for VOCs will not be transferred from one container to another. Transferring samples between containers may cause a loss of volatile organic compounds onto the walls of the sampling containers. Headspace should not be present in the sample container, thus minimizing the volatilization of organics from the sample. The laboratory will supply the 40-ml glass vials with *Teflon*-lined lids and will also provide the proper preservatives.

Blanks

Both trip blanks and equipment blanks will be collected to verify that sample handling and equipment have not affected the integrity of the field samples.

Trip blanks will be prepared by the laboratory and will consist of filling bottles associated with VOCs analysis with laboratory supplied reagent water. The trip blank will be subject to the same handling and transportation procedures as the samples. Trip blanks will be required at the rate of one per shipping container. Trip blanks will be analyzed for VOCs only or as directed by the

Quality Assurance Officer. Trip blanks will accompany sample containers during sample collection and transportation.

To ensure the sampling device has been effectively cleaned, equipment blanks will be prepared by filling the sampling device with laboratory supplied reagent water, transferring the sample to bottles, and submitting the sample to the laboratory for analysis. Disposable bailers should be rinsed and filled with laboratory supplied reagent water then emptied prior to collecting the equipment blank.

The number of equipment blanks analyzed for a class of compounds will be equal to at least 5% of the total samples to be analyzed for those methods. It will be the sample team leader's responsibility to collect the appropriate number of equipment blanks for the day's sampling efforts. If contaminants are found in the equipment or trip blanks, the source of the contamination will, if possible, be identified and corrective action, such as modifying the procedure and/or re-sampling if appropriate, will be initiated.

Duplicates

A duplicate sample will be collected and analyzed to assess the quality of the data resulting from the field sampling and analytical programs. The duplicate sample will be randomly collected from one of the monitoring wells. The duplicate sample will be analyzed for each of the analytical methods and will be collected and handled in the same manner as previously described for field samples and blanks. The number of duplicate samples analyzed for a class of compounds will be equal to at least 5% of the total samples to be analyzed for those methods.

5.3.4.3 Chain-of-Custody

The chain-of-custody will allow for the tracing of possession and handling of individual samples from the time of field collection through laboratory analysis. The chain-of-custody program will include: sample labels, sample seals, field logbook, chain-of-custody form/sample analysis request sheet, and laboratory logbook. Chain-of-custody procedures will be performed consistent with SOP No. F3014.

5.3.4.3.1 Sample Labels

Sample labels will contain the following information:

1. sample I.D. number

2. sample collector's ID number

3. date and time of collection

4. place of collection

5. parameter(s) requested for analysis

5.3.4.3.2 Sample Seal

A seal will be placed on the sample container or on the shipping container to ensure that samples have not been disturbed during transportation.

5.3.4.3.3 Field Logbook

An up-to-date field logbook will be kept by each sampling team to document daily activities (if more than one group of individuals is sampling). The logbook will include a general list of tasks performed, additional data or observations not listed on field data sheets, and document communication with on-site personnel or visitors as it applies to the project.

5.3.4.3.4 Chain-of-Custody Record Sheet

The chain-of-custody record will be maintained to trace sample possession and time of collection. The chain-of-custody will accompany each sample and record the:

1. sample number

2. signature of collectors

3. date and time of collection

4. sample type

5. sample location identification

6. number of containers

7. analytical parameters requested

8. signature of relinquished and dates of possession by each party

9. preservatives

5.3.4.3.5 Laboratory Logbook

The laboratory will maintain a record of the processing steps that are applied to each sample (i.e., sample preparation techniques, instrumental methods, experimental conditions, QC results). The time, date, and name of the person performing each processing will also be recorded.

6.0 ADDITIONAL ASSESSMENT

6.1 Utility Location

The Ohio Utility Protection Service will also be notified a minimum of 48-hours prior to commencement of field activities to provide any additional location information. In addition, Hull will contract with a third party private utility locator to help identify the presence of any buried utilities in the proposed sampling location areas.

7.0 REFERENCES

A variety of technical manuals, administrative documents, and publications were referred to in preparing this document. Some of the references consulted are presented below. Referenced documents and publications may or may not have been reviewed in their entirety. The guidelines and procedures presented in the documents and publications referenced have been strictly adhered to unless stated otherwise.

Brockman, C. Scott, Ohio Department of Natural Resources, Division of Geological Survey, Physiographic Regions of Ohio (map), 1998.

Hull & Associates, Inc. December 2014, Phase I Environmental Site Assessment Former Champion Spark Plug Site

Ohio Environmental Protection Agency. Sample Collection and Evaluation of Vapor Intrusion to Indoor Air. May 2010.

Ohio Environmental Protection Agency. Voluntary Action Program Regulations, OAC-3745-300-07 and OAC-3745-300-08.

TABLES

WORK PLAN FOR THE FORMER CHAMPION SPARK PLUG PROPERTY
900 UPTON AVENUE TOLEDO, LUCAS COUNTY, OHIO

TABLE 1

SOIL SAMPLING PLAN

REC#	REC	Boring ID	Depth* (feet BGS)	Soil Sample Interval (feet)	Contaminants of Concern					
					VOCs	BTEX/MTBE	PAHs	TPH-GRO	TPH-DRO	RCRA Metals
REC-2	UST	HSB-1	16	Highest PID above saturation		1		1		
		HSB-2	16			1		1		
		HSB-3	16			1		1		
		HSB-4	16			1		1		
REC-4	Debris Piles Data Gap	HSB-5	16	Highest PID or Indication of a Release	1		1	1	1	1
		HSB-6	16		1		1	1		1
		HSB-7	16		1		1	1	1	1
		HSB-8	16		1		1	1		1
		HSB-9	16		1		1	1	1	1
		HSB-10	16		1		1	1		1
		HSB-11	16		1		1	1	1	1
		HSB-12	16		1		1	1		1
		HSB-13	16		1		1	1	1	1
		HSB-14	16		1		1	1		1
		HSB-15	16		1		1	1	1	1
		HSB-16	16		1		1	1		1

Notes:
* Depth may vary depending on actual field conditions

WORK PLAN FOR THE FORMER CHAMPION SPARK PLUG PROPERTY
900 UPTON AVENUE TOLEDO, LUCAS COUNTY, OHIO

TABLE 2

SOIL GAS SAMPLING PLAN

REC	REC Desc	Boring ID	Boring Depth	Sample Depth*	TO-15
					BTEX/MTBE
2	UST	HSG-1	5 FT.	4.0-4.5 FT.	X
		HSG-2	5 FT.	4.0-4.5 FT.	X

Notes:
* Depth may vary depending on actual field conditions

WORK PLAN FOR THE FORMER CHAMPION SPARK PLUG PROPERTY
900 UPTON AVENUE TOLEDO, LUCAS COUNTY, OHIO

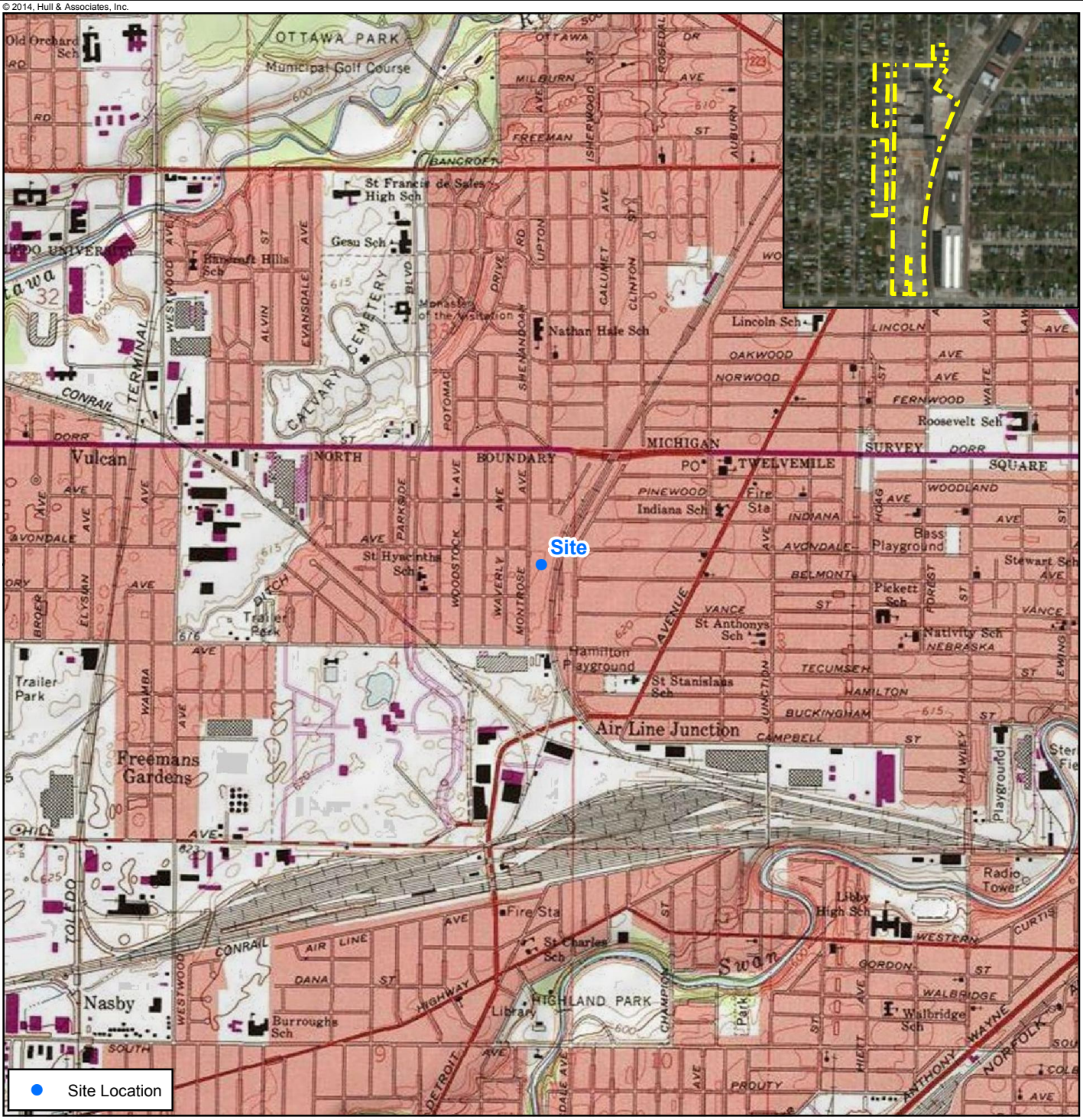
TABLE 3

GROUNDWATER SAMPLING PLAN*

REC	REC Desc	Well ID / Boring ID	Anticipated Well Depth from TOC** (ft)	VOCs	PAHs	RCRA Metals
2,4	USTs, Debris Piles Data Gap	HTMW-1	16	X	X	X
		HTMW-2	16	X	X	X
		HTMW-3	16	X	X	X
		HTMW-4	16	X	X	X
		HTMW-5	16	X	X	X
		HTMW-6	16	X	X	X

* One round of sampling assumed for each of the six wells.
** Top of Casing

FIGURES



Ohio

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0 500 1,000 2,000 Feet
1:24,000

Quad: Toledo

Source: The topographic map was acquired through the USGS Topographic Map web service.

The aerial photo in the inset was acquired through the ESRI Imagery web service. Aerial photography dated 2012.

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Phase I Site Assessment
Former Champion Sparkplug

Site Location Map

914 Upton Avenue
Toledo, Lucas County, Ohio

Date:
September 2014

File Name:
COT235_14_Fig01_ChampSpkSLM.mxd

Edited: 9/29/2014 By: jslifer

Figure
1

Produced using ArcGIS 10.0 SP1

0 40 80 160 Feet
1:960

Area 1
Fill Ports
Area 3
S #1
S #2
#3
#4
Incident # 488279-03
#10
Former Recovery Sump
Former Research and Engineering Building
#5
#6
#7
#8
#9
Former Manfield House
Incident # 488279-00
Cardox AST
1 inch = 20 feet

Pole Mounted Transformer
Area 11
Former Hastings Warehouse
Former Tech. Services Bldg.
Incident # 488279-02
#1
Incident # 488279-01
#2
Fill Ports
REC-2
Area 1
Area 3
Incident # 488279-03
S #1
S #2
#3
#4
#10
Former Recovery Sump
Former Research and Engineering Building
Former Manfield House
#5
#6
#7
#8
#9
Cardox AST
Incident # 488279-00
REC-3
REC-4
Transformers
Area 9
Former 6 Story Office Building
Former Production and Engineering Building
Area 4
#14
Incident # 488279-05
#15
Incident # 488279-02
#11
#12
#13
Area 2
Incident # 488279-02
#16
Area 7
Former 1-Story Production Bldg.
Former Above Ground Vapor Degreaser
Boiler House
10,000 Gal Fuel Oil Tank with Concrete Dike
Area 10
Former Manufacturing Building
Above Ground Heating Oil Tank
Substation High Voltage Transformers
Oil Recovery Sump at Monrose Street
Pump Room
Incident # 488279-04
#17
Former Blaw Knox Bldg.
Oil Recovery Sump
Area 5
#18
3 Manholes
2 Manhole
#19
#20
#21
#22
Incident # 488279-06
Buried Drum Containing Metal Hydroxide Filter Cake
RCRA Waste Storage Area
Area 8
Incident # 488279-07
#23
Area 6
Area 12
Former REX Research, Inc. (Insecticides) Office Building and

Oil Recovery Sump at MonroseSt
Pump Room
Area 10
#17
Incident # 488279-04
Substation High Voltage Transformers
Area 5
Incident # 488279-06
#18
#19
3 Manholes
2 Manhole
#22
#20
#21
1 inch = 20 feet

- Property Boundary
- Zone of Contamination from Oil Overflow (WSP Environmental Strategies Locations)
- AST (WSP Environmental Strategies Locations)
- UST (WSP Environmental Strategies Locations)
- Identified Areas (WSP Environmental Strategies Locations)
- Incidents (BUSTR Incident ID)
- Electrical Duct
- Storm Line
- Product Fill Line
- Underground Piping Runs
- Underground Tunnel
- Manhole
- Sump

Recognized Environmental Conditions

- REC-2
- REC-3
- REC-4

Recognized Environmental Condition (REC)
REC-1: Ground water Restriction and Lane Use Restricted to Commercial/Industrial Use
REC-2: Five Out-of-Service USTS
REC-3: Oil Release from Electrical Transformers
REC-4: Debris Piles Prohibiting Observation Resulting in a Data Gap

Notes:
-The aerial photo was acquired through the ESRI Imagery web service. Aerial photography dated 2012.
-Information was obtained from WSP Strategies 2001-2006 Reports.

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December 2014

Phase I Site Assessment
Former Champion Sparkplug

Site Map

914 Upton Avenue
Toledo, Lucas County, Ohio

Figure
2

Produced using ArcGIS 10.0 SP1

File Name: COT235_14_Fig02_ChampSpkSite.mxd

Edited: 12/16/2014 By: mopel

FIGURE 3

HULL & ASSOCIATES, INC.
TOLEDO, OHIO

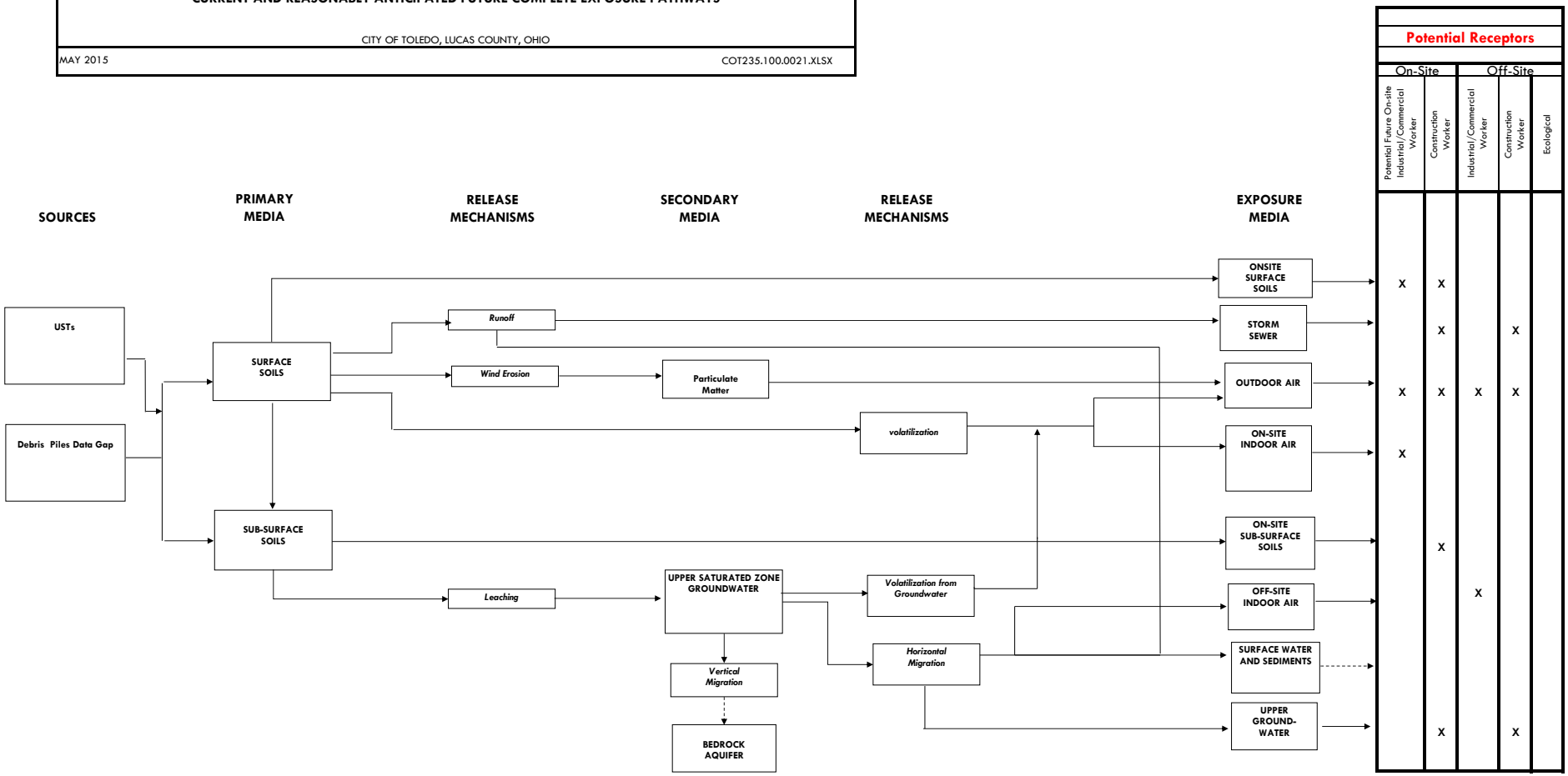
WORK PLAN FOR A PHASE II PROPERTY ASSESSMENT
FORMER CHAMPION SPARK PLUG PROPERTY

PRELIMINARY EXPOSURE PATHWAY - CONCEPTUAL SITE MODEL

CURRENT AND REASONABLY ANTICIPATED FUTURE COMPLETE EXPOSURE PATHWAYS

CITY OF TOLEDO, LUCAS COUNTY, OHIO

MAY 2015 COT235.100.0021.XLSX



APPENDIX A

OAC 3745-300-08 Generic Numerical Standards

3745-300-08 **Generic numerical standards.**

[Comment: For dates of non-regulatory government publications, publications of recognized organizations and associations, federal rules, and federal statutory provisions referenced in this rule, see paragraph (B) of rule 3745-300-01 of the Administrative Code titled "Incorporation by reference."]

(A) Generic numerical standards.

(1) Applicability.

(a) Generic numerical standards listed in this rule for hazardous substances and petroleum may be used to demonstrate compliance with applicable standards provided the exposure scenario for the property comports with land use and activity patterns used to derive the generic numerical standard. Generic numerical standards are provided for complete exposure pathways to petroleum releases (paragraph (B) of this rule), direct contact with hazardous substances in soil to human receptors (paragraph (C) of this rule), unrestricted potable use for hazardous substances in ground water (paragraph (D) of this rule), and complete exposure pathways to human and ecological receptors from surface water and sediment (paragraphs (F), (G) and (H) of this rule).

(b) If complete exposure pathways exist on a property that are not considered in the development of a generic numerical standard listed in this rule or if a generic numerical standard is not listed for chemicals of concern on a property, applicable standards must be derived in accordance with rule 3745-300-09 of the Administrative Code. Demonstration of compliance with applicable standards at a property may be made using a combination of generic numerical standards in accordance with this rule and standards developed through a property-specific risk assessment in accordance with rule 3745-300-09 of the Administrative Code.

(c) If radioactive materials are identified at a property, the property may be subject to the Atomic Energy Act and regulations adopted thereunder and Chapters 3701. and 3747. of the Revised Code and rules adopted thereunder. If radionuclides or radioactive materials are present at a property, the cleanup of the radionuclides or radioactive material shall be conducted in compliance with requirements of the Ohio department of health. Remedy approval by the Ohio department of health shall be considered sufficient to meet applicable standards for radionuclides or radioactive materials for the voluntary action and may be considered a generic numerical standard.

(d) If polychlorinated biphenyls are identified at a property, the property may be subject to cleanup levels or other provisions of the Toxic Substances Control Act and regulations adopted thereunder. Polychlorinated biphenyls shall be addressed within the voluntary action as a hazardous substance and meet either generic numerical standards in accordance with this rule or property-specific standards in accordance with rule 3745-300-09 of the Administrative Code.

(2) Assumptions.

(a) Summation of risk and hazard across complete exposure pathways.

If more than one complete exposure pathway exists to each receptor population, the incremental cancer risk and hazard indices determined for each exposure pathway must be summed to calculate a cumulative cancer risk and hazard index to each receptor population. All final cumulative human health carcinogenic risk and non-carcinogenic hazard levels are based on one significant figure.

(b) If the generic numerical standards of this rule are applied to one or more exposure units or identified areas of the property and applicable standards, as determined in accordance with rule 3745-300-09 of the Administrative Code, are applied to one or more other areas of the property, then the volunteer must ensure that the risk and hazard levels for each receptor on the property do not exceed:

(i) One excess cancer in a population of 100,000 (1×10^{-5}); and

(ii) A hazard index of 1.

All final cumulative human health carcinogenic risk and non-carcinogenic hazard levels are based on one significant figure.

(c) Points of compliance. The volunteer must comply with the applicable standards at all points of compliance at the property, for each environmental media and complete exposure pathway, in accordance with paragraph (I) of rule 3745-300-07 of the Administrative Code.

(3) A property-specific risk assessment must be conducted in accordance with the procedures established in rule 3745-300-09 of the Administrative Code to determine applicable standards instead of or in addition to using the generic numerical standards from this rule, if any of the following apply to the property:

(a) The complete exposure pathways as identified in accordance with paragraph (F)(1) of rule 3745-300-07 of the Administrative Code, include exposure pathways that are not considered in the development of standards listed in this rule. Such exposure pathways include, but are not limited to, volatilization of contaminants to indoor air or non-potable use of ground water;

(b) The exposure factors for the receptors identified in paragraph (E)(6) of rule 3745-300-07 of the Administrative Code are not considered in the development of standards listed in this rule;

(c) The chemicals of concern on the property consist of hazardous substances or petroleum that do not have generic numerical standards included in this rule. If only some of the chemicals of concern identified have a generic numerical standard listed in this rule, a

volunteer may use the applicable generic numerical standards for the chemicals of concern having listed standards and conduct a property-specific risk assessment in accordance with rule 3745-300-09 of the Administrative Code. When using a combination of generic numerical standards and applicable standards determined by a property-specific risk assessment conducted in accordance with rule 3745-300-09 of the Administrative Code, the volunteer must adjust the concentrations of the applicable standards to meet the human health risk and hazard levels described in paragraph (A)(2)(b) of this rule;

(d) Concentrations of chemicals of concern in surface water or sediment exceed applicable standards determined in accordance with this rule;

(e) Complete exposure pathways to important ecological resources other than sediment or surface water exist; or

(f) It is determined that chemicals of concern on or emanating from the property are persistent, bioaccumulative, and toxic in animal tissue and the development of the generic standards, other than Ohio-specific sediment reference values contained in attachment H of Ohio EPA's "Guidance for Conducting Ecological Risk Assessments," do not consider bioaccumulative effects.

(B) Generic numerical standards for petroleum.

(1) Applicability.

(a) The generic numerical standards referenced in paragraph (B)(3) of this rule apply to all petroleum releases regardless of the source or how the petroleum was released. After eligibility requirements in accordance with rule 3745-300-02 of the Administrative Code have been met, applicable standards for all petroleum releases on the property must be achieved in accordance with this chapter.

(b) The generic numerical standards referenced in paragraph (B)(3) of this rule apply to the exposure pathways for which rules adopted under division (B) of section 3737.882 of the Revised Code have numerical clean-up standards. If an exposure pathway is not addressed by a generic numerical standard under division (B) of section 3737.882 of the Revised Code, then the exposure pathway must be evaluated in accordance with rule 3745-300-09 of the Administrative Code.

(2) Assumptions.

(a) The points of compliance for generic petroleum standards are those identified in paragraph (I)(1) for rule 3745-300-07 of the Administrative Code. For example, exposure pathways that are encompassed within the generic direct-contact soil standard shall use the points of compliance indicated in paragraph (I)(1)(a)(i) of rule 3745-300-07

of the Administrative Code. The volunteer must comply with the applicable standards at all points of compliance at the property, for each environmental medium and complete exposure pathway, in accordance with paragraph (I) of rule 3745-300-07 of the Administrative Code.

(b) Cumulative adjustment for multiple chemicals and summation of risk across complete exposure pathways that are required for chemicals of concern on the property in order to comply with paragraphs (A)(2)(a) and (E) of this rule may not necessarily apply for generic petroleum standards referenced in paragraph (B)(3) of this rule. Cumulative adjustment for multiple chemicals and summation of risk across complete exposure pathways to meet generic petroleum standards are required only when required by rules adopted under division (B) of section 3737.882 of the Revised Code.

(c) When ground water exceeds unrestricted potable use standards, ground water response requirements in accordance with rule 3745-300-10 of the Administrative Code must be met. Properties with free product exceed applicable standards for unrestricted potable use of ground water.

(d) Commercial and industrial land use categories (as described in paragraph (C)(2)(c) of this rule) require implementation of institutional controls in accordance with paragraph (C)(3) of rule 3745-300-11 of the Administrative Code.

(3) Generic numerical clean-up standards for petroleum.

The generic numerical standards for petroleum at residential, commercial, or industrial properties are the standards established in rules adopted under division (B) of section 3737.882 of the Revised Code, as provided in division (B)(1) of section 3746.04 of the Revised Code. The state fire marshal's bureau of underground storage tank regulations administers the rules adopted under division (B) of section 3737.882 of the Revised Code. Property-specific standards for petroleum may be developed using rule 3745-300-09 of the Administrative Code.

(C) Generic direct-contact soil standards for hazardous substances.

(1) Applicability.

(a) When applying generic direct-contact standards to soils on a property, a volunteer must select the generic land use or activity category which is consistent with the exposure factors for the generic land use or activity category contained in paragraph (C)(2)(c) of this rule. The exposure factor distributions used in the development of generic numerical standards are contained in Ohio EPA's "Support Document For the Development of Generic Numerical Standards and Risk Assessment Procedures." Generic direct-contact soil standards for commercial and industrial land uses are equal unless paragraph (B)(1)(b) of rule 3745-300-09 of the Administrative Code applies.

(b) A property-specific risk assessment must be conducted in accordance with the procedures established in rule 3745-300-09 of the Administrative Code, to determine applicable standards instead of or in addition to using the generic direct-contact soil standards, if any conditions of paragraph (A)(3) of this rule apply.

(c) Generic numerical standards for petroleum releases are identified in paragraph (B)(3) of this rule. The standards listed in paragraph (C)(3) of this rule apply to releases of hazardous substances.

(2) Assumptions.

(a) Single chemical.

The generic direct-contact soil standards presented in paragraph (C) of this rule assume a single chemical of concern is present within an identified area or exposure unit.

(i) The single chemical generic direct-contact soil standards set forth in this rule are based on the following risk and hazard levels.

(*a*) For hazardous substances having carcinogenic effects, the chemical-specific carcinogenic risk must not exceed one excess cancer in a population of 100,000 (i.e., 1×10^{-5}); and

(*b*) For hazardous substances having non-carcinogenic effects, the chemical-specific risk must not exceed a hazard index of 1.

(ii) The concentration of a chemical of concern, as determined in accordance with paragraph (F)(5) of rule 3745-300-07 of the Administrative Code, must not exceed the single chemical generic direct-contact soil standard for that chemical.

(b) Cumulative adjustment for multiple chemicals.

When more than one chemical of concern is present within an identified area or exposure unit and an applicable generic direct-contact soil standard for each of the chemicals of concern is contained in paragraphs (C)(3)(b), (C)(3)(c) or (C)(3)(d) of this rule, the standard for each chemical of concern must be adjusted for the presence of multiple chemicals in order to meet the risk and hazard levels described in paragraph (C)(2)(a) of this rule. A cumulative adjustment for multiple chemicals must also be made when using a combination of generic direct-contact soil standards and applicable standards determined by a property-specific risk assessment in accordance with rule 3745-300-09 of the Administrative Code. The incremental risk and hazard from direct contact to soils must be added to the incremental risk and hazard from other complete exposure pathways to the same receptor population, in accordance with (A)(2)(a) of this rule. All

final cumulative human health carcinogenic risk and non-carcinogenic hazard levels are based on one significant figure.

(c) Land use and activity categories.

The generic direct-contact soil standards established in this rule are based upon the intended use of the property after the completion of a voluntary action. Standards applied to commercial and industrial land use categories require implementation of institutional controls in accordance with paragraph (C)(3) of rule 3745-300-11 of the Administrative Code. Land use and activity categories must be determined as follows:

(i) Residential land use category.

Residential land use is land use with a high frequency of potential exposure of adults and children to dermal contact with soil, inhalation of vapors and particles from soil and ingestion of soil. Residential land use is considered protective for, and may be applied to, any and all categories of land use, without further restriction. Examples of residential land uses include, but are not limited to residences; day care facilities; schools, colleges and other educational institutions; nursing homes, elder care and other long-term health care facilities; and correctional facilities.

(ii) Commercial land use category.

Commercial land use is land use with potential exposure of adult workers during a business day and potential exposures of adults and children who are customers, patrons or visitors to commercial facilities during the business day. Commercial land use has potential exposure of adults to dermal contact with soil, inhalation of vapors and particles from soil and ingestion of soil. Examples of commercial land uses include, but are not limited to warehouses; retail gasoline stations; retail establishments; professional offices; hospitals and clinics; religious institutions; hotels; motels; and parking facilities.

(iii) Industrial land use category.

Industrial land use is land use with potential exposure of adult workers during a business day and potential exposures of adults and children who are visitors to industrial facilities during the business day. Industrial land use has potential exposure of adults to dermal contact with soil, inhalation of vapors and particles from soil and ingestion of soil. Examples of industrial land uses include, but are not limited to: lumberyards; power plants; manufacturing facilities such as metal-working shops, plating shops, blast furnaces, coke plants, oil refineries, brick factories, chemical plants and plastics plants; assembly plants; non-public airport areas; limited access highways; railroad switching yards; and marine port facilities.

(iv) Construction or excavation activities.

Construction or excavation activities include invasive activities that result in potential exposure of adult workers during the business day for a portion of one year. Exposures during construction or excavation activities are of greater intensity and shorter duration than those for the commercial and industrial land use categories. Construction or excavation activities have potential exposures of adults to dermal contact with soil, inhalation of vapors and particles from soil, and ingestion of soil. Examples of construction or excavation activities include but are not limited to maintenance or installation of utilities; installation of building footers or foundations; grading; trenching; or laying utility lines or cables; and repair of engineering controls where there is significant exposure to soils.

(3) Generic numerical direct-contact soil standards.

(a) The generic direct-contact soil standards for carcinogenic and non-carcinogenic chemicals of concern are derived considering only the following exposures; ingestion of soil, dermal contact with soil, inhalation of volatile compounds in outdoor air and the inhalation and ingestion of particulate emissions. Any and all applicable exposures not considered within the generic direct-contact soil standards shall be addressed in accordance with rule 3745-300-09 of the Administrative Code.

The soil saturation concentrations are calculated using the U.S. EPA recommended soil saturation equation specified in paragraph (C)(3)(e) of this rule. This equation is not recommended for compounds that are at solid phase at ambient soil temperatures; therefore, no generic soil saturation values were calculated for those chemicals whose melting point is greater than seventeen degrees Celsius. Further, soil saturation values were determined only for those chemicals whose physicochemical parameters used to derive the soil saturation concentrations could be verified. The volunteer may use the equation specified in paragraph (C)(3)(e) of this rule, along with property-specific information, to calculate a property-specific soil saturation concentration in lieu of the generic soil saturation concentrations listed in tables I through III in paragraphs (C)(3)(b) through (C)(3)(d) of this rule.

(b) Table I: generic direct-contact soil standards for carcinogenic and non-carcinogenic chemicals of concern - residential land use category (values are in mg/kg).

Chemical Abstract Service Number (CAS #)	Chemical of Concern	Standard for Single Chemical Noncarcinogen	Standard for Single Chemical Carcinogen	Soil Saturation	Generic Direct Contact Soil Standard for a Single Chemical (mg/kg)
Volatile Organic Chemicals					
67-64-1	Acetone	64,000	NA	100,000	64,000
71-43-2	Benzene	94	64	920	64

Chemical Abstract Service Number (CAS #)	Chemical of Concern	Standard for Single Chemical Noncarcinogen	Standard for Single Chemical Carcinogen	Soil Saturation	Generic Direct Contact Soil Standard for a Single Chemical (mg/kg)
75-15-0	Carbon Disulfide	1,400	NA	1,400	1,400
56-23-5	Carbon Tetrachloride	5.5	6.6	1,400	5.5
108-90-7	Chlorobenzene	410	NA	740	410
75-00-3	Chloroethane	10,000	3,700	2,200	2,200
67-66-3	Chloroform	300	6.6	3,400	6.6
124-48-1	Dibromochloromethane	1,500	130	1,600	130
75-71-8	Dichlorodifluoromethane	380	NA	1,400	380
75-34-3	Dichloroethane, 1,1-	2,000	NA	2,300	2,000
107-06-2	Dichloroethane, 1,2-	1,400	8.7	2,900	8.7
75-35-4	Dichloroethene, 1,1-	410	NA	1,700	410
156-59-2	Dichloroethene, *cis*-1,2-	760	NA	2,200	760
156-60-5	Dichloroethene, *trans*-1,2-	180	NA	1,800	180
78-87-5	Dichloropropane, 1,2 -	23	19	1,100	19
542-75-6	Dichloropropene, 1,3 -	92	35	810	35
123-91-1	Dioxane, 1,4-	7,400	260	270,000	260
60-29-7	Ethyl Ether	15,000	NA	33,000	15,000
100-41-4	Ethylbenzene	3,600	NA	230	230
50-00-0	Formaldehyde	1,900	560	130,000	560
64-18-6	Formic acid	1,200	NA	170,000	1,200
110-54-3	Hexane, *n*-	530	NA	190	190
78-83-1	Isobutyl Alcohol	23,000	NA	40,000	23,000
67-56-1	Methanol	33,000	NA	110,000	33,000
78-93-3	Methyl Ethyl Ketone (MEK)	37,000	NA	100,000	37,000
108-10-1	Methyl Isobutyl Ketone (MIBK)	5,800	NA	16,000	5,800
1634-04-4	Methyl *tert*-Butyl Ether (MTBE)	21,000	850	6,700	850
75-09-2	Methylene Chloride	2,200	250	2,300	250
100-42-5	Styrene	9,500	NA	1,700	1,700
630-20-6	Tetrachloroethane , 1,1,1,2-	2,300	37	750	37
79-34-5	Tetrachloroethane, 1,1,2,2-	4,500	11	1,700	11
127-18-4	Tetrachloroethene	510	17	380	17
108-88-3	Toluene	5,100	NA	520	520
71-55-6	Trichloroethane, 1,1,1-	6,100	NA	1,300	1,300
79-00-5	Trichloroethane, 1,1,2-	300	25	2,600	25
79-01-6	Trichloroethene	2,300	65	950	65
75-69-4	Trichlorofluoromethane	1,200	NA	1,600	1,200
96-18-4	Trichloropropane, 1,2,3-	450	1.5	1,100	1.5
75-01-4	Vinyl Chloride	98	4.6	1,100	4.6
1330-20-7	Xylenes, Total	1,000	NA	370	370
Semi-Volatile Organic Chemicals					
83-32-9	Acenaphthene	3,500	NA	NA	3,500
98-86-2	Acetophenone	6,300	NA	NA	6,300

Chemical Abstract Service Number (CAS #)	Chemical of Concern	Standard for Single Chemical Noncarcinogen	Standard for Single Chemical Carcinogen	Soil Saturation	Generic Direct Contact Soil Standard for a Single Chemical (mg/kg)
107-13-1	Acrylonitrile	35	6.6	22,000	6.6
62-53-3	Aniline	220	1,500	62,000	220
120-12-7	Anthracene	18,000	NA	NA	18,000
92-87-5	Benzidine	190	0.04	NA	0.04
56-55-3	Benzo(a)anthracene	NA	11	NA	11
50-32-8	Benzo(a)pyrene	NA	1.1	NA	1.1
205-99-2	Benzo(b)fluoranthene	NA	11	NA	11
207-08-9	Benzo(k)fluoranthene	NA	110	NA	110
117-81-7	Bis (2-ethylhexyl) Phthalate (BEHP & DEHP)	1,300	620	190	190
85-68-7	Butyl Benzyl Phthalate	13,000	620	58	58
86-74-8	Carbazole	NA	430	NA	430
57-74-9	Chlordane	34	28	NA	28
218-01-9	Chrysene	NA	1,100	NA	1,100
53-70-3	Dibenz(a,h)anthracene	NA	1.1	NA	1.1
95-50-1	Dichlorobenzene, 1,2- (o)	2,300	NA	370	370
106-46-7	Dichlorobenzene, 1,4- (p)	3,500	60	NA	60
91-94-1	Dichlorobenzidine, 3,3-	NA	19	NA	19
72-54-8	Dichlorodiphenyldichloroethane (DDD)	140	42	NA	42
72-55-9	Dichlorodiphenyldichloroethene (DDE)	NA	29	NA	29
50-29-3	Dichlorodiphenyltrichloroethane (DDT)	36	30	NA	30
94-75-7	Dichlorophenoxyacetic acid, 2,4-	630	NA	NA	630
84-66-2	Diethyl Phthalate	50,000	NA	590	590
105-67-9	Dimethylphenol, 2,4-	1,300	NA	NA	1,300
84-74-2	Di-*n*-butyl Phthalate	6,300	NA	110	110
99-65-0	Dinitrobenzene, 1,3- (m)	6.3	NA	NA	6.3
528-29-0	Dinitrobenzene, 1,2-	6.3	NA	NA	6.3
121-14-2	Dinitrotoluene, 2,4-	120	13	NA	13
606-20-2	Dinitrotoluene, 2,6-	63	13	NA	13
72-20-8	Endrin	19	NA	NA	19
107-21-1	Ethylene Glycol	110,000	NA	110,000	110,000
206-44-0	Fluoranthene	2,400	NA	NA	2,400
86-73-7	Fluorene	2,400	NA	NA	2,400
76-44-8	Heptachlor	31	1.8	NA	1.8
1024-57-3	Heptachlor Epoxide	0.81	0.95	NA	0.81
87-68-3	Hexachloro-1,3-Butadiene	13	83	1,000	13
118-74-1	Hexachlorobenzene	50	5.2	NA	5.2
67-72-1	Hexachloroethane	63	550	NA	63
193-39-5	Indeno(1,2,3-c,d)pyrene	NA	11	NA	11
78-59-1	Isophorone	12,000	9,100	4,600	4,600
98-82-8	Isopropylbenzene (Cumene)	2,700	NA	260	260

Chemical Abstract Service Number (CAS #)	Chemical of Concern	Standard for Single Chemical Noncarcinogen	Standard for Single Chemical Carcinogen	Soil Saturation	Generic Direct Contact Soil Standard for a Single Chemical (mg/kg)
58-89-9	Lindane	21	8.7	NA	8.7
108-39-4	m-cresol	3,100	NA	61,000	3,100
72-43-5	Methoxychlor	310	NA	NA	310
90-12-0	Methylnaphthalene, 1-	4,100	NA	360	360
91-20-3	Naphthalene	180	69	NA	69
98-95-3	Nitrobenzene	27	NA	1,500	27
86-30-6	Nitrosodiphenylamine, *n*-	1,300	1,700	NA	1,300
95-48-7	o-cresol	3,100	NA	NA	3,100
117-84-0	Octyl Phthalate, di-*n*-	2,500	NA	12	12
106-44-5	p-cresol	310	NA	NA	310
87-86-5	Pentachlorophenol	1,400	55	NA	55
108-95-2	Phenol	15,000	NA	NA	15,000
1336-36-3	Polychlorinated Biphenyls	1.2	4.0	NA	1.2
129-00-0	Pyrene	1,800	NA	NA	1,800
110-86-1	Pyridine	63	NA	400,000	63
93-72-1	Silvex	500	NA	NA	500
8001-35-2	Toxaphene	NA	7.8	NA	7.8
95-95-4	Trichlorophenol, 2,4,5-	6,300	NA	NA	6,300
88-06-2	Trichlorophenol, 2,4,6-	NA	770	NA	770
95-63-6	Trimethylbenzene, 1,2,4-	85	NA	250	85
108-67-8	Trimethylbenzene, 1,3,5-	69	NA	200	69
99-35-4	Trinitrobenzene, 1,3,5- (s)	1,900	NA	NA	1,900
108-05-4	Vinyl Acetate	1,400	NA	2,700	1,400
	Inorganic Chemicals				
7440-36-0	Antimony	30	NA	NA	30
7440-38-2	Arsenic, Inorganic	21	6.7	NA	6.7
7440-39-3	Barium and Compounds	15,000	NA	NA	15,000
7440-41-7	Beryllium and Compounds	150	16,000	NA	150
7440-43-9	Cadmium	72	22,000	NA	72
16065-83-1	Chromium (III)	110,000	NA	NA	110,000
18540-29-9	Chromium (VI)	230	3,300	NA	230
7440-48-4	Cobalt	1,400	14,000	NA	1,400
57-12-5	Cyanide, Free	1,500	NA	NA	1,500
7782-41-4	Fluorine (soluble fluoride)	4,500	NA	NA	4,500
7439-97-6	Mercury	7.6	NA	NA	7.6
7440-02-0	Nickel (Soluble Salts)	1,500	NA	NA	1,500
7782-49-2	Selenium and Compounds	380	NA	NA	380
7440-22-4	Silver	380	NA	NA	380
7440-28-0	Thallium	6.1	NA	NA	6.1
7440-62-2	Vanadium	680	NA	NA	680
7440-66-6	Zinc and Compounds	23,000	NA	NA	23,000

(c) Table II: generic direct-contact soil standards for carcinogenic and non-carcinogenic chemicals of concern - Commercial and Industrial Land Use Categories (values are in mg/kg).

Chemical Abstract Service Number (CAS #)	Chemical of Concern	Standard for Single Chemical Noncarcinogen	Standard for Single Chemical Carcinogen	Soil Saturation	Generic Direct Contact Soil Standard for a Single Chemical (mg/kg)
Volatile Organic Chemicals					
67-64-1	Acetone	850,000	NA	100,000	100,000
71-43-2	Benzene	170	140	920	140
75-15-0	Carbon Disulfide	2,200	NA	1,400	1,400
56-23-5	Carbon Tetrachloride	8.2	15	1,400	8.2
108-90-7	Chlorobenzene	710	NA	740	710
75-00-3	Chloroethane	18,000	68,000	2,200	2,200
67-66-3	Chloroform	600	14	3,400	14
124-48-1	Dibromochloromethane	59,000	2,300	1,600	1,600
75-71-8	Dichlorodifluoromethane	520	NA	1,400	520
75-34-3	Dichloroethane, 1,1-	3,000	NA	2,300	2,300
107-06-2	Dichloroethane, 1,2-	17,000	19	2,900	19
75-35-4	Dichloroethene, 1,1-	610	NA	1,700	610
156-59-2	Dichloroethene, *cis*-1,2-	29,000	NA	2,200	2,200
156-60-5	Dichloroethene, *trans*-1,2-	260	NA	1,800	260
78-87-5	Dichloropropane, 1,2 -	31	41	1,100	31
542-75-6	Dichloropropene, 1,3 -	130	84	810	84
123-91-1	Dioxane, 1,4-	160,000	600	270,000	600
60-29-7	Ethyl Ether	590,000	NA	33,000	33,000
100-41-4	Ethylbenzene	8,500	NA	230	230
50-00-0	Formaldehyde	2,900	1,200	130,000	1,200
64-18-6	Formic acid	1,700	NA	170,000	1,700
110-54-3	Hexane, *n*-	800	NA	190	190
78-83-1	Isobutyl Alcohol	880,000	NA	40,000	40,000
67-56-1	Methanol	240,000	NA	110,000	110,000
78-93-3	Methyl Ethyl Ketone (MEK)	220,000	NA	100,000	100,000
108-10-1	Methyl Isobutyl Ketone (MIBK)	97,000	NA	16,000	16,000
1634-04-4	Methyl *tert*-Butyl Ether (MTBE)	28,000	1,900	6,700	1,900
75-09-2	Methylene Chloride	4,900	570	2,300	570
100-42-5	Styrene	29,000	NA	1,700	1,700
630-20-6	Tetrachloroethane , 1,1,1,2-	88,000	81	750	81
79-34-5	Tetrachloroethane, 1,1,2,2-	180,000	24	1,700	24
127-18-4	Tetrachloroethene	1,700	53	380	53
108-88-3	Toluene	33,000	NA	520	520
71-55-6	Trichloroethane, 1,1,1-	11,000	NA	1,300	1,300
79-00-5	Trichloroethane, 1,1,2-	12,000	55	2,600	55
79-01-6	Trichloroethene	3,200	150	950	150
75-69-4	Trichlorofluoromethane	1,600	NA	1,600	1,600
96-18-4	Trichloropropane, 1,2,3-	18,000	28	1,100	28

Chemical Abstract Service Number (CAS #)	Chemical of Concern	Standard for Single Chemical Noncarcinogen	Standard for Single Chemical Carcinogen	Soil Saturation	Generic Direct Contact Soil Standard for a Single Chemical (mg/kg)
75-01-4	Vinyl Chloride	210	12	1,100	12
1330-20-7	Xylenes, Total	1,500	NA	370	370
Semi-Volatile Organic Chemicals					
83-32-9	Acenaphthene	56,000	NA	NA	56,000
98-86-2	Acetophenone	110,000	NA	NA	110,000
107-13-1	Acrylonitrile	48	16	22,000	16
62-53-3	Aniline	540	7,400	62,000	540
120-12-7	Anthracene	280,000	NA	NA	280,000
92-87-5	Benzidine	3,400	0..30	NA	0..30
56-55-3	Benzo(a)anthracene	NA	76	NA	76
50-32-8	Benzo(a)pyrene	NA	7.7	NA	7.7
205-99-2	Benzo(b)fluoranthene	NA	77	NA	77
207-08-9	Benzo(k)fluoranthene	NA	770	NA	770
117-81-7	Bis (2-ethylhexyl) Phthalate (BEHP & DEHP)	22,000	4,800	190	190
85-68-7	Butyl Benzyl Phthalate	220,000	4,800	58	58
86-74-8	Carbazole	NA	3,400	NA	3,400
57-74-9	Chlordane	670	270	NA	270
218-01-9	Chrysene	NA	7,600	NA	7,600
53-70-3	Dibenz(a,h)anthracene	NA	7.7	NA	7.7
95-50-1	Dichlorobenzene, 1,2- (o)	4,600	NA	370	370
106-46-7	Dichlorobenzene, 1,4- (p)	17,000	130	NA	130
91-94-1	Dichlorobenzidine, 3,3-	NA	110	NA	110
72-54-8	Dichlorodiphenyldichloroethane (DDD)	4,100	470	NA	470
72-55-9	Dichlorodiphenyldichloroethene (DDE)	NA	310	NA	310
50-29-3	Dichlorodiphenyltrichloroethane (DDT)	1,000	350	NA	350
94-75-7	Dichlorophenoxyacetic acid, 2,4-	11,000	NA	NA	11,000
84-66-2	Diethyl Phthalate	900,000	NA	590	590
105-67-9	Dimethylphenol, 2,4-	22,000	NA	NA	22,000
84-74-2	Di-*n*-butyl Phthalate	110,000	NA	110	110
99-65-0	Dinitrobenzene, 1,3- (m)	110	NA	NA	110
528-29-0	Dinitrobenzene, 1,2-	110	NA	NA	110
121-14-2	Dinitrotoluene, 2,4-	2,200	98	NA	98
606-20-2	Dinitrotoluene, 2,6-	1,100	100	NA	100
72-20-8	Endrin	340	NA	NA	340
107-21-1	Ethylene Glycol	760,000	NA	110,000	110,000
206-44-0	Fluoranthene	37,000	NA	NA	37,000
86-73-7	Fluorene	37,000	NA	NA	37,000
76-44-8	Heptachlor	560	8.9	NA	8.9
1024-57-3	Heptachlor Epoxide	15	7.0	NA	7.0
87-68-3	Hexachloro-1,3-Butadiene	220	240	1,000	220
118-74-1	Hexachlorobenzene	900	28	NA	28

Chemical Abstract Service Number (CAS #)	Chemical of Concern	Standard for Single Chemical Noncarcinogen	Standard for Single Chemical Carcinogen	Soil Saturation	Generic Direct Contact Soil Standard for a Single Chemical (mg/kg)
67-72-1	Hexachloroethane	1,100	1,700	NA	1,100
193-39-5	Indeno(1,2,3-c,d)pyrene	NA	77	NA	77
78-59-1	Isophorone	140,000	71,000	4,600	4,600
98-82-8	Isopropylbenzene (Cumene)	5,700	NA	260	260
58-89-9	Lindane	550	70	NA	70
108-39-4	m-cresol	56,000	NA	61,000	56,000
72-43-5	Methoxychlor	5,600	NA	NA	5,600
90-12-0	Methylnaphthalene, 1-	66,000	NA	360	360
91-20-3	Naphthalene	280	150	NA	150
98-95-3	Nitrobenzene	170	NA	1,500	170
86-30-6	Nitrosodiphenylamine, *n*-	22,000	10,000	NA	10,000
95-48-7	o-cresol	56,000	NA	NA	56,000
117-84-0	Octyl Phthalate, di-*n*-	45,000	NA	12	12
106-44-5	p-cresol	5,600	NA	NA	5,600
87-86-5	Pentachlorophenol	17,000	280	NA	280
108-95-2	Phenol	66,000	NA	NA	66,000
1336-36-3	Polychlorinated Biphenyls	18	26	NA	18
129-00-0	Pyrene	28,000	NA	NA	28,000
110-86-1	Pyridine	1,100	NA	400,000	1,100
93-72-1	Silvex	9,000	NA	NA	9,000
8001-35-2	Toxaphene	NA	59	NA	59
95-95-4	Trichlorophenol, 2,4,5-	110,000	NA	NA	110,000
88-06-2	Trichlorophenol, 2,4,6-	NA	4,400	NA	4,400
95-63-6	Trimethylbenzene, 1,2,4-	120	NA	250	120
108-67-8	Trimethylbenzene, 1,3,5-	95	NA	200	95
99-35-4	Trinitrobenzene, 1,3,5- (s)	34,000	NA	NA	34,000
108-05-4	Vinyl Acetate	2,000	NA	2,700	2,000
Inorganic Chemicals					
7440-36-0	Antimony	1,200	NA	NA	1,200
7440-38-2	Arsenic, Inorganic	610	82	NA	82
7440-39-3	Barium and Compounds	370,000	NA	NA	370,000
7440-41-7	Beryllium and Compounds	5,100	39,000	NA	5,100
7440-43-9	Cadmium	2,300	52,000	NA	2,300
16065-83-1	Chromium (III)	1,000,000	NA	NA	1,000,000
18540-29-9	Chromium (VI)	8,400	7,900	NA	7,900
7440-48-4	Cobalt	23,000	34,000	NA	23,000
57-12-5	Cyanide, Free	59,000	NA	NA	59,000
7782-41-4	Fluorine (soluble fluoride)	180,000	NA	NA	180,000
7439-97-6	Mercury	290	NA	NA	290
7440-02-0	Nickel (Soluble Salts)	44,000	NA	NA	44,000
7782-49-2	Selenium and Compounds	15,000	NA	NA	15,000
7440-22-4	Silver	15,000	NA	NA	15,000
7440-28-0	Thallium	230	NA	NA	230
7440-62-2	Vanadium	26,000	NA	NA	26,000
7440-66-6	Zinc and Compounds	880,000	NA	NA	880,000

(d) Table III: generic direct-contact soil standards for carcinogenic and non-carcinogenic chemicals of concern - construction and excavation activities category: (values are in mg/kg).

Chemical Abstract Service Number (CAS #)	Chemical of Concern	Standard for Single Chemical Noncarcinogen	Standard for Single Chemical Carcinogen	Soil Saturation	Generic Direct Contact Soil Standard for a Single Chemical (mg/kg)
Volatile Organic Chemicals					
67-64-1	Acetone	320,000	NA	100,000	100,000
71-43-2	Benzene	150	540	920	150
75-15-0	Carbon Disulfide	190	NA	1,400	190
56-23-5	Carbon Tetrachloride	24	56	1,400	24
108-90-7	Chlorobenzene	2,100	NA	740	740
75-00-3	Chloroethane	5,500	470,000	2,200	2,200
67-66-3	Chloroform	430	55	3,400	55
124-48-1	Dibromochloromethane	390,000	16,000	1,600	1,600
75-71-8	Dichlorodifluoromethane	1,500	NA	1,400	1,400
75-34-3	Dichloroethane, 1,1-	2,500	NA	2,300	2,300
107-06-2	Dichloroethane, 1,2-	6,600	75	2,900	75
75-35-4	Dichloroethene, 1,1-	180	NA	1,700	180
156-59-2	Dichloroethene, *cis*-1,2-	190,000	NA	2,200	2,200
156-60-5	Dichloroethene, *trans*-1,2-	78	NA	1,800	78
78-87-5	Dichloropropane, 1,2 -	30	160	1,100	30
542-75-6	Dichloropropene, 1,3 -	38	330	810	38
123-91-1	Dioxane, 1,4-	87,000	2,300	270,000	2,300
60-29-7	Ethyl Ether	1,000,000	NA	33,000	33,000
100-41-4	Ethylbenzene	2,600	NA	230	230
50-00-0	Formaldehyde	3,500	4,700	130,000	3,500
64-18-6	Formic acid	1,500	NA	170,000	1,500
110-54-3	Hexane, *n*-	710	NA	190	190
78-83-1	Isobutyl Alcohol	1,000,000	NA	40,000	40,000
67-56-1	Methanol	1,000,000	NA	110,000	110,000
78-93-3	Methyl Ethyl Ketone (MEK)	15,000	NA	100,000	15,000
108-10-1	Methyl Isobutyl Ketone (MIBK)	12,000	NA	16,000	12,000
1634-04-4	Methyl *tert*-Butyl Ether (MTBE)	8,300	7,500	6,700	6,700
75-09-2	Methylene Chloride	1,500	2,200	2,300	1,500
100-42-5	Styrene	27,000	NA	1,700	1,700
630-20-6	Tetrachloroethane , 1,1,1,2-	58,000	310	750	310
79-34-5	Tetrachloroethane, 1,1,2,2-	970,000	94	1,700	94
127-18-4	Tetrachloroethene	540	220	380	220
108-88-3	Toluene	2,000	NA	520	520
71-55-6	Trichloroethane, 1,1,1-	33,000	NA	1,300	1,300
79-00-5	Trichloroethane, 1,1,2-	78,000	210	2,600	210

Chemical Abstract Service Number (CAS #)	Chemical of Concern	Standard for Single Chemical Noncarcinogen	Standard for Single Chemical Carcinogen	Soil Saturation	Generic Direct Contact Soil Standard for a Single Chemical (mg/kg)
79-01-6	Trichloroethene	960	560	950	560
75-69-4	Trichlorofluoromethane	4,800	NA	1,600	1,600
96-18-4	Trichloropropane, 1,2,3-	120,000	190	1,100	190
75-01-4	Vinyl Chloride	63	48	1,100	48
1330-20-7	Xylenes, Total	440	NA	370	370
Semi-Volatile Organic Chemicals					
83-32-9	Acenaphthene	440,000	NA	NA	440,000
98-86-2	Acetophenone	850,000	NA	NA	850,000
107-13-1	Acrylonitrile	14	69	22,000	14
62-53-3	Aniline	1,300	44,000	62,000	1,300
120-12-7	Anthracene	1,000,000	NA	NA	1,000,000
92-87-5	Benzidine	2,600	2.5	NA	2.5
56-55-3	Benzo(a)anthracene	NA	680	NA	680
50-32-8	Benzo(a)pyrene	NA	69	NA	69
205-99-2	Benzo(b)fluoranthene	NA	690	NA	690
207-08-9	Benzo(k)fluoranthene	NA	6,900	NA	6,900
117-81-7	Bis (2-ethylhexyl) Phthalate (BEHP & DEHP)	170,000	42,000	190	190
85-68-7	Butyl Benzyl Phthalate	1,000,000	43,000	58	58
86-74-8	Carbazole	NA	30,000	NA	30,000
57-74-9	Chlordane	77	1,900	NA	77
218-01-9	Chrysene	NA	69,000	NA	69,000
53-70-3	Dibenz(a,h)anthracene	NA	69	NA	69
95-50-1	Dichlorobenzene, 1,2- (o)	12,000	NA	370	370
106-46-7	Dichlorobenzene, 1,4- (p)	15,000	510	NA	510
91-94-1	Dichlorobenzidine, 3,3-	NA	730	NA	730
72-54-8	Dichlorodiphenyldichloroethane (DDD)	2,800	3,500	NA	2,800
72-55-9	Dichlorodiphenyldichloroethene (DDE)	NA	2,200	NA	2,200
50-29-3	Dichlorodiphenyltrichloroethane (DDT)	700	2,700	NA	700
94-75-7	Dichlorophenoxyacetic acid, 2,4-	8,500	NA	NA	8,500
84-66-2	Diethyl Phthalate	1,000,000	NA	590	590
105-67-9	Dimethylphenol, 2,4-	170,000	NA	NA	170,000
84-74-2	Di-*n*-butyl Phthalate	850,000	NA	110	110
99-65-0	Dinitrobenzene, 1,3- (m)	850	NA	NA	850
528-29-0	Dinitrobenzene, 1,2-	850	NA	NA	850
121-14-2	Dinitrotoluene, 2,4-	1,700	870	NA	870
606-20-2	Dinitrotoluene, 2,6-	8,600	880	NA	880
72-20-8	Endrin	1,700	NA	NA	1,700
107-21-1	Ethylene Glycol	1,000,000	NA	110,000	110,000
206-44-0	Fluoranthene	290,000	NA	NA	290,000
86-73-7	Fluorene	290,000	NA	NA	290,000
76-44-8	Heptachlor	85	52	NA	52

Chemical Abstract Service Number (CAS #)	Chemical of Concern	Standard for Single Chemical Noncarcinogen	Standard for Single Chemical Carcinogen	Soil Saturation	Generic Direct Contact Soil Standard for a Single Chemical (mg/kg)
1024-57-3	Heptachlor Epoxide	11	58	NA	11
87-68-3	Hexachloro-1,3-Butadiene	170	1,100	1,000	170
118-74-1	Hexachlorobenzene	85	170	NA	85
67-72-1	Hexachloroethane	8,500	8,000	NA	8,000
193-39-5	Indeno(1,2,3-c,d)pyrene	NA	690	NA	690
78-59-1	Isophorone	1,000,000	630,000	4,600	4,600
98-82-8	Isopropylbenzene (Cumene)	17,000	NA	260	260
58-89-9	Lindane	3,900	420	NA	420
108-39-4	m-cresol	430,000	NA	61,000	61,000
72-43-5	Methoxychlor	4,300	NA	NA	4,300
90-12-0	Methylnaphthalene, 1-	51,000	NA	360	360
91-20-3	Naphthalene	84	580	NA	84
98-95-3	Nitrobenzene	610	NA	1,500	610
86-30-6	Nitrosodiphenylamine, *n*-	17,000	71,000	NA	17,000
95-48-7	o-cresol	430,000	NA	NA	430,000
117-84-0	Octyl Phthalate, di-*n*-	340,000	NA	12	12
106-44-5	p-cresol	4,300	NA	NA	4,300
87-86-5	Pentachlorophenol	460	2,600	NA	460
108-95-2	Phenol	510,000	NA	NA	510,000
1336-36-3	Polychlorinated Biphenyls	42	230	NA	42
129-00-0	Pyrene	220,000	NA	NA	220,000
110-86-1	Pyridine	8,500	NA	400,000	8,500
93-72-1	Silvex	6,800	NA	NA	6,800
8001-35-2	Toxaphene	NA	500	NA	500
95-95-4	Trichlorophenol, 2,4,5-	850,000	NA	NA	850,000
88-06-2	Trichlorophenol, 2,4,6-	NA	29,000	NA	29,000
95-63-6	Trimethylbenzene, 1,2,4-	35	NA	250	35
108-67-8	Trimethylbenzene, 1,3,5-	280	NA	200	200
99-35-4	Trinitrobenzene, 1,3,5- (s)	430	NA	NA	430
108-05-4	Vinyl Acetate	100	NA	2,700	100
Inorganic Chemicals					
7440-36-0	Antimony	390	NA	NA	390
7440-38-2	Arsenic, Inorganic	420	640	NA	420
7440-39-3	Barium and Compounds	120,000	NA	NA	120,000
7440-41-7	Beryllium and Compounds	3,100	63,000	NA	3,100
7440-43-9	Cadmium	1,600	83,000	NA	1,600
16065-83-1	Chromium (III)	1,000,000	NA	NA	1,000,000
18540-29-9	Chromium (VI)	15,000	13,000	NA	13,000
7440-48-4	Cobalt	4,000	54,000	NA	4,000
57-12-5	Cyanide, Free	39,000	NA	NA	39,000
7782-41-4	Fluorine (soluble fluoride)	120,000	NA	NA	120,000
7439-97-6	Mercury	190	NA	NA	190
7440-02-0	Nickel (Soluble Salts)	21,000	NA	NA	21,000
7782-49-2	Selenium and Compounds	9,700	NA	NA	9,700

Chemical Abstract Service Number (CAS #)	Chemical of Concern	Standard for Single Chemical Noncarcinogen	Standard for Single Chemical Carcinogen	Soil Saturation	Generic Direct Contact Soil Standard for a Single Chemical (mg/kg)
7440-22-4	Silver	9,700	NA	NA	9,700
7440-28-0	Thallium	1,600	NA	NA	1,600
7440-62-2	Vanadium	17,000	NA	NA	17,000
7440-66-6	Zinc and Compounds	580,000	NA	NA	580,000

(e) Calculating property-specific soil saturation concentrations.

(i) In lieu of using the generic soil saturation concentrations listed in table I through table III in paragraphs (C)(3)(b) through (C)(3)(d) of this rule, the volunteer may use the following equation to calculate a property-specific soil saturation concentration:

$$C_{sat} = \frac{S}{\rho_b} (K_d \rho_b + \theta_w + H'\theta_a)$$

Where :

C_{sat} *is the soil saturation concentration (mg/kg)*

S *is the water solubility (mg/L water)*

ρ_b *is dry soil bulk density (kg/L)*

K_d *is the soil - water partition coefficient (L/kg) (default is* $K_d = K_{oc} \times f_{oc}$*)*

K_{oc} *is the soil organic carbon/water partition coefficient (L/kg)*

f_{oc} *is the fraction organic carbon of soil (g/g)*

θ_w *is the water - filled soil porosity* (L_{water} / L_{soil})

H' is the dimensionless Henry's Law constant

θ_a *is the air - filled soil porosity* (L_{pore} / L_{soil}).

(ii) All chemical-specific values for the above equation must be obtained from one of the following sources:

(a) U.S. EPA's "Supplemental Guidance for Developing Soil Screening Levels for Superfund Sites;"

(b) Ohio EPA's "Support Document for the Development of Generic Numerical Standards and Risk Assessment Procedures;"

(*c*) Hazardous substances data bank;

(d) The physical properties database;

(e) CHEMFATE chemical search;

(f) Risk assessment information system; or

(g) If chemical-specific values for the equation specified in this paragraph are not available in the sources listed in this paragraph, contact an Ohio EPA division of emergency and remedial response representative.

(i) Physical values must be obtained from one of the following sources:

(*a*) Physical values must be obtained from one of the following sources:

(*i*) U.S. EPA's "Supplemental Guidance for Developing Soil Screening Levels for Superfund Sites;" or

(ii) Property-specific data that meet the criteria contained in paragraph (D)(3)(b)(iv) of rule 3745-300-09 of the Administrative Code.

(f) Table IV: generic direct-contact standards for lead (values are in mg/kg).

	Residential Land Use	Commercial/Industrial Land Use	Construction and Excavation Activities
Lead	400	1800	750

The lead standards contained in the table IV take into account other factors and assumptions in addition to the carcinogenic or non-carcinogenic risk of lead. Therefore, using the cumulative risk considerations contained in paragraph (C)(2)(b) of this rule is not appropriate and need not be performed.

(D) Generic unrestricted potable use standards for hazardous substances in ground water.

(1) Applicability.

(a) The generic unrestricted potable use standards contained in paragraph (D)(3) of this rule apply as determined in accordance with rule 3745-300-10 of the Administrative Code.

(b) A property-specific risk assessment must be conducted in accordance with the procedures established in rule 3745-300-09 of the Administrative Code to determine applicable standards in place of or in addition to using the generic unrestricted potable use standards if any of paragraph (A)(3)(a) through (A)(3)(c) of this rule apply to the property, and those exposures are required to be evaluated under rule 3745-300-10 of the Administrative Code;

(c) The standards listed in paragraph (D)(3) of this rule apply to releases of hazardous substances. Generic numerical standards for petroleum releases are identified in paragraph (B)(3) of this rule.

(2) Assumptions.

The generic unrestricted potable use standards contained in table V in paragraph (D)(3)(b) of this rule or table VI in paragraph (D)(3)(c) of this rule were determined using the assumption that the ground water on, underlying and emanating from the property will be used as a source of water for drinking, cooking, showering and bathing.

(a) The generic unrestricted potable use standards listed in table V in paragraph (D)(3)(b) of this rule are maximum contaminant levels or other regulatory established criteria which take into account factors and assumptions in addition to carcinogenic risk and non-carcinogenic hazards of the chemical. Therefore, the volunteer does not need to include the values for the chemicals of concern in table V in paragraph (D)(3)(b) of this rule in the cumulative adjustment for multiple chemicals required by paragraph (D)(2)(c) of this rule.

(b) The risk-derived generic unrestricted potable use standards presented in table VI in paragraph (D)(3)(c) of this rule assume a single chemical of concern is present in the ground water on, underlying, or emanating from the property.

(i) The generic unrestricted potable use standards presented in table VI in paragraph (D)(3)(c) of this rule are based on the following risk and hazard levels:

(*a*) For hazardous substances having carcinogenic effects, the chemical-specific carcinogenic risk must not exceed one excess cancer in a population of 100,000 (i.e. 1×10^{-5}); and

(*b*) For hazardous substances having non-carcinogenic effects, the chemical-specific hazard must not exceed a hazard index of 1.

(ii) The concentration of chemicals of concern, as determined in accordance with paragraph (F)(5) of rule 3745-300-07 of the Administrative Code, must not exceed the single chemical generic unrestricted potable use standard. Applicable ground water response requirements are included in rule 3745-300-10 of the Administrative Code.

(c) Multiple chemicals.

When more than one chemical of concern is present at a property and applicable generic unrestricted potable use standards for the chemicals of concern are contained in table VI in paragraph (D)(3)(c) of this rule, the values for each chemical of concern contained in

table VI must be adjusted for the presence of multiple chemicals in order to meet the human health risk and hazard levels described in paragraph (D)(2)(b)(i) of this rule. Those chemicals of concern present on the property that have applicable generic unrestricted potable use standards available in table V in paragraph (D)(3)(b) of this rule are not included within the multiple chemical adjustment. The cumulative adjustment must be made in accordance with paragraph (E)(2) of this rule. All final cumulative human health carcinogenic risk and non-carcinogenic hazard levels are based on one significant figure. A cumulative adjustment for multiple chemicals must also be made when using a combination of values listed in table VI and applicable standards determined by a property-specific risk assessment conducted in accordance with rule 3745-300-09 of the Administrative Code.

(3) The generic unrestricted potable use standards for ground water.

(a) The generic unrestricted potable use standards for petroleum at commercial, industrial, and residential properties are the standards established in rules adopted under division (B) of section 3737.882 of the Revised Code, as provided by division (B)(1) of section 3746.04 of the Revised Code.

(b) Table V: generic unrestricted potable use standards based on maximum contaminant levels or other regulatory established criteria (values are in µg/l, or micrograms per liter).

Chemical Abstract Service Number (CAS #)	Chemical of Concern	Generic Unrestricted Potable Use Standard for a Single Chemical (µg/L)
Volatile Organic Chemicals		
71-43-2	Benzene	5
56-23-5	Carbon Tetrachloride	5
108-90-7	Chlorobenzene	100
107-06-2	Dichloroethane, 1,2-	5
75-35-4	Dichloroethene, 1,1-	7
156-59-2	Dichloroethene, *cis*-1,2-	70
156-60-5	Dichloroethene, *trans*-1,2-	100
78-87-5	Dichloropropane, 1,2 -	5
100-41-4	Ethylbenzene	700
1634-04-4	Methyl *tert*-Butyl Ether (MTBE)	40
75-09-2	Methylene Chloride	5
100-42-5	Styrene	100
127-18-4	Tetrachloroethene	5
108-88-3	Toluene	1,000
71-55-6	Trichloroethane, 1,1,1-	200
79-00-5	Trichloroethane, 1,1,2-	5
79-01-6	Trichloroethene	5
75-01-4	Vinyl Chloride	2
1330-20-7	Xylenes, Total	10,000

Chemical Abstract Service Number (CAS #)	Chemical of Concern	Generic Unrestricted Potable Use Standard for a Single Chemical (μg/L)
Inorganic Chemicals		
7440-36-0	Antimony	6
7440-38-2	Arsenic, Inorganic	10
12001-28-4	Asbestos	7*
7440-39-3	Barium and Compounds	2,000
7440-41-7	Beryllium and Compounds	4
7440-43-9	Cadmium	5
7440-47-3	Chromium, Total	100
57-12-5	Cyanide, Free	200
7782-41-4	Fluorine (soluble fluoride)	4,000
7439-92-1	Lead	15
7439-97-6	Mercury	2
7782-49-2	Selenium and Compounds	50
7440-28-0	Thallium	2
Semi-Volatile Organic Chemicals and Pesticides		
15972-60-8	Alachlor	2
1912-24-9	Atrazine	3
50-32-8	Benzo(a)pyrene	0.2
117-81-7	Bis (2-ethylhexyl) Phthalate (BEHP & DEHP)	6
1563-66-2	Carbofuran	40
57-74-9	Chlordane	2
75-99-0	Dalapon	200
95-50-1	Dichlorobenzene, 1,2- (o)	600
106-46-7	Dichlorobenzene, 1,4- (p)	75
94-75-7	Dichlorophenoxyacetic acid, 2,4-	70
103-23-1	Di(2-ethylhexyl)adipate	400
96-12-8	Dibromochloropropane (DBCP)	0.2
88-85-7	Dinoseb	7
1746-01-6	Dioxin (2,3,7,8-TCDD)	0.00003
85-00-7	Diquat	20
145-73-3	Endothall	100
72-20-8	Endrin	2
106-93-4	Ethylene Dibromide (EDB)	0.05
107-18-36	Glyphosate	700
76-44-8	Heptachlor	0.4
1024-57-3	Heptachlor Epoxide	0.2
118-74-1	Hexachlorobenzene	1
77-47-4	Hexachlorocyclopentadiene	50
58-89-9	Lindane	0.2
72-43-5	Methoxychlor	40
23135-22-0	Oxamyl (Vydate)	200
87-86-5	Pentachlorophenol	1
1918-02-1	Picloram	500
1336-36-3	Polychlorinated Biphenyls	0.5
93-72-1	Silvex (2,4,5 TP)	50

Chemical Abstract Service Number (CAS #)	Chemical of Concern	Generic Unrestricted Potable Use Standard for a Single Chemical (μg/L)
122-34-9	Simazine	4
8001-35-2	Toxaphene	3
120-82-1	Trichlorobenzene, 1,2,4-	70
Trihalomethanes (THMs)		
Not Available	Trihalomethanes, Total	80

* Units for this standard are in million fibers per liter, for all fibers longer than ten micrometers in length.

(c) Table VI: risk-derived generic unrestricted potable use standards (values are in μg/l, or micrograms per liter).

Chemical Abstract Service Number (CAS #)	Chemical of Concern	Standard for Single Chemical Noncarcinogen	Standard for Single Chemical Carcinogen	Generic Unrestricted Potable Use Standard for a Single Chemical (μg/L)
Volatile Organic Chemicals				
67-64-1	Acetone	14,000	NA	14,000
75-15-0	Carbon Disulfide	1,400	NA	1,400
75-00-3	Chloroethane	6,200	550	550
67-66-3	Chloroform	150	40	40
124-48-1	Dibromochloromethane	320	19	19
75-71-8	Dichlorodifluoromethane	2,100	NA	2,100
75-34-3	Dichloroethane, 1,1-	2,600	250	250
542-75-6	Dichloropropene, 1,3 -	270	16	16
123-91-1	Dioxane, 1,4-	1,600	140	140
60-29-7	Ethyl Ether	3,200	NA	3,200
50-00-0	Formaldehyde	3,200	NA	3,200
64-18-6	Formic acid	32,000	NA	32,000
110-54-3	Hexane, n-	910	NA	910
78-83-1	Isobutyl Alcohol	4,700	NA	4,700
67-56-1	Methanol	7,900	NA	7,900
78-93-3	Methyl Ethyl Ketone (MEK)	8,900	NA	8,900
108-10-1	Methyl Isobutyl Ketone (MIBK)	1,200	NA	1,200
630-20-6	Tetrachloroethane , 1,1,1,2-	470	56	56
79-34-5	Tetrachloroethane, 1,1,2,2-	930	7.0	7.0
75-69-4	Trichlorofluoromethane	3,800	NA	3,800
Semi-Volatile Organic Chemicals				
83-32-9	Acenaphthene	950	NA	950
98-86-2	Acetophenone	1,600	NA	1,600
62-53-3	Aniline	110	280	110
120-12-7	Anthracene	4,700	NA	4,700
56-55-3	Benzo(a)anthracene	NA	0.63	0.63
205-99-2	Benzo(b)fluoranthene	NA	0.46	0.46
207-08-9	Benzo(k)fluoranthene	NA	22	22

Chemical Abstract Service Number (CAS #)	Chemical of Concern	Standard for Single Chemical Noncarcinogen	Standard for Single Chemical Carcinogen	Generic Unrestricted Potable Use Standard for a Single Chemical (μg/L)
85-68-7	Butyl Benzyl Phthalate	3,200	110	110
86-74-8	Carbazole	NA	79	79
218-01-9	Chrysene	NA	63	63
72-54-8	Dichlorodiphenyldichloroethane (DDD)	22	3.5	3.5
72-55-9	Dichlorodiphenyldichloroethene (DDE)	NA	2.6	2.6
50-29-3	Dichlorodiphenyltrichloroethane (DDT)	4.8	2.0	2.0
84-66-2	Diethyl Phthalate	13,000	NA	13,000
105-67-9	Dimethylphenol, 2,4-	310	NA	310
84-74-2	Di-*n*-butyl Phthalate	1,500	NA	1,500
107-21-1	Ethylene Glycol	32,000	NA	32,000
206-44-0	Fluoranthene	420	NA	420
86-73-7	Fluorene	630	NA	630
67-72-1	Hexachloroethane	15	100	15
193-39-5	Indeno(1,2,3-c,d)pyrene	NA	0.34	0.34
78-59-1	Isophorone	3,200	1700	1,700
98-82-8	Isopropylbenzene (Cumene)	1,400	NA	1,400
108-39-4	m-cresol	790	NA	790
90-12-0	Methylnaphthalene, 1-	1,100	NA	1,100
91-20-3	Naphthalene	67	100	67
86-30-6	Nitrosodiphenylamine, *n*-	310	300	300
95-48-7	o-cresol	790	NA	790
117-84-0	Octyl Phthalate, di-*n*-	630	NA	630
106-44-5	p-cresol	79	NA	79
108-95-2	Phenol	4,700	NA	4,700
129-00-0	Pyrene	470	NA	470
110-86-1	Pyridine	16	NA	16
95-95-4	Trichlorophenol, 2,4,5-	1,600	NA	1,600
88-06-2	Trichlorophenol, 2,4,6-	NA	120	120
95-63-6	Trimethylbenzene, 1,2,4-	140	NA	140
108-67-8	Trimethylbenzene, 1,3,5-	140	NA	140
99-35-4	Trinitrobenzene, 1,3,5- (s)	470	NA	470
108-05-4	Vinyl Acetate	4,300	NA	4,300
Inorganic Chemicals				
7440-48-4	Cobalt	320	NA	320
7440-02-0	Nickel (Soluble Salts)	320	NA	320
7440-22-4	Silver	79	NA	79
7440-62-2	Vanadium	130	NA	130
7440-66-6	Zinc and Compounds	4,700	NA	4,700

(E) Procedures for cumulative adjustment for multiple chemicals

(1) Concentration of chemicals of concern in soils.

(a) Several procedures may be used to adjust for the presence of multiple carcinogenic chemicals of concern in an identified area or exposure unit to comply with paragraph (C)(2)(b) of this rule. One method is to divide the exposure point concentration ($chem_a$) for each chemical of concern by the "Carcinogenic Single Chemical Direct-Contact Soil Standard" ($GDCSC_a$) in table I in paragraph (C)(3)(b) of this rule, table II in paragraph (C)(3)(b) of this rule, or table III in paragraph (C)(3)(d) of this rule. The resultant ratios are summed as an expression of estimated risk (see the equation below). When the summed ratios result in a value less than one, carcinogenic risk levels have been met on the property. When the summed ratios result in a value greater than one the carcinogenic risk levels are not met and remedial action is required.

$$\left(\frac{[\,chem_a\,]}{GDCSC_a} + \frac{[\,chem_b\,]}{GDCSC_b} + ...\right) = \begin{array}{c}\textit{cumulative cancer risk ratio for}\\ \textit{direct contact soils on the property}\end{array}$$

(b) Several procedures may be used to adjust for the presence of multiple non-carcinogenic chemicals of concern in an identified area or exposure unit to comply with paragraph (C)(2)(b) of this rule. One method is to divide the exposure point concentration ($chem_a$) for each chemical of concern by the "Non-carcinogenic Single Chemical Direct-Contact Soil Standard" ($GDCSN_a$) in table I in paragraph (C)(3)(b) of this rule, table II in paragraph (C)(3)(c) of this rule, or table III in paragraph (C)(3)(d) of this rule. The resultant ratios are summed as an expression of estimated hazard index (see the equation below). When the summed ratios result in a value less than one, non-carcinogenic risk levels have been met on the property. When the summed ratios result in a value greater than one the non-carcinogenic risk levels are not met and remedial action is required.

$$\left(\frac{[\,chem_a\,]}{GDCSN_a} + \frac{[\,chem_b\,]}{GDCSN_b} + ...\right) = \begin{array}{c}\textit{cumulative noncancer risk ratio for}\\ \textit{direct contact soils on the property}\end{array}$$

Non-cancer risk ratios for non-carcinogenic chemicals of concern which do not exhibit the same toxic endpoint may be excluded from the calculation of the cumulative non-cancer risk ratio described above if a written justification for such exclusion is submitted. The consideration of all major toxic endpoints and mechanisms of action must include, at a minimum, those identified with the critical effect upon which the reference dose or reference concentration for each non-carcinogenic chemical of concern is based. The source for each reference dose and reference concentration for each non-carcinogenic chemical for which generic direct-contact soil standards have been derived, are cited in Ohio EPA's "Support Document for the Development of Generic Numerical Standards and Risk Assessment Procedures." It may be necessary to calculate more than one

cumulative non-cancer risk ratio for a property resulting from the segregation of non-carcinogenic chemicals of concern on the basis of toxic endpoints or mechanisms of action.

(c) For situations where a chemical of concern poses both carcinogenic and non-carcinogenic risks and a value for the chemical of concern is listed in both the "Standard for Single Chemical Carcinogens" column and the "Standard for Single Chemical Non-carcinogens" column contained in paragraph (C)(3) of this rule or an applicable single chemical carcinogen and non-carcinogen standard has been determined in accordance with rule 3745-300-09 of the Administrative Code, the chemical of concern must be included in the multiple carcinogenic chemical adjustment calculation under paragraph (E)(1)(a) of this rule and the adjustment calculation for multiple non-carcinogenic chemicals under paragraph (E)(1)(b) of this rule. The applicable standard for the chemical of concern will be the lowest of the values determined by using the equations in this paragraph or, if appropriate, the soil saturation concentration.

(2) Concentration of chemicals of concern in ground water.

(a) Several procedures may be used to adjust for the presence of multiple carcinogenic chemicals of concern in groundwater to comply with paragraph (D)(2)(c) of this rule. One method is to divide the exposure point concentration ($chem_a$) for each chemical of concern by the "Carcinogenic Single Chemical Unrestricted Potable Use Standard" ($GUPCS_a$) in table VI in paragraph (D)(3)(c) of this rule. The resultant ratios are summed as an expression of estimated risk (see the equation below). When the summed ratios result in a value less than one, carcinogenic risk levels have been met on the property. When the summed ratios result in a value greater than one the carcinogenic risk levels are not met and remedial action is required.

$$\left(\frac{[chem_a]}{GUPCS_a} + \frac{[chem_b]}{GUPCS_b} + ...\right) = \begin{array}{c}\textit{cumulative cancer risk ratio for}\\ \textit{generic unrestricted potable use}\\ \textit{ground water on the property}\end{array}$$

(b) Several procedures may be used to adjust for the presence of multiple non-carcinogenic chemicals of concern in groundwater to comply with paragraph (D)(2)(c) of this rule. One method is to divide the exposure point concentration ($chem_a$) for each chemical of concern by the "Non-carcinogenic Single Chemical Unrestricted Potable Use Standard" ($GUPNS_a$) in table VI in paragraph (D)(3)(c) of this rule. The resultant ratios are summed as an expression of estimated hazard index (see the equation below). When the summed ratios result in a value less than one, non-carcinogenic hazard levels have been

met on the property. When the summed ratios result in a value greater than one the non-carcinogenic hazard levels are not met and remedial action is required.

$$\left(\frac{[chem_a]}{GUPNS_a} + \frac{[chem_b]}{GUPNS_b} + ...\right) = \begin{array}{c}\textit{cumulative noncancer risk ratio for}\\ \textit{generic potable use ground water}\\ \textit{on the Property}\end{array}$$

Non-cancer risk ratios for non-carcinogenic chemicals of concern which do not exhibit the same toxic endpoint may be excluded from the calculation of the cumulative non-cancer risk ratio described above if a written justification for such exclusion is submitted. The consideration of all major toxic endpoints and mechanisms of action must include, at a minimum, those identified with the critical effect upon which the reference dose or reference concentration for each non-carcinogenic chemical of concern is based. The source for each reference dose and reference concentration for each non-carcinogenic chemical for which generic unrestricted potable use standards have been derived, are cited in Ohio EPA's "Support Document for the Development of Generic Numerical Standards and Risk Assessment Procedures." It may be necessary to calculate more than one cumulative non-cancer risk ratio for a property resulting from the segregation of non-carcinogenic chemicals of concern on the basis of toxic endpoints or mechanisms of action.

(c) For situations where a chemical of concern poses both carcinogenic and non-carcinogenic risk and a value for the chemical of concern is listed in both the "Standard for Single Chemical Carcinogens" column and the "Standard for Single Chemical Non-carcinogens" column contained in table VI in paragraph (D)(3)(c) of this rule or an applicable single chemical carcinogen and non-carcinogen standard has been determined in accordance with rule 3745-300-09 of the Administrative Code, the chemical of concern must be evaluated in the adjustment calculation for multiple carcinogenic chemicals under paragraph (E)(2)(a) of this rule and the multiple non-carcinogenic chemical adjustment calculation under paragraph (E)(2)(b)of this rule. The applicable standard for the chemical of concern is the lowest value determined by using the equations in this paragraph.

(F) Generic numerical standards for surface water.

(1) Applicability.

(a) The generic numerical standards for surface water in paragraph (F)(2) of this rule apply to a property as determined in accordance with paragraph (F) of rule 3745-300-07 of the Administrative Code.

(b) For all releases of petroleum on underlying or emanating to surface water of the state, the generic petroleum standards are contained within paragraph (B) of this rule.

(2) Generic surface water standards.

(a) For all releases or source areas of hazardous substances on, underlying or emanating from the property to surface waters of the state, surface water chemical concentrations must be compared to the chemical criteria pursuant to Chapter 3745-1 of the Administrative Code. The outside mixing zone average criteria for human health and aquatic life and wildlife should be compared against ambient samples averaged over a thirty-day period. Single ambient samples are not to exceed the outside the mixing zone maximum. If all chemical constituents are below their corresponding chemical criteria, then the surface water may be eliminated as an exposure medium. If chemical constituents exceed their corresponding chemical criteria, then the surface water shall be further assessed in accordance with rule 3745-300-09 of the Administrative Code.

For the purposes of this rule, the generic numerical standards for surface water apply regardless of whether the release or source area of hazardous substances is a point source or nonpoint source.

(b) All regulated point source discharges of pollutants to surface waters of the state and any other regulated discharges that occur from or on the property must comply with all permit and other applicable requirements of the Federal Water Pollution Control Act and Chapter 6111. of the Revised Code, and the regulations adopted thereunder.

The permit and other applicable requirements of point source discharges include but are not limited to: (a) the national pollutant discharge elimination system permit issued pursuant to Chapter 3745-33 of the Administrative Code (also referred to as Ohio NPDES permits), and (b) the water quality certification issued pursuant to Chapter 3745-32 of the Administrative Code. A volunteer may obtain a consolidated standards permit for activities conducted in connection with a voluntary action which require permits from the director.

(c) Storm water associated with industrial activity that is discharged to surface waters of the state or is discharged through a separate municipal storm sewer system must comply with the applicable requirements contained in 40 C.F.R. 122.26.

(G) Generic numerical standards for human exposure to sediments.

(1) Applicability.

(a) For purposes of this rule and rule 3745-300-07 of the Administrative Code, human health exposure pathways to sediment on or emanating from the property are considered complete when the surface water which contains the sediments:

(i) Produces or can produce a consistent supply of edible-sized fish and the chemicals of concern in the sediment are persistent, bioaccumulative and toxic; or

(ii) Is reasonably anticipated to support recreational activities such as wading, swimming, or boating.

(b) For all releases of petroleum on, underlying or emanating to surface waters of the state which contains sediments, the generic petroleum standards are contained in paragraph (B) of this rule.

(c) If the concentrations of chemicals of concern in sediment exceed the generic numerical standards for human exposure to sediment, the volunteer must conduct a human health property-specific risk assessment following the methodology outlined in paragraph (D) of rule 3745-300-09 of the Administrative Code or conduct a remedy in accordance with the 3745-300-11 of the Administrative Code.

(2) Generic numerical standards for human exposure to sediment.

(a) Generic direct-contact standards for sediments are the generic direct-contact soil standards for residential land use specified in paragraph (C)(3)(b) of this rule. Cumulative adjustment for multiple chemicals must be evaluated in accordance with paragraph (C)(2)(b) of this rule.

(b) If chemicals of concern in sediment are persistent, bioaccumulative and toxic and the surface water containing the sediments produces or can produce a consistent supply of edible-sized fish, the volunteer must conduct a human health property-specific risk assessment in accordance with rule 3745-300-09 of the Administrative Code to evaluate fish consumption.

(H) Generic numerical standards for exposure of important ecological resources to sediments.

(1) Applicability.

(a) The volunteer may smaples sediments directly and apply the applicable standards in accordance with (H)(2)(a) and (H)(2)(b) of this rule; or

(b) Demonstrate compliance with applicable standards in accordance with paragraph (F)(5) of rule 3745-300-09 of the Administrative Code.

(2) Generic numerical standards for exposure of important ecological resources to sediments.

(a) The volunteer may compare the concentration of chemicals of concern in sediments on the property to the Ohio-specific sediment reference values contained in attachment H of Ohio EPA's "Guidance for Conducting Ecological Risk Assessments"; or

(b) For each chemical of concern for which the volunteer does not compare the sediment concentrations to the Ohio-specific sediment reference values, the ecotoxicologically-based benchmarks from the following hierarchy must be used:

(i) Consensus-based threshold effects concentration values contained in MacDonald, Ingersoll and Berger's "Development and Evaluation of Consensus-based Sediment Quality Guidelines for Freshwater Ecosystems"; or

(ii) U.S. EPA, region 5 ecological screening levels.

(3) If concentrations of chemicals of concern do not exceed Ohio-specific sediment reference values or appropriate ecotoxicologically-based benchmarks and the provisions in paragraph (A)(3)(f) of this rule do not apply, then the applicable standards have been met.

(4) The volunteer shall evaluate the sediments on the property in accordance with paragraph (F) of rule 3745-300-09 of the Administrative Code or conduct a remedy in accordance with rule 3745-300-11 of the Administrative Code if any of the following apply:

(a) The sediments on the property exceed applicable standards in accordance with this rule; or

(b) The sediment samples were not compared to the sediment values in accordance with paragraph (H)(2) of this rule.

(I) Developing soil standards for leaching of chemicals of concern from soil to ground water.

(1) Applicability.

(a) Soil standards for leaching may be developed when one or more ground water zones are determined to meet unrestricted potable use standards and the potential for leaching of chemicals of concern from soil to ground water is determined to be a complete exposure pathway.

(b) Soil standards for leaching may be developed when one or more ground water zones are determined to exceed unrestricted potable use standards and the potential for leaching of chemicals of concern from soil to ground water is a complete exposure pathway that must be evaluated in accordance with:

(i) Applicable ground water response requirements contained in paragraph (E) of rule 3745-300-10 of the Administrative Code; or

(ii) A pathway completeness determination in paragraph (F)(1) of rule 3745-300-07 of the Administrative Code.

(2) Soil standards for leaching.

(a) Soil standards for leaching when the underlying ground water zone meets unrestricted potable use standards.

Soil standards for leaching are the soil concentrations determined to be protective of the applicable ground water zone and will not cause unrestricted potable use standards to be exceeded in the ground water zone as demonstrated in accordance with paragraph (F)(3)(a) of rule 3745-300-07 of the Administrative Code.

(b) Soil standards for leaching when the underlying ground water zone exceeds unrestricted potable use standards.

(i) Soil standards for leaching are the soil concentrations determined to be protective of the applicable ground water response requirements for the ground water zone as determined by rule 3745-300-10 of the Administrative Code.

(ii) Soil standards for leaching are the soil concentrations determined to be protective of any other applicable standard in ground water that must be met in accordance with a pathway completeness determination and the demonstration of compliance with applicable standards.

Effective:	03/01/2009
R.C. 119.032 review dates:	03/01/2014

_____

Certification

_____

Date

Promulgated Under:	119.03
Statutory Authority:	3746.04
Rule Amplifies:	3746

APPENDIX C

Soil Boring/Monitoring Well Logs

Hull & associates, inc.

Phase II Property Assessment
Former Champion Spark Plug Prop.
914 Upton, Toledo, Ohio
Toledo, Ohio
Lucas County

Date Started	: 6-8-15
Date Completed	: 6-8-15
Logged By	: J. Carlson
Reviewed By	: M. Beil
Drilling Contractor	: Terra Probe
Drilling Method	: Geoprobe
Sampling Method	: Acetate Sleeve
Total Depth	: 16'
Samples	: 1

LOG OF BORING HSB-1

PID Model	: MiniRae2000 11.7
PID Calibration	: 100 ppm ISO
Calibration Date	: 6-8-2015

Soil Samples
- Sample Interval
- Lab Sample

Water Levels
- Static
- During drilling

Depth in Feet	Driven/Recovery(ft.) Sample Interval (ft.)	Sample Number Sample Interval	PID	Sample	GRAPHIC	Water Level	DESCRIPTION
0	4/2 0.0-4.0	SS-1 0.0-2.0	0.0				FILL-Asphalt.
1							Brown clayey SILT; moist.
2							No Recovery.
3							
4	4/4 4.0-8.0	SS-2 4.0-6.0	0.0				Brown clayey SILT; some sand; moist to very moist.
5							
6		SS-3 6.0-8.0	0.0			▽	Same as above; wet.
7							
8	4/4 8.0-12.0	SS-4 8.0-10.0	0.0				Same as above; brown; wet.
9							Same as above; grey; wet.
10		SS-5 10.0-12.0	0.0				Grey clayey SILT; wet.
11							
12	4/4 12.0-16.0	SS-6 12.0-14.0	0.0				Same as above; wet.
13							
14		SS-7 14.0-16.0	0.0				Same as above; wet.
15							
16							End of Boring @ 16.0'
17							
18							
19							
20							

Samples:
COT235:HSB-1:040060

08-13-2015 F:\Clients\Active\COT\COT235\Boring Logs\champion logs\HSB-01.bor

Hull & associates, inc.

Phase II Property Assessment
Former Champion Spark Plug Prop.
914 Upton, Toledo, Ohio
Toledo, Ohio
Lucas County

Date Started	: 6-8-15
Date Completed	: 6-8-15
Logged By	: J. Carlson
Reviewed By	: M. Beil
Drilling Contractor	: Terra Probe
Drilling Method	: Geoprobe
Sampling Method	: Acetate Sleeve
Total Depth	: 16'
Samples	: 1

LOG OF BORING HSB-2/ HTMW-2

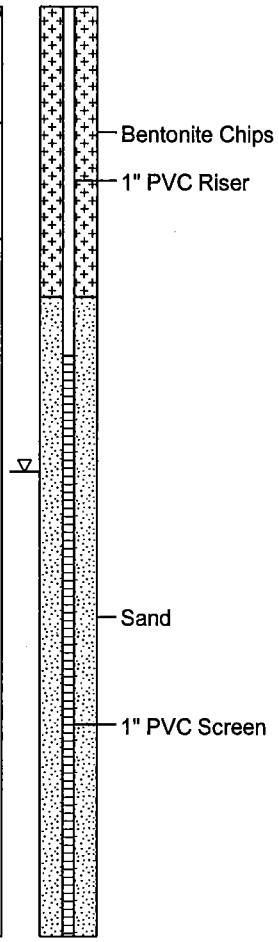
PID Model	: MiniRae2000 11.7
PID Calibration	: 100 ppm ISO
Calibration Date	: 6-8-2015

Soil Samples: Sample Interval; Lab Sample

Water Levels: Static; During drilling

Well: HTMW-2

Depth in Feet	Driven/Recovery(ft.) Sample Interval (ft.)	Sample Number Sample Interval	PID	DESCRIPTION
0	4/2 0.0-4.0	SS-1 0.0-2.0	0.0	Gravel
1				Brown SAND; pea gravel; very moist.
2				No Recovery.
3				
4	4/3.5 4.0-8.0	SS-2 4.0-6.0	0.0	Brown clayey SILT; Some sands/silt; grey mottling; moist to very moist.
5				
6		SS-3 6.0-8.0	0.0	Brown clayey SILT; some additional lamination; very moist.
7				
8	4/4 8.0-12.0	SS-4 8.0-10.0	0.0	Brown/grey clayey SILT; trace black streaks; wet.
9				
10		SS-5 10.0-12.0	0.0	Grey clayey SILT; wet.
11				
12	4/4 12.0-16.0	SS-6 12.0-14.0	0.0	Same as above; wet.
13				
14		SS-7 14.0-16.0	0.0	Same as above; wet.
15				
16				End of Boring @ 16.0'
17				
18				
19				
20				



Samples:
COT235:HSB-2:S060080

08-17-2015 F:\Clients\Active\COT\COT235\Boring Logs\champion logs\HSB-02 HTMW-02.bor

Hull & associates, inc.

Phase II Property Assessment
Former Champion Spark Plug Prop.
914 Upton, Toledo, Ohio
Toledo, Ohio
Lucas County

Date Started	: 6-9-15
Date Completed	: 6-9-15
Logged By	: J. Carlson
Reviewed By	: M. Beil
Drilling Contractor	: Terra Probe
Drilling Method	: Geoprobe
Sampling Method	: Acetate Sleeve
Total Depth	: 16'
Samples	: 1

LOG OF BORING HSB-3

PID Model	: MiniRae2000 11.7
PID Calibration	: 100 ppm ISO
Calibration Date	: 6-9-2015

Soil Samples
- Sample Interval
- Lab Sample

Water Levels
- Static
- During drilling

Depth in Feet	Driven/Recovery(ft.) Sample Interval (ft.)	Sample Number Sample Interval	PID	Sample	GRAPHIC	Water Level	DESCRIPTION
0	4/3 0.0-4.0	SS-1 0.0-2.0	0.0				FILL-Asphalt.
1							Dark grey silty CLAY; mottled; fines; moist.
2		SS-2 2.0-3.0	0.0				Light grey/brown clayey SILT; mottled; moist.
3							
4	4/3 4.0-8.0	SS-3 4.0-5.0	0.0				Grey/brown silty CLAY; mottled; moist.
5							Same as above; with interbedded wet seams.
6		SS-4 5.0-7.0	0.0			▽	
7							
8	4/4 8.0-12.0	SS-5 8.0-10.0	0.0				Grey clayey SILT; wet.
9							
10		SS-6 10.0-12.0	0.0				Same as above.
11							
12	4/4 12.0-16.0	SS-7 12.0-14.0	0.0				Same as above.
13							
14		SS-8 14.0-16.0	0.0				Same as above.
15							
16							End of Boring @ 16.0'
17							
18							
19							
20							

Samples:
COT235:HSB-3:S040050

08-13-2015 F:\Clients\Active\COT\COT235\Boring Logs\champion logs\HSB-03.bor

Hull & associates, inc.

Phase II Property Assessment
Former Champion Spark Plug Prop.
914 Upton, Toledo, Ohio
Toledo, Ohio
Lucas County

Date Started	: 6-9-15
Date Completed	: 6-9-15
Logged By	: J. Carlson
Reviewed By	: M. Beil
Drilling Contractor	: Terra Probe
Drilling Method	: Geoprobe
Sampling Method	: Acetate Sleeve
Total Depth	: 16'
Samples	: 1

LOG OF BORING HSB-4

PID Model	: MiniRae2000 11.7
PID Calibration	: 100 ppm ISO
Calibration Date	: 6-9-2015

Soil Samples
- Sample Interval
- Lab Sample

Water Levels
- Static
- During drilling

Depth in Feet	Driven/Recovery(ft.) Sample Interval (ft.)	Sample Number Sample Interval	PID	Sample	GRAPHIC	Water Level	DESCRIPTION
0	3/2 1.0-4.0	SS-1 1.0-2.0	0.0				FILL-Concrete.
1							Grey silty CLAY; fines; slightly moist to moist.
2		SS-2 2.0-3.0	0.0				Same as above; slightly moist to moist.
3							
4	4/3 4.0-8.0	SS-3 4.0-6.0	0.0				Brown silty CLAY; mottled; moist.
5							
6		SS-4 6.0-8.0	0.0			▽	Grey clayey SILT; wet.
7							
8	4/4 8.0-12.0	SS-5 8.0-10.0	0.0				Same as above.
9							
10		SS-6 10.0-12.0	0.0				Same as above.
11							
12	4/4 12.0-16.0	SS-7 12.0-14.0	0.0				Same as above.
13							
14		SS-8 14.0-16.0	0.0				
15							
16							End of Boring @ 16.0'
17							
18							
19							
20							

Samples:
COT235:HSB-4:S040060

08-13-2015 F:\Clients\Active\COT\COT235\Boring Logs\champion logs\HSB-04.bor

Hull & associates, inc.

Phase II Property Assessment
Former Champion Spark Plug Prop.
914 Upton, Toledo, Ohio
Toledo, Ohio
Lucas County

Date Started	: 6-9-15
Date Completed	: 6-9-15
Logged By	: J. Carlson
Reviewed By	: M. Beil
Drilling Contractor	: Terra Probe
Drilling Method	: Geoprobe
Sampling Method	: Acetate Sleeve
Total Depth	: 16'
Samples	: 1

LOG OF BORING HSB-5

PID Model	: MiniRae2000 11.7
PID Calibration	: 100 ppm ISO
Calibration Date	: 6-9-2015

Soil Samples
- Sample Interval
- Lab Sample

Water Levels
- Static
- During drilling

Depth in Feet	Driven/Recovery(ft.) Sample Interval (ft.)	Sample Number Sample Interval	PID	Sample	GRAPHIC	Water Level	DESCRIPTION
0	4/2.5 0.0-4.0	SS-1 1.0-2.0	0.0				Asphalt FILL, gravel
1							Grey silty CLAY; trace fines; moist.
2		SS-2 2.0-2.5	0.0				Same as above; moist.
3							
4	4/3 4.0-8.0	SS-3 4.0-6.0	0.0				Grey/brown clayey SILT; mottled; interbedded wet seams at 5'; moist to wet.
5						▽	
6		SS-4 6.0-6.0	0.0				Same as above; moist.
7							
8	4/4 8.0-12.0	SS-5 8.0-10.0	0.0				Brown/grey clayey SILT; wet.
9							
10		SS-6 10.0-12.0	0.0				Same as above; wet.
11							
12	4/4 12.0-16.0	SS-7 12.0-14.0	0.0				Grey clayey SILT; wet.
13							
14		SS-8 14.0-16.0	0.0				Same as above; wet.
15							
16							End of Boring @ 16.0'
17							
18							
19							
20							

Samples:
COT235:HSB-5:S000020

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Hull & associates, inc.

Phase II Property Assessment
Former Champion Spark Plug Prop.
914 Upton, Toledo, Ohio
Toledo, Ohio
Lucas County

Date Started	: 6-9-15
Date Completed	: 6-9-15
Logged By	: J. Carlson
Reviewed By	: M. Beil
Drilling Contractor	: Terra Probe
Drilling Method	: Geoprobe
Sampling Method	: Acetate Sleeve
Total Depth	: 16'
Samples	: 1

LOG OF BORING HSB-6

PID Model	: MiniRae2000 11.7
PID Calibration	: 100 ppm ISO
Calibration Date	: 6-9-2015

Soil Samples
- Sample Interval
- Lab Sample

Water Levels
- Static
- During drilling

Depth in Feet	Driven/Recovery(ft.) Sample Interval (ft.)	Sample Number Sample Interval	PID	Sample	GRAPHIC	Water Level	DESCRIPTION
0	3/2 0.0-4.0	SS-1 1.0-2.0	0.0				Asphalt FILL, gravel (FILL) dark grey silty clay, some brick fragments, some fines, moist.
2		SS-2 2.0-3.0	0.0				Brown/grey clayey SILT; very moist.
4	4/2 4.0-8.0	SS-3 4.0-6.0	0.0				Grey clayey SILT; very moist.
8	4/4 8.0-12.0	SS-4 8.0-10.0	0.0			▽	Same as above; wet.
10		SS-5 10.0-12.0	0.0				Same as above.
12	4/4 12.0-16.0	SS-6 12.0-14.0	0.0				Same as above.
14		SS-7 14.0-16.0	0.0				Same as above; wet.
16							End of Boring @ 16.0'
17							
18							
19							
20							

Samples:
COT235:HSB-6:S000020

08-14-2015 F:\Clients\Active\COT\COT235\Boring Logs\champion logs\HSB-06.bor

Hull & associates, inc.

Phase II Property Assessment
Former Champion Spark Plug Prop.
914 Upton, Toledo, Ohio
Toledo, Ohio
Lucas County

Date Started	: 6-9-15
Date Completed	: 6-9-15
Logged By	: J. Carlson
Reviewed By	: M. Beil
Drilling Contractor	: Terra Probe
Drilling Method	: Geoprobe
Sampling Method	: Acetate Sleeve
Total Depth	: 16'
Samples	: 1

LOG OF BORING HSB-7

PID Model	: MiniRae2000 11.7
PID Calibration	: 100 ppm ISO
Calibration Date	: 6-9-2015

Soil Samples
- Sample Interval
- Lab Sample

Water Levels
- Static
- During drilling

Depth in Feet	Driven/Recovery(ft.) Sample Interval (ft.)	Sample Number Sample Interval	PID	Sample	GRAPHIC	Water Level	DESCRIPTION
0	3/2 1.0-4.0	SS-1 1.0-2.0	0.0				Cement
1							Brown medium to coarse SAND; some clayey silt; very moist.
2		SS-2 2.0-4.0	0.0				Clayey SILT; some sand; very moist.
3							No recovery.
4	4/4 4.0-8.0	SS-3 4.0-6.0	0.0				Brown clayey SILT; moist to very moist.
5							
6		SS-4 6.0-8.0	0.0				Same as above.
7							
8	4/4 8.0-12.0	SS-5 8.0-10.0	0.0			▽	Grey clayey SILT; wet.
9							
10		SS-6 10.0-12.0	0.0				Same as above; wet.
11							
12	4/4 12.0-16.0	SS-7 12.0-14.0	0.0				Same as above; wet.
13							
14		SS-8 14.0-16.0	0.0				Same as above; wet.
15							
16							End of Boring @ 16.0'
17							
18							
19							
20							

Samples:
COT235:HSB-7:S000020

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Hull & associates, inc.

Phase II Property Assessment
Former Champion Spark Plug Prop.
914 Upton, Toledo, Ohio
Toledo, Ohio
Lucas County

Date Started	: 6-8-15
Date Completed	: 6-8-15
Logged By	: J. Carlson
Reviewed By	: M. Beil
Drilling Contractor	: Terra Probe
Drilling Method	: Geoprobe
Sampling Method	: Acetate Sleeve
Total Depth	: 16'
Samples	: 1

LOG OF BORING HSB-8/ HTMW-3

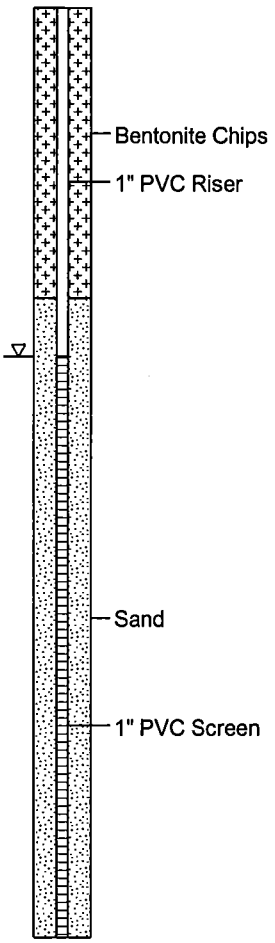
PID Model	: MiniRae2000 11.7
PID Calibration	: 100 ppm ISO
Calibration Date	: 6-8-2015

Soil Samples: Sample Interval; Lab Sample

Water Levels: Static; During drilling

Well: HTMW-3

Depth in Feet	Driven/Recovery(ft.) Sample Interval (ft.)	Sample Number Sample Interval	PID	Sample	GRAPHIC	Water Level	DESCRIPTION
0	3/2 1.0-4.0	SS-1 1.0-2.0	0.0				Cement
1							FILL - Sand and Gravel
							Sand and Gravel; moist to very moist.
2		SS-2 2.0-4.0	0.0				Olive silty CLAY; trace sand; oxidized mottling; moist.
3							
4	4/3.4 4.0-8.0	SS-3 4.0-6.0	0.0				Same as above- moist.
5							
6		SS-4 6.0-7.4	0.0			▽	Grey silty CLAY; some mottling; wet seam at 6-6.5' moist to wet.
7							
8	4/4 8.0-12.0	SS-4 8.0-10.0	0.0				Grey silty CLAY; some black streaks; plastic; very moist to wet.
9							
10		SS-5 10.0-12.0	0.0				Grey clayey SILT; very moist to wet.
11							
12	4/3.5 12.0-16.0	SS-6 12.0-14.0	0.0				Same as above; wet.
13							
14		SS-7 14.0-15.5	0.0				Same as above; wet.
15							
16							End of Boring @ 16.0'
17							
18							
19							
20							



Samples:
COT235:HSB-8:S080100

08-17-2015 F:\Clients\Active\COT\COT235\Boring Logs\champion logs\HSB-08 HTMW-3.bor

Hull & associates, inc.

Phase II Property Assessment
Former Champion Spark Plug Prop.
914 Upton, Toledo, Ohio
Toledo, Ohio
Lucas County

Date Started	: 6-8-15
Date Completed	: 6-8-15
Logged By	: J. Carlson
Reviewed By	: M. Beil
Drilling Contractor	: Terra Probe
Drilling Method	: Geoprobe
Sampling Method	: Acetate Sleeve
Total Depth	: 16'
Samples	: 1

LOG OF BORING HSB-9/ HTMW-6

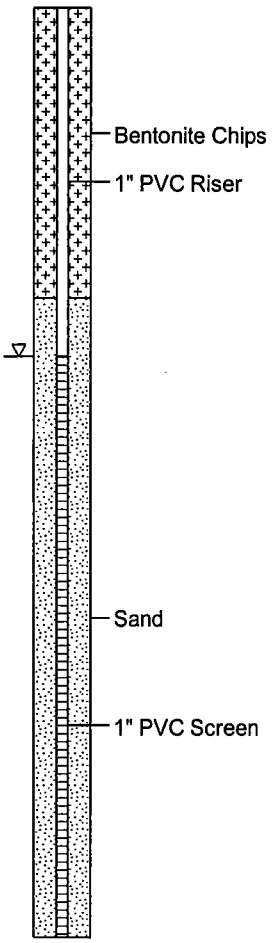
PID Model	: MiniRae2000 11.7
PID Calibration	: 100 ppm ISO
Calibration Date	: 6-8-2015

Soil Samples
- Sample Interval
- Lab Sample

Water Levels
- Static
- During drilling

Depth in Feet	Driven/Recovery(ft.) Sample Interval (ft.)	Sample Number Sample Interval	PID	Sample	GRAPHIC	Water Level	DESCRIPTION
0	4/1.5 0.0-4.0	SS-1 1.0-1.5	0.0				Brown fine to medium SAND; some black layers; some oxidiation (rust) layers; moist.
2							No recovery.
4	4/4 4.0-8.0	SS-2 4.0-6.0	0.0				Brown silty CLAY; fines; moist.
6		SS-3 6.0-8.0	9.6			▽	Grey clayey SILT; trace mottling; wet.
8	4/4 8.0-12.0	SS-4 8.0-10.0	0.0				Grey clayey SILT; very moist/wet.
10		SS-5 10.0-12.0	0.0				Same as above.
12	4/4 12.0-16.0	SS-6 12.0-14.0	0.0				Grey clayey SILT; trace sand; wet.
14		SS-7 14.0-16.0	0.0				Same as above; wet.
16							End of Boring @ 16.0'
17							
18							
19							
20							

Well: HTMW-6



Samples:
COT235:HSB-9:S060080

08-17-2015 F:\Clients\Active\COT\COT235\Boring Logs\champion logs\HSB-09 HTMW-6.bor

Hull & associates, inc.

Phase II Property Assessment
Former Champion Spark Plug Prop.
914 Upton, Toledo, Ohio
Toledo, Ohio
Lucas County

Date Started	: 6-8-15
Date Completed	: 6-8-15
Logged By	: J. Carlson
Reviewed By	: M. Beil
Drilling Contractor	: Terra Probe
Drilling Method	: Geoprobe
Sampling Method	: Acetate Sleeve
Total Depth	: 16'
Samples	: 1

LOG OF BORING HSB-10/ HTMW-4

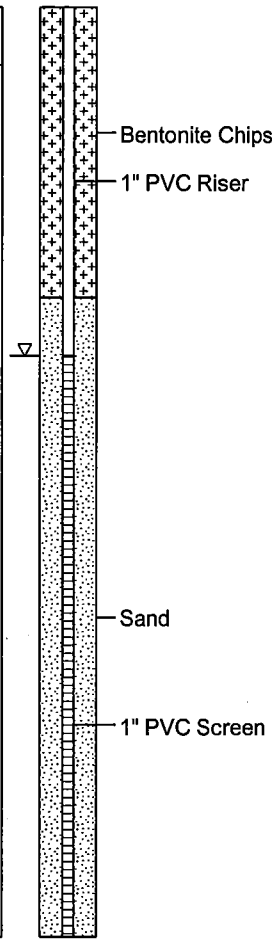
PID Model	: MiniRae2000 11.7
PID Calibration	: 100 ppm ISO
Calibration Date	: 6-8-2015

Soil Samples
- Sample Interval
- Lab Sample

Water Levels
- Static
- During drilling

Well: HTMW-4

Depth in Feet	Driven/Recovery(ft.) Sample Interval (ft.)	Sample Number Sample Interval	PID	Sample	GRAPHIC	Water Level	DESCRIPTION
0	3/2.3 0.0-4.0	SS-1 1.0-2.0	0.0				FILL and cement.
1							Brown clayey SILT; fines; moist.
2		SS-2 2.0-3.3	0.0				Same as above; moist.
3							
4	4/4 4.0-8.0	SS-3 4.0-6.0	0.0				Brown clayey SILT; mottled; very moist.
5							
6		SS-4 6.0-8.0	0.0			▽	Same as above; very moist; wet.
7							
8	4/4 8.0-12.0	SS-5 8.0-10.0	0.0				Same as above; wet.
9							
10		SS-6 10.0-12.0	0.0				Same as above; grey; very moist to wet.
11							
12	4/4 12.0-16.0	SS-7 12.0-14.0	0.0				Same as above; grey; wet.
13							
14		SS-8 14.0-16.0	0.0				Same as above; wet.
15							
16							End of Boring @ 16.0'
17							
18							
19							
20							



Samples:
COT235:HSB-10:S000020

08-17-2015 F:\Clients\Active\COT\COT235\Boring Logs\champion logs\HSB-10 HTMW-4.bor

Hull & associates, inc.

Phase II Property Assessment
Former Champion Spark Plug Prop.
914 Upton, Toledo, Ohio
Toledo, Ohio
Lucas County

Date Started	: 6-9-15
Date Completed	: 6-9-15
Logged By	: J. Carlson
Reviewed By	: M. Beil
Drilling Contractor	: Terra Probe
Drilling Method	: Geoprobe
Sampling Method	: Acetate Sleeve
Total Depth	: 16'
Samples	: 1

LOG OF BORING HSB-11

PID Model	: MiniRae2000 11.7
PID Calibration	: 100 ppm ISO
Calibration Date	: 6-9-2015

Soil Samples
- Sample Interval
- Lab Sample

Water Levels
- Static
- During drilling

Depth In Feet	Driven/Recovery(ft.) Sample Interval (ft.)	Sample Number Sample Interval	PID	Sample	GRAPHIC	Water Level	DESCRIPTION
0	4/2 0.0-4.0	SS-1 0.0-2.0	0.0				Topsoil
1							Brown silty CLAY; trace roots; mottling; moist.
2							No recovery.
3							
4	4/3.5 4.0-8.0	SS-2 4.0-6.0	0.0			▽	Brown clayey SILT; (interbedded wet seams); moist to wet.
5							
6		SS-3 6.0-7.5	0.0				Same as above; very moist to wet.
7							
8	4/4 8.0-12.0	SS-4 8.0-10.0	0.0				Same as above; brown; wet.
9							Grey clayey SILT; wet.
10		SS-5 10.0-12.0	0.0				
11							
12	4/4 12.0-16.0	SS-6 12.0-14.0	0.0				Same as above; wet.
13							
14		SS-7 14.0-16.0	0.0				Same as above.
15							
16							End of Boring @ 16.0'
17							
18							
19							
20							

Samples:
COT235:HSB-11:S000020

08-14-2015 F:\Clients\Active\COT\COT235\Boring Logs\champion logs\HSB-11.bor

Hull & associates, inc.

Phase II Property Assessment
Former Champion Spark Plug Prop.
914 Upton, Toledo, Ohio
Toledo, Ohio
Lucas County

Date Started	: 6-8-15
Date Completed	: 6-8-15
Logged By	: J. Carlson
Reviewed By	: M. Beil
Drilling Contractor	: Terra Probe
Drilling Method	: Geoprobe
Sampling Method	: Acetate Sleeve
Total Depth	: 16'
Samples	: 1

LOG OF BORING HSB-12/ HTMW-5

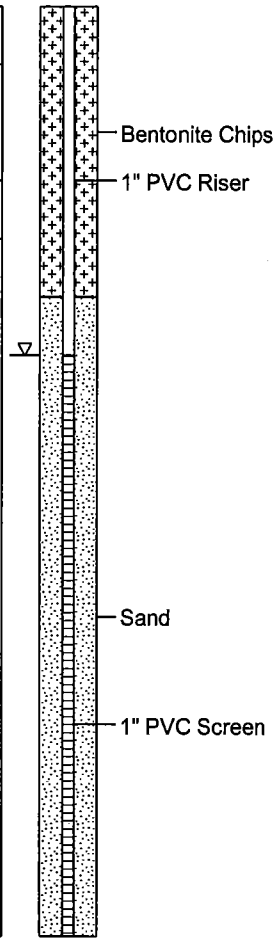
PID Model	: MiniRae2000 11.7
PID Calibration	: 100 ppm ISO
Calibration Date	: 6-8-2015

Soil Samples
- Sample Interval
- Lab Sample

Water Levels
- Static
- During drilling

Well: HTMW-5

Depth in Feet	Driven/Recovery(ft.) Sample Interval (ft.)	Sample Number Sample Interval	PID	Sample	GRAPHIC	Water Level	DESCRIPTION
0	4/3 0.0-4.0	SS-1 0.0-2.0	0.0				FILL and cement.
1							Brown clayey SILT; some fines; black mottle; moist.
2		SS-2 2.0-3.0	0.0				Same as above; moist.
3							No recovery.
4	4/4 4.0-8.0	SS-3 4.0-6.0	0.0				Brown clayey SILT; moist to very moist.
5							
6		SS-4 6.0-8.0	0.0			▽	Grey clayey SILT; very moist to wet.
7							
8	4/4 8.0-12.0	SS-5 8.0-10.0	0.0				Same as above; wet.
9							
10		SS-6 10.0-12.0	0.0				Grey clayey SILT; wet.
11							
12	4/4 12.0-16.0	SS-7 12.0-14.0	0.0				Same as above; some fine gravel; wet.
13							
14		SS-8 14.0-16.0	0.0				Same as above; wet.
15							
16							End of Boring @ 16.0'
17							
18							
19							
20							



Samples:
COT235:HSB-12:S000020

08-17-2015 F:\Clients\Active\COT\COT235\Boring Logs\champion logs\HSB-12 HTMW-5.bor

Hull & associates, inc.

Phase II Property Assessment
Former Champion Spark Plug Prop.
914 Upton, Toledo, Ohio
Toledo, Ohio
Lucas County

Date Started	: 6-9-15
Date Completed	: 6-9-15
Logged By	: J. Carlson
Reviewed By	: M. Beil
Drilling Contractor	: Terra Probe
Drilling Method	: Geoprobe
Sampling Method	: Acetate Sleeve
Total Depth	: 16'
Samples	: 1

LOG OF BORING HSB-13

PID Model	: MiniRae2000 11.7
PID Calibration	: 100 ppm ISO
Calibration Date	: 6-9-2015

Soil Samples
- Sample Interval
- Lab Sample

Water Levels
- Static
- During drilling

Depth In Feet	Driven/Recovery(ft.) Sample Interval (ft.)	Sample Number Sample Interval	PID	Sample	GRAPHIC	Water Level	DESCRIPTION
0	3/3 1.0-4.0	SS-1 1.0-2.0	0.0				FILL and cement
1							Brown fine to medium SAND, moist.
2		SS-2 2.0-4.0	0.0				Brown/olive silty CLAY; black streaks; trace coal fragments; moist.
3							
4	4/3 4.0-8.0	SS-3 4.0-6.0	0.0				Black/grey mottled silty CLAY; moist.
5							
6		SS-4 6.0-7.0	0.0				Brown silty CLAY; mosttled; moist.
7							
8	4/4 8.0-12.0	SS-5 8.0-10.0	0.0				Grey/black silty CLAY; mottled; moist.
9							
10		SS-6 10.0-12.0	15.1			▽	Grey/black clayey SILT; wet.
11							
12	4/4 12.0-16.0	SS-7 12.0-14.0	0.0				Grey clayey SILT; wet.
13							
14		SS-8 14.0-16.0	0.0				Same as above; wet.
15							
16							End of Boring @ 16.0'
17							
18							
19							
20							

Samples:
COT235:HSB-13:S100020

08-14-2015 F:\Clients\Active\COT\COT235\Boring Logs\champion logs\HSB-13.bor

Hull & associates, inc.

Phase II Property Assessment
Former Champion Spark Plug Prop.
914 Upton, Toledo, Ohio
Toledo, Ohio
Lucas County

Date Started	: 6-9-15
Date Completed	: 6-9-15
Logged By	: J. Carlson
Reviewed By	: M. Beil
Drilling Contractor	: Terra Probe
Drilling Method	: Geoprobe
Sampling Method	: Acetate Sleeve
Total Depth	: 16'
Samples	: 1

LOG OF BORING HSB-14

PID Model	: MiniRae2000 11.7
PID Calibration	: 100 ppm ISO
Calibration Date	: 6-9-2015

Soil Samples
- Sample Interval
- Lab Sample

Water Levels
- Static
- During drilling

Depth in Feet	Driven/Recovery(ft.) Sample Interval (ft.)	Sample Number Sample Interval	PID	DESCRIPTION
0	4/3 0.0-4.0	SS-1 1.0-2.0	0.0	Wood flooring Concrete, fill-gravel.
1				Brown fine to medium SAND; wet.
2		SS-2 2.0-3.0	0.0	Same as above; wet.
3				
4	4/3 4.0-8.0	SS-3 4.0-6.0	0.0	Black/olive silty CLAY; mottled; moist.
5				
6		SS-4 6.0-7.0	0.0	Same as above, moist.
7				
8	4/4 8.0-12.0	SS-5 8.0-10.0	0.0	Grey/black clayey SILT; very moist to wet.
9				
10		SS-6 10.0-12.0	0.0	Brown clayey SILT; wet.
11				
12	4/4 12.0-16.0	SS-7 12.0-14.0	0.0	Brown/grey clayey SILT; wet.
13				
14		SS-8 14.0-16.0	0.0	Grey clayey SILT; wet.
15				
16				End of Boring @ 16.0'
17				
18				
19				
20				

Samples:
COT235:HSB-14:S040060

08-14-2015 F:\Clients\Active\COT\COT235\Boring Logs\champion logs\HSB-14.bor

Hull & associates, inc.

Phase II Property Assessment
Former Champion Spark Plug Prop.
914 Upton, Toledo, Ohio
Toledo, Ohio
Lucas County

Date Started	: 6-9-15
Date Completed	: 6-9-15
Logged By	: J. Carlson
Reviewed By	: M. Beil
Drilling Contractor	: Terra Probe
Drilling Method	: Geoprobe
Sampling Method	: Acetate Sleeve
Total Depth	: 2'
Samples	: 1

LOG OF BORING HSB-15

PID Model	: MiniRae2000 11.7
PID Calibration	: 100 ppm ISO
Calibration Date	: 6-9-2015

Soil Samples
- Sample Interval
- Lab Sample

Water Levels
- Static
- During drilling

Depth in Feet	Driven/Recovery(ft.) Sample Interval (ft.)	Sample Number Sample Interval	PID	Sample	GRAPHIC	Water Level	DESCRIPTION
0	2/0 0.0-2.0	SS-1 0.0-2.0	N/A				Concrete.
1							
2							Refusal @ 2'. No other available drilling location in area.
							End of Boring @ 2.0'
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

Hull & associates, inc.

Phase II Property Assessment
Former Champion Spark Plug Prop.
914 Upton, Toledo, Ohio
Toledo, Ohio
Lucas County

Date Started	: 6-9-15
Date Completed	: 6-9-15
Logged By	: J. Carlson
Reviewed By	: M. Beil
Drilling Contractor	: Terra Probe
Drilling Method	: Geoprobe
Sampling Method	: Acetate Sleeve
Total Depth	: 16'
Samples	: 1

LOG OF BORING HSB-16

PID Model	: MiniRae2000 11.7
PID Calibration	: 100 ppm ISO
Calibration Date	: 6-9-2015

Soil Samples
- Sample Interval
- Lab Sample

Water Levels
- Static
- During drilling

Depth in Feet	Driven/Recovery(ft.) Sample Interval (ft.)	Sample Number Sample Interval	PID	Sample	GRAPHIC	Water Level	DESCRIPTION
0	3/3 1.0-4.0	SS-1 1.0-2.0	0.0				Concrete FILL-gravel.
1							Light brown fine to medium SAND; very moist.
2		SS-2 2.0-4.0	280				Dense dark grey fine to medium SAND; some iron staining; laminations; moist.
3							
4	4/3.5 4.0-8.0	SS-3 4.0-6.0	1.5				Olive/grey silty CLAY; moist.
5							
6		SS-4 6.0-7.5	23.5			▽	Brown silty CLAY; grey mottled; interbeddded wet seams; moist to wet.
7							
8	4/4 8.0-12.0	SS-5 8.0-10.0	144				Brown clayey SILT; wet.
9							
10		SS-6 10.0-12.0	102				Same as above, wet.
11							
12	4/4 12.0-16.0	SS-7 12.0-14.0	51				Brown/grey clayey SILT; increasing grey with depth; wet.
13							
14		SS-8 14.0-16.0	7.3				Grey clayey SILT; wet.
15							
16							End of Boring @ 16.0'
17							
18							
19							
20							

Samples:
COT235:HSB-16:S020040

08-14-2015 F:\Clients\Active\COT\COT235\Boring Logs\champion logs\HSB-16.bor

Hull & associates, inc.

Phase II Property Assessment
Former Champion Spark Plug Prop.
914 Upton, Toledo, Ohio
Toledo, Ohio
Lucas County

Date Started	: 6-8-15
Date Completed	: 6-8-15
Logged By	: J. Carlson
Reviewed By	: M. Beil
Drilling Contractor	: Terra Probe
Drilling Method	: Geoprobe
Sampling Method	: Acetate Sleeve
Total Depth	: 16'
Samples	: 1

LOG OF BORING HSB-17/ TMW-1

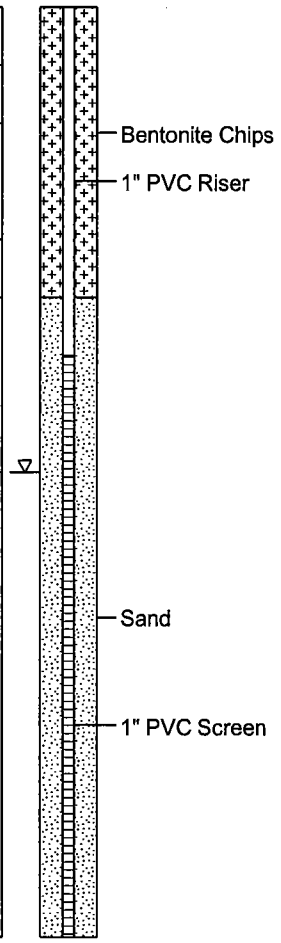
PID Model	: MiniRae2000 11.7
PID Calibration	: 100 ppm ISO
Calibration Date	: 6-8-2015

Soil Samples: Sample Interval; Lab Sample

Water Levels: Static; During drilling

Well: HTMW-1

Depth in Feet	Driven/Recovery(ft.) Sample Interval (ft.)	Sample Number Sample Interval	PID	Sample	GRAPHIC	Water Level	DESCRIPTION
0	3/1 0.0-4.0	SS-1 1.0-2.0	0.0				FILL and cement.
1							FILL - Light grey/brown sand and gravel; trace clay; fines; cobble; moist.
2							No recovery.
3							
4	4/1 4.0-8.0	SS-3 4.0-5.0	0.0				FILL - Grey/brown silty clay; fines/gravel; very moist.
5							No recovery.
6							
7							
8	4/4 8.0-12.0	SS-5 8.0-10.0	0.0			▽	Brown/grey clayey SILT; some fines; very moist to wet.
9							
10		SS-6 10.0-12.0	0.0				Grey, clayey SILT, very moist to wet.
11							
12	4/4 12.0-16.0	SS-7 12.0-14.0	0.0				Same as above.
13							
14		SS-8 14.0-16.0	0.0				Same as above.
15							
16							End of Boring @ 16.0'
17							
18							
19							
20							



Samples:
COT235:HSB-17:S080010

08-17-2015 F:\Clients\Active\COT\COT235\Boring Logs\champion logs\HSB-17 TMW-1.bor

Hull & associates, inc.

Phase II Property Assessment
Former Champion Spark Plug Prop.
914 Upton, Toledo, Ohio
Toledo, Ohio
Lucas County

Date Started	: 6-9-15
Date Completed	: 6-9-15
Logged By	: J. Carlson
Reviewed By	: M. Beil
Drilling Contractor	: Terra Probe
Drilling Method	: Geoprobe
Sampling Method	: Acetate Sleeve
Total Depth	: 16'
Samples	: 1

LOG OF BORING HSB-18

PID Model	: MiniRae2000 11.7
PID Calibration	: 100 ppm ISO
Calibration Date	: 6-9-2015

Soil Samples
- Sample Interval
- Lab Sample

Water Levels
- Static
- During drilling

Depth in Feet	Driven/Recovery(ft.) Sample Interval (ft.)	Sample Number Sample Interval	PID	Sample	GRAPHIC	Water Level	DESCRIPTION
0	4/2 1.0-4.0	SS-1 0.0-2.0	0.0				Topsoil
1							FILL - Brick/gravel.
2							Brown/grey silty CLAY; trace sands.
3							No recovery.
4	4/4 4.0-8.0	SS-2 4.0-6.0	343				Grey/brown silty CLAY; mottled; moist.
5							
6		SS-3 6.0-8.0	268				Same as above; moist to wet.
7						▽	
8	4/4 8.0-12.0	SS-4 8.0-10.0	27.2				Grey clayey SILT; wet.
9							
10		SS-5 10.0-12.0	2.8				Same as above; wet.
11							
12	4/4 12.0-16.0	SS-6 12.0-14.0	0.0				Same as above; wet.
13							
14		SS-7 14.0-16.0	0.0				Same as above; wet.
15							
16							End of Boring @ 16.0'
17							
18							
19							
20							

Samples:
COT235:HSB-18:S040060

08-13-2015 F:\Clients\Active\COT\COT235\Boring Logs\champion logs\HSB-18.bor

Hull & associates, inc.

Phase II Property Assessment
Former Champion Spark Plug Prop.
914 Upton, Toledo, Ohio
Toledo, Ohio
Lucas County

Date Started	: 6-9-15
Date Completed	: 6-9-15
Logged By	: J. Carlson
Reviewed By	: M. Beil
Drilling Contractor	: Terra Probe
Drilling Method	: Geoprobe
Sampling Method	: Acetate Sleeve
Total Depth	: 5'
Samples	: 1

LOG OF BORING HSG-1

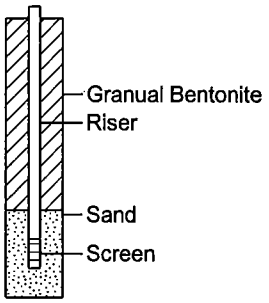
PID Model	: MiniRae2000 11.7
PID Calibration	: 100 ppm ISO
Calibration Date	: 6-9-2015

Soil Samples
- Sample Interval
- Lab Sample

Water Levels
- Static
- During drilling

Soil Gas: HSG-1
Elevation:

Depth In Feet	Driven/Recovery(ft.) Sample Interval (ft.)	Sample Number Sample Interval	PID	Sample	GRAPHIC	Water Level	DESCRIPTION
0	4/4 1.0-5.0	SS-1 1.0-3.0	0.0				Pea Gravel, slightly moist.
1							
2							
3		SS-2 3.0-5.0	0.0				Same as above, slightly moist.
4							
5							End of boring @ 5'.
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							



Samples:
No soil samples submitted.

Hull & associates, inc.

Phase II Property Assessment
Former Champion Spark Plug Prop.
914 Upton, Toledo, Ohio
Toledo, Ohio
Lucas County

Date Started	: 6-9-15
Date Completed	: 6-9-15
Logged By	: J. Carlson
Reviewed By	: M. Beil
Drilling Contractor	: Terra Probe
Drilling Method	: Geoprobe
Sampling Method	: Acetate Sleeve
Total Depth	: 5'
Samples	: 1

LOG OF BORING HSG-2

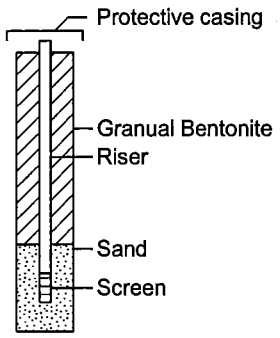
PID Model	: MiniRae2000 11.7
PID Calibration	: 100 ppm ISO
Calibration Date	: 6-9-2015

Soil Samples
- Sample Interval
- Lab Sample

Water Levels
- Static
- During drilling

Depth In Feet	Driven/Recovery(ft.) Sample Interval (ft.)	Sample Number Sample Interval	PID	Sample	GRAPHIC	Water Level	DESCRIPTION
0	4/2.5 1.0-5.0	SS-1 1.0-3.0	0.0				Pea Gravel, slightly moist.
3		SS-2 3.0-3.5	0.0				Light grey clayey SILT; trace sands; mottled, slightly moist.
5							End of boring @ 5.0'

Soil Gas: HSG-2
Elevation:



Samples:
No soil samples submitted.

08-14-2015 F:\Clients\Active\COT\COT235\Boring Logs\champion logs\HSG-02.bor

APPENDIX D

Laboratory Analytical Data/Chain of Custody Documentation

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

July 09, 2015

Matt Beil
Hull & Associates

,

RE: Project: COT235 Former Champion
Pace Project No.: 10312331

Dear Matt Beil:
Enclosed are the analytical results for sample(s) received by the laboratory on June 29, 2015. 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,

Carolynne Trout

Carolynne Trout
carolynne.trout@pacelabs.com
Project Manager

Enclosures

cc: Elizabeth DeWitt, Hull and Associates

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

CERTIFICATIONS

Project: COT235 Former Champion
Pace Project No.: 10312331

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414
A2LA Certification #: 2926.01
Alaska Certification #: UST-078
Alaska Certification #MN00064
Alabama Certification #40770
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
Colorado Certification #Pace
Connecticut Certification #: PH-0256
EPA Region 8 Certification #: 8TMS-L
Florida/NELAP Certification #: E87605
Guam Certification #:14-008r
Georgia Certification #: 959
Georgia EPD #: Pace
Idaho Certification #: MN00064
Hawaii Certification #MN00064
Illinois Certification #: 200011
Indiana Certification#C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky Dept of Envi. Protection - DW #90062
Kentucky Dept of Envi. Protection - WW #:90062
Louisiana DEQ Certification #: 3086
Louisiana DHH #: LA140001
Maine Certification #: 2013011
Maryland Certification #: 322
Michigan DEPH Certification #: 9909
Minnesota Certification #: 027-053-137
Mississippi Certification #: Pace
Montana Certification #: MT0092
Nevada Certification #: MN_00064
Nebraska Certification #: Pace
New Jersey Certification #: MN-002
New York Certification #: 11647
North Carolina Certification #: 530
North Carolina State Public Health #: 27700
North Dakota Certification #: R-036
Ohio EPA #: 4150
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Oregon Certification #: MN300001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Saipan (CNMI) #:MP0003
South Carolina #:74003001
Texas Certification #: T104704192
Tennessee Certification #: 02818
Utah Certification #: MN000642013-4
Virginia DGS Certification #: 251
Virginia/VELAP Certification #: Pace
Washington Certification #: C486
West Virginia Certification #: 382
West Virginia DHHR #:9952C
Wisconsin Certification #: 999407970

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

SAMPLE SUMMARY

Project: COT235 Former Champion
Pace Project No.: 10312331

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10312331001	**COT235:HSG-1:A062415**	Air	06/24/15 15:55	06/29/15 08:40
10312331002	**COT235:HSG-2:A062415**	Air	06/24/15 15:58	06/29/15 08:40

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

SAMPLE ANALYTE COUNT

Project: COT235 Former Champion
Pace Project No.: 10312331

Lab ID	Sample ID	Method	Analysts	Analytes Reported
10312331001	**COT235:HSG-1:A062415**	TO-15	DR1	6
10312331002	**COT235:HSG-2:A062415**	TO-15	DR1	6

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: COT235 Former Champion
Pace Project No.: 10312331

Sample: COT235:HSG-1:A062415 **Lab ID: 10312331001** Collected: 06/24/15 15:55 Received: 06/29/15 08:40 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**10.3**	ug/m3	0.52	1.61		07/02/15 22:01	71-43-2	
Ethylbenzene	**2.7**	ug/m3	1.4	1.61		07/02/15 22:01	100-41-4	
Methyl-tert-butyl ether	**5.0**	ug/m3	1.2	1.61		07/02/15 22:01	1634-04-4	
Toluene	**13.8**	ug/m3	1.2	1.61		07/02/15 22:01	108-88-3	
m&p-Xylene	**9.5**	ug/m3	2.8	1.61		07/02/15 22:01	179601-23-1	
o-Xylene	**4.4**	ug/m3	1.4	1.61		07/02/15 22:01	95-47-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: COT235 Former Champion
Pace Project No.: 10312331

Sample: COT235:HSG-2:A062415 **Lab ID: 10312331002** Collected: 06/24/15 15:58 Received: 06/29/15 08:40 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**9.0**	ug/m3	0.52	1.61		07/02/15 22:28	71-43-2	
Ethylbenzene	**5.6**	ug/m3	1.4	1.61		07/02/15 22:28	100-41-4	
Methyl-tert-butyl ether	ND	ug/m3	1.2	1.61		07/02/15 22:28	1634-04-4	
Toluene	**23.5**	ug/m3	1.2	1.61		07/02/15 22:28	108-88-3	
m&p-Xylene	**17.3**	ug/m3	2.8	1.61		07/02/15 22:28	179601-23-1	
o-Xylene	**9.7**	ug/m3	1.4	1.61		07/02/15 22:28	95-47-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: COT235 Former Champion
Pace Project No.: 10312331

QC Batch: AIR/23640 Analysis Method: TO-15
QC Batch Method: TO-15 Analysis Description: TO15 MSV AIR Low Level
Associated Lab Samples: 10312331001, 10312331002

METHOD BLANK: 2013459 Matrix: Air
Associated Lab Samples: 10312331001, 10312331002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/m3	ND	0.32	07/02/15 14:43	
Ethylbenzene	ug/m3	ND	0.88	07/02/15 14:43	
m&p-Xylene	ug/m3	ND	1.8	07/02/15 14:43	
Methyl-tert-butyl ether	ug/m3	ND	0.73	07/02/15 14:43	
o-Xylene	ug/m3	ND	0.88	07/02/15 14:43	
Toluene	ug/m3	ND	0.77	07/02/15 14:43	

LABORATORY CONTROL SAMPLE: 2013460

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/m3	32.5	38.0	117	64-139	
Ethylbenzene	ug/m3	44.2	56.4	128	71-136	
m&p-Xylene	ug/m3	88.3	112	127	71-134	
Methyl-tert-butyl ether	ug/m3	36.7	41.1	112	73-134	
o-Xylene	ug/m3	44.2	57.3	130	75-134	
Toluene	ug/m3	38.3	45.6	119	70-129	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALIFIERS

Project: COT235 Former Champion
Pace Project No.: 10312331

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

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.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

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.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: COT235 Former Champion
Pace Project No.: 10312331

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10312331001	**COT235:HSG-1:A062415**	TO-15	AIR/23640		
10312331002	**COT235:HSG-2:A062415**	TO-15	AIR/23640		

10512331

Pace Analytical®
www.pacelabs.com

AIR: CHAIN-OF-CUSTODY / Analytical Request Document

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

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Page: 1 of 1

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: Hull & Associates, Inc	Report To: Matt Beil	Attention:
Address: 3401 Glendale Ave 300 Toledo, OH 10 43614	Copy To: Site: 900 Upton Ave Toledo, OH 10	Company Name:
Email To: MBeil@HullInc.com	Purchase Order No.: (City of Toledo)	Address:
Phone: 419.385.2018 Fax:	Project Name: Former Champion Property	Pace Quote Reference:
Requested Due Date/TAT: Std.	Project Number: COT235	Pace Project Manager/Sales Rep.
		Pace Profile #:

Program: UST | Superfund | Emissions | Clean Air Act | Voluntary Clean Up | Dry Clean | RCRA | Other

Location of Sampling by State: OH10

Reporting Units: ug/m³ ___ mg/m³ ___ PPBV ___ PPMV ___ Other ___

Report Level: II.___ III.___ IV.___ Other___

ITEM #	'Section D Required Client Information AIR SAMPLE ID (Sample IDs MUST BE UNIQUE)	MEDIA CODE	PID Reading (Client only)	COLLECTED COMPOSITE START END/GRAB DATE	COLLECTED COMPOSITE START END/GRAB TIME	COLLECTED COMPOSITE - DATE	COLLECTED COMPOSITE - TIME	Canister Pressure (Initial Field - psig)	Canister Pressure (Final Field - psig)	Summa Can Number	Flow Control Number	Method: PM10	3C- Fixed Gas (%)	TO-3	TO-3M (Methane)	TO-4 (PCBs)	TO-13 (PAH)	TO-14	TO-15 BTEX/MTBE	TO15 Short List*	Pace Lab ID
1	COT235:HSG-1:A062415			6-24-15	0850	6-24	1555	-30	-6	0273	-0144							X			001
2	COT235:HSG-2:A062415			6-24-15	855	6-24	1558	-30	-5	1183	-1099							X			002
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					

Valid Media Codes: Tedlar Bag TB; 1 Liter Summa Can 1LC; 6 Liter Summa Can 6LC; Low Volume Puff LVP; High Volume Puff HVP; Other PM10

Comments :

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Hull	6-25-15	1700	FedEx / shipper	6-25-15	1700
			ice	62915	0840

SAMPLE CONDITIONS

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

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: J. Carlson (Hull)

SIGNATURE of SAMPLER: [signature] DATE Signed (MM / DD / YY)

ORIGINAL

Pace Analytical®	Document Name: Air Sample Condition Upon Receipt	Document Revised: 26Dec2013 Page 1 of 1
	Document No.: F-MN-A-106-rev.09	Issuing Authority: Pace Minnesota Quality Office

Air Sample Condition Upon Receipt

Client Name: Hull + Associates

Project #: WO#: 10312331

10312331

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

Tracking Number: 805555789023

Custody Seal on Cooler/Box Present? ☒ Yes ☐ No **Seals Intact?** ☒ Yes ☐ No

Optional: Proj. Due Date: Proj. Name:

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☒ Foam ☐ None ☐ Other: _____ **Temp Blank rec:** ☐ Yes ☒ No

Temp. (TO17 and TO13 samples only) (°C): X **Corrected Temp (°C):** X **Thermom. Used:** ☐ B88A912167504 ☐ B88A9132521491 ☐ 72337080 ☐ 80512447

Temp should be above freezing to 6°C **Correction Factor:** X **Date & Initials of Person Examining Contents:** 6/29/15

Type of ice Received ☐ Blue ☐ Wet ☒ None

				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 and/or Signature on COC?	☒ Yes	☐ No	☐ N/A	4.
Samples Arrived within Hold Time?	☒ Yes	☐ No	☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	☐ Yes	☒ No	☐ N/A	6.
Rush Turn Around Time Requested?	☐ Yes	☒ No	☐ N/A	7.
Sufficient Volume?	☒ Yes	☐ No	☐ N/A	8.
Correct Containers Used?	☒ Yes	☐ No	☐ N/A	9.
-Pace Containers Used?	☒ Yes	☐ No	☐ N/A	
Containers Intact?	☒ Yes	☐ No	☐ N/A	10.
Media: Air Can				11.
Sample Labels Match COC?	☒ Yes	☐ No	☐ N/A	12.

Samples Received:

Canisters		Flow Controllers		Stand Alone G	
Sample Number	Can ID	Sample Number	Can ID	Sample Number	Can ID
HSG-1	0273		0144		
HSG-2	1183		1099		

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐ Yes ☐ No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Project Manager Review: CDH **Date:** 6/29/15

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Tuesday, July 21, 2015
Analytical Results

Matt Beil
Hull & Associates - Toledo Office
3401 Glendale Avenue
Toledo, OH 43614
TEL: (419) 385-2018
FAX (419) 385-5487

RE: COT235 Champion Spark Plug

Work Order: 15F0709

PACE Analytical received 19 sample(s) on 6/11/2015 for the analyses presented in the following report.

PACE Analytical attests that all analytical methods were performed using acceptable methods, and that the QA/QC procedures stipulated in these methods were followed. USEPA's RCRA Program regards a statement of quality assurance as a legal means of assuring that acceptable and uniform laboratory methods and QA/QC practices were followed by the laboratory.

If you have any questions regarding the test results, please feel free to call me at (937) 832-8242.

Respectfully submitted,

Jason Lykins
Project Manager

Certifications:

NELAP/NELAC - #04130	VAP - #CL0032
Ohio EPA Drinking water - #836	Ohio EPA Drinking water (Micro) - #872

CLIENT: Hull & Associates - Toledo Office
Project: COT235 Champion Spark Plug
Lab Order: 15F0709

Work Order Sample Summary

The results of analyses performed on the following samples submitted to Belmont Labs are found in this report.

Field Sample ID	Lab ID	Matrix	Method Reference	Subcontract Lab
COT235:HSB-1:S040060	15F0709-01	Soil	D 2216	
			NA	
			SW 8015B	
			SW 8260A	
COT235:HSB-2:S060080	15F0709-02	Soil	D 2216	
			SW 8015B	
			SW 8260A	
COT235:HSB-3:S040050	15F0709-03	Soil	D 2216	
			SW 8015B	
			SW 8260A	
COT235:HSB-4:S040060	15F0709-04	Soil	D 2216	
			SW 8015B	
			SW 8260A	
COT235:HSB-5:S000020	15F0709-05	Soil	3020	
			D 2216	
			SW 6010B	
			SW 7471A	
			SW 8015	Pace Analytical Services, Inc. In
			SW 8015B	
			SW 8260B	
			SW 8270C	Pace Analytical Services, Inc. In
COT235:HSB-6:S000020	15F0709-06	Soil	3020	
			D 2216	
			SW 6010B	
			SW 7471A	
			SW 8015B	
			SW 8260B	
			SW 8270C	Pace Analytical Services, Inc. In

CLIENT: Hull & Associates - Toledo Office
Project: COT235 Champion Spark Plug
Lab Order: 15F0709

Work Order Sample Summary

The results of analyses performed on the following samples submitted to Belmont Labs are found in this report.

Field Sample ID	Lab ID	Matrix	Method Reference	Subcontract Lab
COT235:HSB-7:S000020	15F0709-07	Soil	3020	
			D 2216	
			SW 6010B	
			SW 7471A	
			SW 8015	Pace Analytical Services, Inc. In
			SW 8015B	
			SW 8260B	
			SW 8270C	Pace Analytical Services, Inc. In
COT235:HSB-8:S080100	15F0709-08	Soil	3020	
			D 2216	
			SW 6010B	
			SW 7471A	
			SW 8015B	
			SW 8260B	
			SW 8270C	Pace Analytical Services, Inc. In
COT235:HSB-9:S060080	15F0709-09	Soil	3020	
			D 2216	
			SW 6010B	
			SW 7471A	
			SW 8015	Pace Analytical Services, Inc. In
			SW 8015B	
			SW 8260B	
			SW 8270C	Pace Analytical Services, Inc. In

CLIENT: Hull & Associates - Toledo Office
Project: COT235 Champion Spark Plug
Lab Order: 15F0709

Work Order Sample Summary

The results of analyses performed on the following samples submitted to Belmont Labs are found in this report.

Field Sample ID	Lab ID	Matrix	Method Reference	Subcontract Lab
COT235:HSB-10:S000020	15F0709-10	Soil	3020	
			D 2216	
			SW 6010B	
			SW 7471A	
			SW 8015B	
			SW 8260B	
			SW 8270C	Pace Analytical Services, Inc. In
COT235:HSB-11:S000020	15F0709-11	Soil	3020	
			D 2216	
			SW 6010B	
			SW 7471A	
			SW 8015	Pace Analytical Services, Inc. In
			SW 8015B	
			SW 8260B	
			SW 8270C	Pace Analytical Services, Inc. In
COT235:HSB-12:S000020	15F0709-12	Soil	3020	
			D 2216	
			SW 6010B	
			SW 7471A	
			SW 8015B	
			SW 8260B	
			SW 8270C	Pace Analytical Services, Inc. In

CLIENT: Hull & Associates - Toledo Office
Project: COT235 Champion Spark Plug
Lab Order: 15F0709

Work Order Sample Summary

The results of analyses performed on the following samples submitted to Belmont Labs are found in this report.

Field Sample ID	Lab ID	Matrix	Method Reference	Subcontract Lab
COT235:HSB-13:S100120	15F0709-13	Soil	3020	
			D 2216	
			SW 6010B	
			SW 7471A	
			SW 8015	Pace Analytical Services, Inc. In
			SW 8015B	
			SW 8260B	
			SW 8270C	Pace Analytical Services, Inc. In
COT235:HSB-14:S040060	15F0709-14	Soil	3020	
			D 2216	
			SW 6010B	
			SW 7471A	
			SW 8015B	
			SW 8260B	
			SW 8270C	Pace Analytical Services, Inc. In
COT235:HSB-16:S020040	15F0709-15	Soil	3020	
			D 2216	
			SW 6010B	
			SW 7471A	
			SW 8015B	
			SW 8260B	
			SW 8270C	Pace Analytical Services, Inc. In
COT235:HSB-17:S080100	15F0709-16	Soil	3020	
			D 2216	
			SW 6010B	
			SW 7471A	
			SW 8015B	
			SW 8260B	
			SW 8270C	Pace Analytical Services, Inc. In

CLIENT: Hull & Associates - Toledo Office
Project: COT235 Champion Spark Plug
Lab Order: 15F0709

Work Order Sample Summary

The results of analyses performed on the following samples submitted to Belmont Labs are found in this report.

Field Sample ID	Lab ID	Matrix	Method Reference	Subcontract Lab
COT235:HSB-18:S040060	15F0709-17	Soil	3020	
			D 2216	
			SW 6010B	
			SW 7471A	
			SW 8015	Pace Analytical Services, Inc. In
			SW 8015B	
			SW 8260B	
			SW 8270C	Pace Analytical Services, Inc. In
COT235:Trip	15F0709-18	Water	SW 8260B	
COT235:E. Blank:W060915	15F0709-19	Groundwater	3010	
			SW 6010B	
			SW 7470A	
			SW 8015	Pace Analytical Services, Inc. In
			SW 8015B	
			SW 8270C	Pace Analytical Services, Inc. In

CLIENT: Hull & Associates - Toledo Office
Project: COT235 Champion Spark Plug
Lab Order: 15F0709

Lab ID: 15F0709-01
Client Sample ID: COT235:HSB-1:S040060
Collection Date: 6/8/2015 12:00:00PM
Matrix: Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Prepared	Date Analyzed
TPH GRO		**SW 8015B**						**Analyst: MLR**
Gasoline Range Organics, C6 - C12	BDL	6.00		mg/kg dry	1	1525157	6/17/2015 1:16:00PM	6/17/2015 3:06:00PM
Surrogate: Chlorobenzene-d5		*83.5 %*		*70-130*		*1525157*	6/17/2015 1:16:00PM	6/17/2015 3:06:00PM
BTEX_MTBE_MS		**SW 8260A**						**Analyst: MLR**
Benzene	BDL	0.0119		mg/kg dry	1	1525265	6/19/2015 12:50:00PM	6/19/2015 3:29:00PM
Ethylbenzene	BDL	0.0119		mg/kg dry	1	1525265	6/19/2015 12:50:00PM	6/19/2015 3:29:00PM
Methyl tert-Butyl Ether	BDL	0.0238		mg/kg dry	1	1525265	6/19/2015 12:50:00PM	6/19/2015 3:29:00PM
m,p-Xylene	BDL	0.0238		mg/kg dry	1	1525265	6/19/2015 12:50:00PM	6/19/2015 3:29:00PM
o-Xylene	BDL	0.0119		mg/kg dry	1	1525265	6/19/2015 12:50:00PM	6/19/2015 3:29:00PM
Toluene	BDL	0.0119		mg/kg dry	1	1525265	6/19/2015 12:50:00PM	6/19/2015 3:29:00PM
Surrogate: 4-Bromofluorobenzene		*93.6 %*		*62-129*		*1525265*	6/19/2015 12:50:00PM	6/19/2015 3:29:00PM
Surrogate: Dibromofluoromethane		*90.2 %*		*71-129*		*1525265*	6/19/2015 12:50:00PM	6/19/2015 3:29:00PM
Surrogate: Toluene-d8		*98.4 %*		*74-124*		*1525265*	6/19/2015 12:50:00PM	6/19/2015 3:29:00PM
Surrogate: 1,2-Dichloroethane-d4		*88.6 %*		*70-127*		*1525265*	6/19/2015 12:50:00PM	6/19/2015 3:29:00PM
VOC 8260		**SW 8260A**						**Analyst: MLR**
1,1,1,2-Tetrachloroethane	BDL	0.0119		mg/kg dry	1	1525265	6/19/2015 12:50:00PM	6/19/2015 3:29:00PM
1,1,1-Trichloroethane	BDL	0.0119		mg/kg dry	1	1525265	6/19/2015 12:50:00PM	6/19/2015 3:29:00PM
1,1,2,2-Tetrachloroethane	BDL	0.0119		mg/kg dry	1	1525265	6/19/2015 12:50:00PM	6/19/2015 3:29:00PM
1,1,2-Trichloroethane	BDL	0.0119		mg/kg dry	1	1525265	6/19/2015 12:50:00PM	6/19/2015 3:29:00PM
1,1-Dichloroethane	BDL	0.0119		mg/kg dry	1	1525265	6/19/2015 12:50:00PM	6/19/2015 3:29:00PM
1,1-Dichloroethene	BDL	0.0119		mg/kg dry	1	1525265	6/19/2015 12:50:00PM	6/19/2015 3:29:00PM
1,1-Dichloropropene	BDL	0.0119		mg/kg dry	1	1525265	6/19/2015 12:50:00PM	6/19/2015 3:29:00PM
1,2,3-Trichlorobenzene	BDL	0.0119		mg/kg dry	1	1525265	6/19/2015 12:50:00PM	6/19/2015 3:29:00PM
1,2,3-Trichloropropane	BDL	0.0119		mg/kg dry	1	1525265	6/19/2015 12:50:00PM	6/19/2015 3:29:00PM
1,2,4-Trichlorobenzene	BDL	0.0119		mg/kg dry	1	1525265	6/19/2015 12:50:00PM	6/19/2015 3:29:00PM
1,2,4-Trimethylbenzene	BDL	0.0119		mg/kg dry	1	1525265	6/19/2015 12:50:00PM	6/19/2015 3:29:00PM
1,2-Dibromo-3-chloropropane	BDL	0.0238		mg/kg dry	1	1525265	6/19/2015 12:50:00PM	6/19/2015 3:29:00PM
1,2-Dibromoethane	BDL	0.0119		mg/kg dry	1	1525265	6/19/2015 12:50:00PM	6/19/2015 3:29:00PM
1,2-Dichlorobenzene	BDL	0.0119		mg/kg dry	1	1525265	6/19/2015 12:50:00PM	6/19/2015 3:29:00PM
1,2-Dichloroethane	BDL	0.0119		mg/kg dry	1	1525265	6/19/2015 12:50:00PM	6/19/2015 3:29:00PM
1,2-Dichloropropane	BDL	0.0119		mg/kg dry	1	1525265	6/19/2015 12:50:00PM	6/19/2015 3:29:00PM
1,3,5-Trimethylbenzene	BDL	0.0119		mg/kg dry	1	1525265	6/19/2015 12:50:00PM	6/19/2015 3:29:00PM
1,3-Dichlorobenzene	BDL	0.0119		mg/kg dry	1	1525265	6/19/2015 12:50:00PM	6/19/2015 3:29:00PM
1,3-Dichloropropane	BDL	0.0119		mg/kg dry	1	1525265	6/19/2015 12:50:00PM	6/19/2015 3:29:00PM
1,4-Dichlorobenzene	BDL	0.0119		mg/kg dry	1	1525265	6/19/2015 12:50:00PM	6/19/2015 3:29:00PM
2,2-Dichloropropane	BDL	0.0119		mg/kg dry	1	1525265	6/19/2015 12:50:00PM	6/19/2015 3:29:00PM
2-Butanone	BDL	0.0476		mg/kg dry	1	1525265	6/19/2015 12:50:00PM	6/19/2015 3:29:00PM
2-Chlorotoluene	BDL	0.0119		mg/kg dry	1	1525265	6/19/2015 12:50:00PM	6/19/2015 3:29:00PM
2-Hexanone	BDL	0.0476		mg/kg dry	1	1525265	6/19/2015 12:50:00PM	6/19/2015 3:29:00PM
4-Chlorotoluene	BDL	0.0119		mg/kg dry	1	1525265	6/19/2015 12:50:00PM	6/19/2015 3:29:00PM

CLIENT: Hull & Associates - Toledo Office **Lab Order:** 15F0709
Project: COT235 Champion Spark Plug

Lab ID: 15F0709-01 **Collection Date:** 6/8/2015 12:00:00PM
Client Sample ID: COT235:HSB-1:S040060 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Prepared	Date Analyzed
4-Isopropyltoluene	BDL	0.0119		mg/kg dry	1	1525265	6/19/2015 12:50:00PM	6/19/2015 3:29:00PM
4-Methyl-2-pentanone	BDL	0.0476		mg/kg dry	1	1525265	6/19/2015 12:50:00PM	6/19/2015 3:29:00PM
Acetone	BDL	0.119		mg/kg dry	1	1525265	6/19/2015 12:50:00PM	6/19/2015 3:29:00PM
Acetonitrile	BDL	0.0953		mg/kg dry	1	1525265	6/19/2015 12:50:00PM	6/19/2015 3:29:00PM
Acrolein	BDL	0.119		mg/kg dry	1	1525265	6/19/2015 12:50:00PM	6/19/2015 3:29:00PM
Acrylonitrile	BDL	0.0476		mg/kg dry	1	1525265	6/19/2015 12:50:00PM	6/19/2015 3:29:00PM
Allyl chloride	BDL	0.0238		mg/kg dry	1	1525265	6/19/2015 12:50:00PM	6/19/2015 3:29:00PM
Benzene	BDL	0.0119		mg/kg dry	1	1525265	6/19/2015 12:50:00PM	6/19/2015 3:29:00PM
Bromobenzene	BDL	0.0119		mg/kg dry	1	1525265	6/19/2015 12:50:00PM	6/19/2015 3:29:00PM
Bromochloromethane	BDL	0.0119		mg/kg dry	1	1525265	6/19/2015 12:50:00PM	6/19/2015 3:29:00PM
Bromodichloromethane	BDL	0.0119		mg/kg dry	1	1525265	6/19/2015 12:50:00PM	6/19/2015 3:29:00PM
Bromoform	BDL	0.0119		mg/kg dry	1	1525265	6/19/2015 12:50:00PM	6/19/2015 3:29:00PM
Bromomethane	BDL	0.0119		mg/kg dry	1	1525265	6/19/2015 12:50:00PM	6/19/2015 3:29:00PM
Carbon Disulfide	BDL	0.0476		mg/kg dry	1	1525265	6/19/2015 12:50:00PM	6/19/2015 3:29:00PM
Carbon Tetrachloride	BDL	0.0119		mg/kg dry	1	1525265	6/19/2015 12:50:00PM	6/19/2015 3:29:00PM
Chlorobenzene	BDL	0.0119		mg/kg dry	1	1525265	6/19/2015 12:50:00PM	6/19/2015 3:29:00PM
Chloroethane	BDL	0.0119		mg/kg dry	1	1525265	6/19/2015 12:50:00PM	6/19/2015 3:29:00PM
Chloroform	BDL	0.0119		mg/kg dry	1	1525265	6/19/2015 12:50:00PM	6/19/2015 3:29:00PM
Chloromethane	BDL	0.0119		mg/kg dry	1	1525265	6/19/2015 12:50:00PM	6/19/2015 3:29:00PM
cis-1,2-Dichloroethene	BDL	0.0119		mg/kg dry	1	1525265	6/19/2015 12:50:00PM	6/19/2015 3:29:00PM
cis-1,3-Dichloropropene	BDL	0.0119		mg/kg dry	1	1525265	6/19/2015 12:50:00PM	6/19/2015 3:29:00PM
Dibromochloromethane	BDL	0.0119		mg/kg dry	1	1525265	6/19/2015 12:50:00PM	6/19/2015 3:29:00PM
Dibromomethane	BDL	0.0119		mg/kg dry	1	1525265	6/19/2015 12:50:00PM	6/19/2015 3:29:00PM
Dichlorodifluoromethane	BDL	0.0119		mg/kg dry	1	1525265	6/19/2015 12:50:00PM	6/19/2015 3:29:00PM
Ethylbenzene	BDL	0.0119		mg/kg dry	1	1525265	6/19/2015 12:50:00PM	6/19/2015 3:29:00PM
Hexachlorobutadiene	BDL	0.0119		mg/kg dry	1	1525265	6/19/2015 12:50:00PM	6/19/2015 3:29:00PM
Iodomethane	BDL	0.0238		mg/kg dry	1	1525265	6/19/2015 12:50:00PM	6/19/2015 3:29:00PM
Isopropylbenzene	BDL	0.0119		mg/kg dry	1	1525265	6/19/2015 12:50:00PM	6/19/2015 3:29:00PM
Methylene Chloride	BDL	0.0119		mg/kg dry	1	1525265	6/19/2015 12:50:00PM	6/19/2015 3:29:00PM
Methyl tert-Butyl Ether	BDL	0.0238		mg/kg dry	1	1525265	6/19/2015 12:50:00PM	6/19/2015 3:29:00PM
m,p-Xylene	BDL	0.0238		mg/kg dry	1	1525265	6/19/2015 12:50:00PM	6/19/2015 3:29:00PM
Naphthalene	BDL	0.0119		mg/kg dry	1	1525265	6/19/2015 12:50:00PM	6/19/2015 3:29:00PM
n-Butylbenzene	BDL	0.0119		mg/kg dry	1	1525265	6/19/2015 12:50:00PM	6/19/2015 3:29:00PM
n-Hexane	BDL	0.0119		mg/kg dry	1	1526083	6/19/2015 1:03:00PM	6/19/2015 3:29:00PM
n-Propylbenzene	BDL	0.0119		mg/kg dry	1	1525265	6/19/2015 12:50:00PM	6/19/2015 3:29:00PM
o-Xylene	BDL	0.0119		mg/kg dry	1	1525265	6/19/2015 12:50:00PM	6/19/2015 3:29:00PM
sec-Butylbenzene	BDL	0.0119		mg/kg dry	1	1525265	6/19/2015 12:50:00PM	6/19/2015 3:29:00PM
Styrene	BDL	0.0119		mg/kg dry	1	1525265	6/19/2015 12:50:00PM	6/19/2015 3:29:00PM
tert_Butylbenzene	BDL	0.0119		mg/kg dry	1	1525265	6/19/2015 12:50:00PM	6/19/2015 3:29:00PM
Tetrachloroethene	BDL	0.0119		mg/kg dry	1	1525265	6/19/2015 12:50:00PM	6/19/2015 3:29:00PM
Toluene	BDL	0.0119		mg/kg dry	1	1525265	6/19/2015 12:50:00PM	6/19/2015 3:29:00PM
trans-1,2-Dichloroethene	BDL	0.0119		mg/kg dry	1	1525265	6/19/2015 12:50:00PM	6/19/2015 3:29:00PM
trans-1,3-Dichloropropene	BDL	0.0119		mg/kg dry	1	1525265	6/19/2015 12:50:00PM	6/19/2015 3:29:00PM
Trichloroethene	BDL	0.0119		mg/kg dry	1	1525265	6/19/2015 12:50:00PM	6/19/2015 3:29:00PM

CLIENT: Hull & Associates - Toledo Office
Project: COT235 Champion Spark Plug
Lab Order: 15F0709

Lab ID: 15F0709-01
Client Sample ID: COT235:HSB-1:S040060
Collection Date: 6/8/2015 12:00:00PM
Matrix: Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Prepared	Date Analyzed
Trichlorofluoromethane	BDL	0.0119		mg/kg dry	1	1525265	6/19/2015 12:50:00PM	6/19/2015 3:29:00PM
Vinyl Chloride	BDL	0.0119		mg/kg dry	1	1525265	6/19/2015 12:50:00PM	6/19/2015 3:29:00PM
Vinyl acetate	BDL	0.0238		mg/kg dry	1	1525265	6/19/2015 12:50:00PM	6/19/2015 3:29:00PM
Surrogate: 4-Bromofluorobenzene	*99.2 %*			*62-129*		*1526083*	6/19/2015 1:03:00PM	6/19/2015 3:29:00PM
Surrogate: 4-Bromofluorobenzene	*93.6 %*			*62-129*		*1525265*	6/19/2015 12:50:00PM	6/19/2015 3:29:00PM
Surrogate: Dibromofluoromethane	*90.2 %*			*71-129*		*1525265*	6/19/2015 12:50:00PM	6/19/2015 3:29:00PM
Surrogate: Dibromofluoromethane	*102 %*			*71-129*		*1526083*	6/19/2015 1:03:00PM	6/19/2015 3:29:00PM
Surrogate: Toluene-d8	*106 %*			*74-124*		*1526083*	6/19/2015 1:03:00PM	6/19/2015 3:29:00PM
Surrogate: Toluene-d8	*98.4 %*			*74-124*		*1525265*	6/19/2015 12:50:00PM	6/19/2015 3:29:00PM
Surrogate: 1,2-Dichloroethane-d4	*103 %*			*70-127*		*1526083*	6/19/2015 1:03:00PM	6/19/2015 3:29:00PM
Surrogate: 1,2-Dichloroethane-d4	*88.6 %*			*70-127*		*1525265*	6/19/2015 12:50:00PM	6/19/2015 3:29:00PM
PMOIST	**D 2216**						**Analyst:**	**NL**
Percent Moisture	**16.9**			% by Weight	1	1526192	6/24/2015 5:00:00PM	6/24/2015 5:00:00PM

CLIENT: Hull & Associates - Toledo Office
Project: COT235 Champion Spark Plug
Lab Order: 15F0709

Lab ID: 15F0709-02
Client Sample ID: COT235:HSB-2:S060080
Collection Date: 6/8/2015 11:00:00AM
Matrix: Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Prepared	Date Analyzed
TPH GRO		**SW 8015B**						**Analyst: MLR**
Gasoline Range Organics, C6 - C12	BDL	6.20		mg/kg dry	1	1525157	6/17/2015 1:16:00PM	6/17/2015 3:34:00PM
Surrogate: Chlorobenzene-d5		*72.2 %*		*70-130*		*1525157*	6/17/2015 1:16:00PM	6/17/2015 3:34:00PM
BTEX_MTBE_MS		**SW 8260A**						**Analyst: MLR**
Benzene	BDL	0.0127		mg/kg dry	1	1526079	6/20/2015 1:55:00PM	6/20/2015 4:37:00PM
Ethylbenzene	BDL	0.0127		mg/kg dry	1	1526079	6/20/2015 1:55:00PM	6/20/2015 4:37:00PM
Methyl tert-Butyl Ether	BDL	0.0254		mg/kg dry	1	1526079	6/20/2015 1:55:00PM	6/20/2015 4:37:00PM
m,p-Xylene	BDL	0.0254		mg/kg dry	1	1526079	6/20/2015 1:55:00PM	6/20/2015 4:37:00PM
o-Xylene	BDL	0.0127		mg/kg dry	1	1526079	6/20/2015 1:55:00PM	6/20/2015 4:37:00PM
Toluene	BDL	0.0127		mg/kg dry	1	1526079	6/20/2015 1:55:00PM	6/20/2015 4:37:00PM
Surrogate: 4-Bromofluorobenzene		*87.8 %*		*62-129*		*1526079*	6/20/2015 1:55:00PM	6/20/2015 4:37:00PM
Surrogate: Dibromofluoromethane		*90.4 %*		*71-129*		*1526079*	6/20/2015 1:55:00PM	6/20/2015 4:37:00PM
Surrogate: Toluene-d8		*98.9 %*		*74-124*		*1526079*	6/20/2015 1:55:00PM	6/20/2015 4:37:00PM
Surrogate: 1,2-Dichloroethane-d4		*88.4 %*		*70-127*		*1526079*	6/20/2015 1:55:00PM	6/20/2015 4:37:00PM
PMOIST		**D 2216**						**Analyst: NL**
Percent Moisture	**22.0**			% by Weight	1	1526192	6/24/2015 5:00:00PM	6/24/2015 5:00:00PM

CLIENT: Hull & Associates - Toledo Office
Project: COT235 Champion Spark Plug
Lab Order: 15F0709

Lab ID: 15F0709-03
Client Sample ID: COT235:HSB-3:S040050
Collection Date: 6/9/2015 9:40:00AM
Matrix: Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Prepared	Date Analyzed
TPH GRO		**SW 8015B**						**Analyst: MLR**
Gasoline Range Organics, C6 - C12	BDL	5.95		mg/kg dry	1	1525157	6/17/2015 1:16:00PM	6/17/2015 9:14:00PM
Surrogate: Chlorobenzene-d5		*93.2 %*		*70-130*		*1525157*	6/17/2015 1:16:00PM	6/17/2015 9:14:00PM
BTEX_MTBE_MS		**SW 8260A**						**Analyst: MLR**
Benzene	BDL	0.0124		mg/kg dry	1	1526079	6/20/2015 1:55:00PM	6/20/2015 5:11:00PM
Ethylbenzene	BDL	0.0124		mg/kg dry	1	1526079	6/20/2015 1:55:00PM	6/20/2015 5:11:00PM
Methyl tert-Butyl Ether	BDL	0.0248		mg/kg dry	1	1526079	6/20/2015 1:55:00PM	6/20/2015 5:11:00PM
m,p-Xylene	BDL	0.0248		mg/kg dry	1	1526079	6/20/2015 1:55:00PM	6/20/2015 5:11:00PM
o-Xylene	BDL	0.0124		mg/kg dry	1	1526079	6/20/2015 1:55:00PM	6/20/2015 5:11:00PM
Toluene	BDL	0.0124		mg/kg dry	1	1526079	6/20/2015 1:55:00PM	6/20/2015 5:11:00PM
Surrogate: 4-Bromofluorobenzene		*91.4 %*		*62-129*		*1526079*	6/20/2015 1:55:00PM	6/20/2015 5:11:00PM
Surrogate: Dibromofluoromethane		*94.4 %*		*71-129*		*1526079*	6/20/2015 1:55:00PM	6/20/2015 5:11:00PM
Surrogate: Toluene-d8		*97.0 %*		*74-124*		*1526079*	6/20/2015 1:55:00PM	6/20/2015 5:11:00PM
Surrogate: 1,2-Dichloroethane-d4		*93.1 %*		*70-127*		*1526079*	6/20/2015 1:55:00PM	6/20/2015 5:11:00PM
PMOIST		**D 2216**						**Analyst: NL**
Percent Moisture	**19.6**			% by Weight	1	1526192	6/24/2015 5:00:00PM	6/24/2015 5:00:00PM

CLIENT: Hull & Associates - Toledo Office
Project: COT235 Champion Spark Plug
Lab Order: 15F0709

Lab ID: 15F0709-04
Client Sample ID: COT235:HSB-4:S040060
Collection Date: 6/9/2015 10:40:00AM
Matrix: Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Prepared	Date Analyzed
TPH GRO		**SW 8015B**						**Analyst: MLR**
Gasoline Range Organics, C6 - C12	BDL	6.17		mg/kg dry	1	1525157	6/17/2015 1:16:00PM	6/17/2015 4:30:00PM
Surrogate: Chlorobenzene-d5	*54.0 %*		*C, S-04*	*70-130*		*1525157*	6/17/2015 1:16:00PM	6/17/2015 4:30:00PM
BTEX_MTBE_MS		**SW 8260A**						**Analyst: MLR**
Benzene	BDL	0.0123		mg/kg dry	1	1526079	6/20/2015 1:55:00PM	6/20/2015 5:47:00PM
Ethylbenzene	BDL	0.0123		mg/kg dry	1	1526079	6/20/2015 1:55:00PM	6/20/2015 5:47:00PM
Methyl tert-Butyl Ether	BDL	0.0246		mg/kg dry	1	1526079	6/20/2015 1:55:00PM	6/20/2015 5:47:00PM
m,p-Xylene	BDL	0.0246		mg/kg dry	1	1526079	6/20/2015 1:55:00PM	6/20/2015 5:47:00PM
o-Xylene	BDL	0.0123		mg/kg dry	1	1526079	6/20/2015 1:55:00PM	6/20/2015 5:47:00PM
Toluene	BDL	0.0123		mg/kg dry	1	1526079	6/20/2015 1:55:00PM	6/20/2015 5:47:00PM
Surrogate: 4-Bromofluorobenzene	*88.1 %*			*62-129*		*1526079*	6/20/2015 1:55:00PM	6/20/2015 5:47:00PM
Surrogate: Dibromofluoromethane	*96.9 %*			*71-129*		*1526079*	6/20/2015 1:55:00PM	6/20/2015 5:47:00PM
Surrogate: Toluene-d8	*95.9 %*			*74-124*		*1526079*	6/20/2015 1:55:00PM	6/20/2015 5:47:00PM
Surrogate: 1,2-Dichloroethane-d4	*95.4 %*			*70-127*		*1526079*	6/20/2015 1:55:00PM	6/20/2015 5:47:00PM
PMOIST		**D 2216**						**Analyst: NL**
Percent Moisture	**20.2**			% by Weight	1	1526192	6/24/2015 5:00:00PM	6/24/2015 5:00:00PM

CLIENT: Hull & Associates - Toledo Office **Lab Order:** 15F0709
Project: COT235 Champion Spark Plug

Lab ID: 15F0709-05 **Collection Date:** 6/9/2015 12:50:00PM
Client Sample ID: COT235:HSB-5:S000020 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Prepared	Date Analyzed
TPH GRO		**SW 8015B**						**Analyst: MLR**
Gasoline Range Organics, C6 - C12	BDL	5.99		mg/kg dry	1	1525201	6/18/2015 12:25:00PM	6/18/2015 2:43:00PM
Surrogate: Chlorobenzene-d5		*76.2 %*		*70-130*		*1525201*	6/18/2015 12:25:00PM	6/18/2015 2:43:00PM
ICP_Ag		**SW 6010B**						**Analyst: RJE**
Silver	BDL	0.998		mg/kg dry	1	1527130	7/1/2015 1:54:00PM	7/2/2015 3:16:59AM
ICP_As		**SW 6010B**						**Analyst: RJE**
Arsenic	**5.80**	1.11		mg/kg dry	1	1526108	6/23/2015 12:30:00PM	7/3/2015 1:20:02AM
ICP_Ba		**SW 6010B**						**Analyst: RJE**
Barium	**210**	1.11		mg/kg dry	1	1526108	6/23/2015 12:30:00PM	7/3/2015 1:20:02AM
ICP_Cd		**SW 6010B**						**Analyst: RJE**
Cadmium	BDL	0.554		mg/kg dry	1	1526108	6/23/2015 12:30:00PM	7/3/2015 1:20:02AM
ICP_Cr		**SW 6010B**						**Analyst: RJE**
Chromium	**14.8**	1.11		mg/kg dry	1	1526108	6/23/2015 12:30:00PM	7/3/2015 1:20:02AM
ICP_Pb		**SW 6010B**						**Analyst: RJE**
Lead	**7.77**	1.11		mg/kg dry	1	1526108	6/23/2015 12:30:00PM	7/3/2015 1:20:02AM
ICP_Se		**SW 6010B**						**Analyst: RJE**
Selenium	BDL	5.54		mg/kg dry	1	1526108	6/23/2015 12:30:00PM	7/3/2015 1:20:02AM
HG		**SW 7471A**						**Analyst: CW**
Mercury	BDL	0.111		mg/kg dry	1	1525141	6/17/2015 10:37:00AM	6/17/2015 1:43:00PM
VOC 8260_5035		**SW 8260B**						**Analyst: MLR**
1,1,1,2-Tetrachloroethane	BDL	0.126	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:54:00PM
1,1,1-Trichloroethane	BDL	0.126	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:54:00PM
1,1,2,2-Tetrachloroethane	BDL	0.126	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:54:00PM
1,1,2-Trichloroethane	BDL	0.126	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:54:00PM
1,1-Dichloroethane	BDL	0.126	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:54:00PM
1,1-Dichloroethene	BDL	0.126	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:54:00PM
1,1-Dichloropropene	BDL	0.126	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:54:00PM
1,2,3-Trichlorobenzene	BDL	0.126	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:54:00PM
1,2,3-Trichloropropane	BDL	0.126	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:54:00PM
1,2,4-Trichlorobenzene	BDL	0.126	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:54:00PM
1,2,4-Trimethylbenzene	BDL	0.126	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:54:00PM
1,2-Dibromo-3-chloropropane	BDL	0.252	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:54:00PM
1,2-Dibromoethane	BDL	0.126	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:54:00PM

CLIENT: Hull & Associates - Toledo Office
Project: COT235 Champion Spark Plug
Lab Order: 15F0709

Lab ID: 15F0709-05
Client Sample ID: COT235:HSB-5:S000020
Collection Date: 6/9/2015 12:50:00PM
Matrix: Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Prepared	Date Analyzed
1,2-Dichlorobenzene	BDL	0.126	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:54:00PM
1,2-Dichloroethane	BDL	0.126	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:54:00PM
1,2-Dichloropropane	BDL	0.126	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:54:00PM
1,3,5-Trimethylbenzene	BDL	0.126	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:54:00PM
1,3-Dichlorobenzene	BDL	0.126	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:54:00PM
1,3-Dichloropropane	BDL	0.126	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:54:00PM
1,4-Dichlorobenzene	BDL	0.126	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:54:00PM
2,2-Dichloropropane	BDL	0.126	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:54:00PM
2-Butanone	BDL	0.503	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:54:00PM
2-Chlorotoluene	BDL	0.126	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:54:00PM
2-Hexanone	BDL	0.503	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:54:00PM
4-Chlorotoluene	BDL	0.126	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:54:00PM
4-Isopropyltoluene	BDL	0.126	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:54:00PM
4-Methyl-2-pentanone	BDL	0.503	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:54:00PM
Acetone	BDL	1.26	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:54:00PM
Acetonitrile	BDL	1.01	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:54:00PM
Acrolein	BDL	1.26	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:54:00PM
Acrylonitrile	BDL	0.503	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:54:00PM
Allyl chloride	BDL	0.252	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:54:00PM
Benzene	BDL	0.126	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:54:00PM
Bromobenzene	BDL	0.126	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:54:00PM
Bromochloromethane	BDL	0.126	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:54:00PM
Bromodichloromethane	BDL	0.126	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:54:00PM
Bromoform	BDL	0.126	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:54:00PM
Bromomethane	BDL	0.126	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:54:00PM
Carbon Disulfide	BDL	0.503	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:54:00PM
Carbon Tetrachloride	BDL	0.126	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:54:00PM
Chlorobenzene	BDL	0.126	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:54:00PM
Chloroethane	BDL	0.126	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:54:00PM
Chloroform	BDL	0.126	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:54:00PM
Chloromethane	BDL	0.126	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:54:00PM
cis-1,2-Dichloroethene	BDL	0.126	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:54:00PM
cis-1,3-Dichloropropene	BDL	0.126	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:54:00PM
Dibromochloromethane	BDL	0.126	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:54:00PM
Dibromomethane	BDL	0.126	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:54:00PM
Dichlorodifluoromethane	BDL	0.126	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:54:00PM
Ethylbenzene	BDL	0.126	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:54:00PM
Hexachlorobutadiene	BDL	0.126	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:54:00PM
Iodomethane	BDL	0.252	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:54:00PM
Isopropylbenzene	BDL	0.126	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:54:00PM
Methylene Chloride	BDL	0.126	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:54:00PM
Methyl tert-Butyl Ether	BDL	0.252	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:54:00PM
m,p-Xylene	BDL	0.252	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:54:00PM
Naphthalene	BDL	0.126	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:54:00PM

CLIENT: Hull & Associates - Toledo Office **Lab Order:** 15F0709
Project: COT235 Champion Spark Plug

Lab ID: 15F0709-05 **Collection Date:** 6/9/2015 12:50:00PM
Client Sample ID: COT235:HSB-5:S000020 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Prepared	Date Analyzed
n-Butylbenzene	BDL	0.126	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:54:00PM
n-Hexane	BDL	0.134	R-01	mg/kg dry	25	1526083	6/19/2015 1:03:00PM	6/19/2015 6:52:00PM
n-Propylbenzene	BDL	0.126	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:54:00PM
o-Xylene	BDL	0.126	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:54:00PM
sec-Butylbenzene	BDL	0.126	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:54:00PM
Styrene	BDL	0.126	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:54:00PM
tert_Butylbenzene	BDL	0.126	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:54:00PM
Tetrachloroethene	BDL	0.126	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:54:00PM
Toluene	BDL	0.126	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:54:00PM
trans-1,2-Dichloroethene	BDL	0.126	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:54:00PM
trans-1,3-Dichloropropene	BDL	0.126	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:54:00PM
Trichloroethene	BDL	0.126	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:54:00PM
Trichlorofluoromethane	BDL	0.126	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:54:00PM
Vinyl Chloride	BDL	0.126	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:54:00PM
Vinyl acetate	BDL	0.252	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:54:00PM
Surrogate: 4-Bromofluorobenzene	*102 %*			*62-129*		*1525265*	6/19/2015 12:50:00PM	6/19/2015 6:54:00PM
Surrogate: 4-Bromofluorobenzene	*98.9 %*			*62-129*		*1526083*	6/19/2015 1:03:00PM	6/19/2015 6:52:00PM
Surrogate: Dibromofluoromethane	*99.2 %*			*71-129*		*1525265*	6/19/2015 12:50:00PM	6/19/2015 6:54:00PM
Surrogate: Dibromofluoromethane	*100 %*			*71-129*		*1526083*	6/19/2015 1:03:00PM	6/19/2015 6:52:00PM
Surrogate: Toluene-d8	*99.9 %*			*74-124*		*1525265*	6/19/2015 12:50:00PM	6/19/2015 6:54:00PM
Surrogate: Toluene-d8	*106 %*			*74-124*		*1526083*	6/19/2015 1:03:00PM	6/19/2015 6:52:00PM
Surrogate: 1,2-Dichloroethane-d4	*103 %*			*70-127*		*1526083*	6/19/2015 1:03:00PM	6/19/2015 6:52:00PM
Surrogate: 1,2-Dichloroethane-d4	*96.6 %*			*70-127*		*1525265*	6/19/2015 12:50:00PM	6/19/2015 6:54:00PM
PMOIST	**D 2216**						**Analyst: NL**	
Percent Moisture	**16.5**			% by Weight	1	1526192	6/24/2015 5:00:00PM	6/24/2015 5:00:00PM

CLIENT: Hull & Associates - Toledo Office
Project: COT235 Champion Spark Plug
Lab Order: 15F0709

Lab ID: 15F0709-06
Client Sample ID: COT235:HSB-6:S000020
Collection Date: 6/9/2015 12:10:00PM
Matrix: Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Prepared	Date Analyzed
TPH GRO		**SW 8015B**						**Analyst: MLR**
Gasoline Range Organics, C6 - C12	BDL	5.88		mg/kg dry	1	1525157	6/17/2015 1:16:00PM	6/17/2015 5:37:00PM
Surrogate: Chlorobenzene-d5		*95.2 %*		*70-130*		*1525157*	6/17/2015 1:16:00PM	6/17/2015 5:37:00PM
ICP_Ag		**SW 6010B**						**Analyst: RJE**
Silver	BDL	1.11		mg/kg dry	1	1527130	7/1/2015 1:54:00PM	7/2/2015 3:23:01AM
ICP_As		**SW 6010B**						**Analyst: RJE**
Arsenic	**2.27**	1.07		mg/kg dry	1	1526108	6/23/2015 12:30:00PM	7/3/2015 1:28:16AM
ICP_Ba		**SW 6010B**						**Analyst: RJE**
Barium	**48.2**	1.07		mg/kg dry	1	1526108	6/23/2015 12:30:00PM	7/3/2015 1:28:16AM
ICP_Cd		**SW 6010B**						**Analyst: RJE**
Cadmium	BDL	0.536		mg/kg dry	1	1526108	6/23/2015 12:30:00PM	7/3/2015 1:28:16AM
ICP_Cr		**SW 6010B**						**Analyst: RJE**
Chromium	**12.6**	1.07		mg/kg dry	1	1526108	6/23/2015 12:30:00PM	7/3/2015 1:28:16AM
ICP_Pb		**SW 6010B**						**Analyst: RJE**
Lead	**7.09**	1.07		mg/kg dry	1	1526108	6/23/2015 12:30:00PM	7/3/2015 1:28:16AM
ICP_Se		**SW 6010B**						**Analyst: RJE**
Selenium	BDL	5.36		mg/kg dry	1	1526108	6/23/2015 12:30:00PM	7/3/2015 1:28:16AM
HG		**SW 7471A**						**Analyst: CW**
Mercury	BDL	0.120		mg/kg dry	1	1525141	6/17/2015 10:37:00AM	6/17/2015 1:43:00PM
VOC 8260_5035		**SW 8260B**						**Analyst: MLR**
1,1,1,2-Tetrachloroethane	BDL	0.118	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 7:29:00PM
1,1,1-Trichloroethane	BDL	0.118	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 7:29:00PM
1,1,2,2-Tetrachloroethane	BDL	0.118	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 7:29:00PM
1,1,2-Trichloroethane	BDL	0.118	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 7:29:00PM
1,1-Dichloroethane	BDL	0.118	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 7:29:00PM
1,1-Dichloroethene	BDL	0.118	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 7:29:00PM
1,1-Dichloropropene	BDL	0.118	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 7:29:00PM
1,2,3-Trichlorobenzene	BDL	0.118	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 7:29:00PM
1,2,3-Trichloropropane	BDL	0.118	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 7:29:00PM
1,2,4-Trichlorobenzene	BDL	0.118	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 7:29:00PM
1,2,4-Trimethylbenzene	BDL	0.118	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 7:29:00PM
1,2-Dibromo-3-chloropropane	BDL	0.236	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 7:29:00PM
1,2-Dibromoethane	BDL	0.118	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 7:29:00PM

CLIENT: Hull & Associates - Toledo Office **Lab Order:** 15F0709
Project: COT235 Champion Spark Plug

Lab ID: 15F0709-06 **Collection Date:** 6/9/2015 12:10:00PM
Client Sample ID: COT235:HSB-6:S000020 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Prepared	Date Analyzed
1,2-Dichlorobenzene	BDL	0.118	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 7:29:00PM
1,2-Dichloroethane	BDL	0.118	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 7:29:00PM
1,2-Dichloropropane	BDL	0.118	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 7:29:00PM
1,3,5-Trimethylbenzene	BDL	0.118	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 7:29:00PM
1,3-Dichlorobenzene	BDL	0.118	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 7:29:00PM
1,3-Dichloropropane	BDL	0.118	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 7:29:00PM
1,4-Dichlorobenzene	BDL	0.118	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 7:29:00PM
2,2-Dichloropropane	BDL	0.118	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 7:29:00PM
2-Butanone	BDL	0.472	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 7:29:00PM
2-Chlorotoluene	BDL	0.118	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 7:29:00PM
2-Hexanone	BDL	0.472	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 7:29:00PM
4-Chlorotoluene	BDL	0.118	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 7:29:00PM
4-Isopropyltoluene	BDL	0.118	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 7:29:00PM
4-Methyl-2-pentanone	BDL	0.472	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 7:29:00PM
Acetone	BDL	1.18	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 7:29:00PM
Acetonitrile	BDL	0.944	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 7:29:00PM
Acrolein	BDL	1.18	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 7:29:00PM
Acrylonitrile	BDL	0.472	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 7:29:00PM
Allyl chloride	BDL	0.236	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 7:29:00PM
Benzene	BDL	0.118	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 7:29:00PM
Bromobenzene	BDL	0.118	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 7:29:00PM
Bromochloromethane	BDL	0.118	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 7:29:00PM
Bromodichloromethane	BDL	0.118	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 7:29:00PM
Bromoform	BDL	0.118	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 7:29:00PM
Bromomethane	BDL	0.118	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 7:29:00PM
Carbon Disulfide	BDL	0.472	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 7:29:00PM
Carbon Tetrachloride	BDL	0.118	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 7:29:00PM
Chlorobenzene	BDL	0.118	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 7:29:00PM
Chloroethane	BDL	0.118	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 7:29:00PM
Chloroform	BDL	0.118	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 7:29:00PM
Chloromethane	BDL	0.118	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 7:29:00PM
cis-1,2-Dichloroethene	BDL	0.118	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 7:29:00PM
cis-1,3-Dichloropropene	BDL	0.118	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 7:29:00PM
Dibromochloromethane	BDL	0.118	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 7:29:00PM
Dibromomethane	BDL	0.118	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 7:29:00PM
Dichlorodifluoromethane	BDL	0.118	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 7:29:00PM
Ethylbenzene	BDL	0.118	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 7:29:00PM
Hexachlorobutadiene	BDL	0.118	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 7:29:00PM
Iodomethane	BDL	0.236	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 7:29:00PM
Isopropylbenzene	BDL	0.118	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 7:29:00PM
Methylene Chloride	BDL	0.118	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 7:29:00PM
Methyl tert-Butyl Ether	BDL	0.236	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 7:29:00PM
m,p-Xylene	BDL	0.236	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 7:29:00PM
Naphthalene	BDL	0.118	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 7:29:00PM

CLIENT: Hull & Associates - Toledo Office **Lab Order:** 15F0709
Project: COT235 Champion Spark Plug

Lab ID: 15F0709-06 **Collection Date:** 6/9/2015 12:10:00PM
Client Sample ID: COT235:HSB-6:S000020 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Prepared	Date Analyzed
n-Butylbenzene	BDL	0.118	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 7:29:00PM
n-Hexane	BDL	0.118	R-01	mg/kg dry	25	1526083	6/19/2015 1:03:00PM	6/19/2015 7:26:00PM
n-Propylbenzene	BDL	0.118	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 7:29:00PM
o-Xylene	BDL	0.118	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 7:29:00PM
sec-Butylbenzene	BDL	0.118	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 7:29:00PM
Styrene	BDL	0.118	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 7:29:00PM
tert_Butylbenzene	BDL	0.118	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 7:29:00PM
Tetrachloroethene	BDL	0.118	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 7:29:00PM
Toluene	BDL	0.118	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 7:29:00PM
trans-1,2-Dichloroethene	BDL	0.118	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 7:29:00PM
trans-1,3-Dichloropropene	BDL	0.118	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 7:29:00PM
Trichloroethene	BDL	0.118	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 7:29:00PM
Trichlorofluoromethane	BDL	0.118	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 7:29:00PM
Vinyl Chloride	BDL	0.118	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 7:29:00PM
Vinyl acetate	BDL	0.236	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 7:29:00PM
Surrogate: 4-Bromofluorobenzene	*99.1 %*			*62-129*		*1526083*	6/19/2015 1:03:00PM	6/19/2015 7:26:00PM
Surrogate: 4-Bromofluorobenzene	*100 %*			*62-129*		*1525265*	6/19/2015 12:50:00PM	6/19/2015 7:29:00PM
Surrogate: Dibromofluoromethane	*99.5 %*			*71-129*		*1525265*	6/19/2015 12:50:00PM	6/19/2015 7:29:00PM
Surrogate: Dibromofluoromethane	*101 %*			*71-129*		*1526083*	6/19/2015 1:03:00PM	6/19/2015 7:26:00PM
Surrogate: Toluene-d8	*101 %*			*74-124*		*1525265*	6/19/2015 12:50:00PM	6/19/2015 7:29:00PM
Surrogate: Toluene-d8	*105 %*			*74-124*		*1526083*	6/19/2015 1:03:00PM	6/19/2015 7:26:00PM
Surrogate: 1,2-Dichloroethane-d4	*106 %*			*70-127*		*1526083*	6/19/2015 1:03:00PM	6/19/2015 7:26:00PM
Surrogate: 1,2-Dichloroethane-d4	*93.2 %*			*70-127*		*1525265*	6/19/2015 12:50:00PM	6/19/2015 7:29:00PM
PMOIST	**D 2216**						**Analyst:**	**NL**
Percent Moisture	**16.7**			% by Weight	1	1526192	6/24/2015 5:00:00PM	6/24/2015 5:00:00PM

CLIENT: Hull & Associates - Toledo Office **Lab Order:** 15F0709
Project: COT235 Champion Spark Plug

Lab ID: 15F0709-07 **Collection Date:** 6/9/2015 11:05:00AM
Client Sample ID: COT235:HSB-7:S000020 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Prepared	Date Analyzed
TPH GRO		**SW 8015B**					**Analyst: MLR**	
Gasoline Range Organics, C6 - C12	BDL	5.36		mg/kg dry	1	1525157	6/17/2015 1:16:00PM	6/17/2015 6:05:00PM
Surrogate: Chlorobenzene-d5		*71.2 %*		*70-130*		*1525157*	6/17/2015 1:16:00PM	6/17/2015 6:05:00PM
ICP_Ag		**SW 6010B**					**Analyst: RJE**	
Silver	BDL	0.938		mg/kg dry	1	1527130	7/1/2015 1:54:00PM	7/2/2015 3:41:10AM
ICP_As		**SW 6010B**					**Analyst: RJE**	
Arsenic	**3.59**	1.07		mg/kg dry	1	1526108	6/23/2015 12:30:00PM	7/3/2015 1:34:46AM
ICP_Ba		**SW 6010B**					**Analyst: RJE**	
Barium	**196**	1.07		mg/kg dry	1	1526108	6/23/2015 12:30:00PM	7/3/2015 1:34:46AM
ICP_Cd		**SW 6010B**					**Analyst: RJE**	
Cadmium	BDL	0.533		mg/kg dry	1	1526108	6/23/2015 12:30:00PM	7/3/2015 1:34:46AM
ICP_Cr		**SW 6010B**					**Analyst: RJE**	
Chromium	**4.93**	1.07		mg/kg dry	1	1526108	6/23/2015 12:30:00PM	7/3/2015 1:34:46AM
ICP_Pb		**SW 6010B**					**Analyst: RJE**	
Lead	**11.4**	1.07		mg/kg dry	1	1526108	6/23/2015 12:30:00PM	7/3/2015 1:34:46AM
ICP_Se		**SW 6010B**					**Analyst: RJE**	
Selenium	BDL	5.33		mg/kg dry	1	1526108	6/23/2015 12:30:00PM	7/3/2015 1:34:46AM
HG		**SW 7471A**					**Analyst: CW**	
Mercury	BDL	0.107		mg/kg dry	1	1525141	6/17/2015 10:37:00AM	6/17/2015 1:43:00PM
VOC 8260_5035		**SW 8260B**					**Analyst: MLR**	
1,1,1,2-Tetrachloroethane	BDL	0.106	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:06:00PM
1,1,1-Trichloroethane	BDL	0.106	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:06:00PM
1,1,2,2-Tetrachloroethane	BDL	0.106	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:06:00PM
1,1,2-Trichloroethane	BDL	0.106	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:06:00PM
1,1-Dichloroethane	BDL	0.106	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:06:00PM
1,1-Dichloroethene	BDL	0.106	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:06:00PM
1,1-Dichloropropene	BDL	0.106	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:06:00PM
1,2,3-Trichlorobenzene	BDL	0.106	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:06:00PM
1,2,3-Trichloropropane	BDL	0.106	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:06:00PM
1,2,4-Trichlorobenzene	BDL	0.106	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:06:00PM
1,2,4-Trimethylbenzene	BDL	0.106	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:06:00PM
1,2-Dibromo-3-chloropropane	BDL	0.213	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:06:00PM
1,2-Dibromoethane	BDL	0.106	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:06:00PM

CLIENT: Hull & Associates - Toledo Office **Lab Order:** 15F0709
Project: COT235 Champion Spark Plug

Lab ID: 15F0709-07 **Collection Date:** 6/9/2015 11:05:00AM
Client Sample ID: COT235:HSB-7:S000020 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Prepared	Date Analyzed
1,2-Dichlorobenzene	BDL	0.106	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:06:00PM
1,2-Dichloroethane	BDL	0.106	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:06:00PM
1,2-Dichloropropane	BDL	0.106	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:06:00PM
1,3,5-Trimethylbenzene	BDL	0.106	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:06:00PM
1,3-Dichlorobenzene	BDL	0.106	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:06:00PM
1,3-Dichloropropane	BDL	0.106	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:06:00PM
1,4-Dichlorobenzene	BDL	0.106	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:06:00PM
2,2-Dichloropropane	BDL	0.106	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:06:00PM
2-Butanone	BDL	0.426	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:06:00PM
2-Chlorotoluene	BDL	0.106	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:06:00PM
2-Hexanone	BDL	0.426	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:06:00PM
4-Chlorotoluene	BDL	0.106	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:06:00PM
4-Isopropyltoluene	BDL	0.106	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:06:00PM
4-Methyl-2-pentanone	BDL	0.426	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:06:00PM
Acetone	BDL	1.06	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:06:00PM
Acetonitrile	BDL	0.851	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:06:00PM
Acrolein	BDL	1.06	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:06:00PM
Acrylonitrile	BDL	0.426	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:06:00PM
Allyl chloride	BDL	0.213	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:06:00PM
Benzene	BDL	0.106	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:06:00PM
Bromobenzene	BDL	0.106	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:06:00PM
Bromochloromethane	BDL	0.106	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:06:00PM
Bromodichloromethane	BDL	0.106	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:06:00PM
Bromoform	BDL	0.106	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:06:00PM
Bromomethane	BDL	0.106	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:06:00PM
Carbon Disulfide	BDL	0.426	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:06:00PM
Carbon Tetrachloride	BDL	0.106	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:06:00PM
Chlorobenzene	BDL	0.106	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:06:00PM
Chloroethane	BDL	0.106	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:06:00PM
Chloroform	BDL	0.106	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:06:00PM
Chloromethane	BDL	0.106	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:06:00PM
cis-1,2-Dichloroethene	BDL	0.106	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:06:00PM
cis-1,3-Dichloropropene	BDL	0.106	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:06:00PM
Dibromochloromethane	BDL	0.106	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:06:00PM
Dibromomethane	BDL	0.106	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:06:00PM
Dichlorodifluoromethane	BDL	0.106	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:06:00PM
Ethylbenzene	BDL	0.106	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:06:00PM
Hexachlorobutadiene	BDL	0.106	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:06:00PM
Iodomethane	BDL	0.213	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:06:00PM
Isopropylbenzene	BDL	0.106	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:06:00PM
Methylene Chloride	BDL	0.106	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:06:00PM
Methyl tert-Butyl Ether	BDL	0.213	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:06:00PM
m,p-Xylene	BDL	0.213	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:06:00PM
Naphthalene	BDL	0.106	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:06:00PM

CLIENT: Hull & Associates - Toledo Office
Project: COT235 Champion Spark Plug
Lab Order: 15F0709

Lab ID: 15F0709-07
Client Sample ID: COT235:HSB-7:S000020
Collection Date: 6/9/2015 11:05:00AM
Matrix: Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Prepared	Date Analyzed
n-Butylbenzene	BDL	0.106	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:06:00PM
n-Hexane	BDL	0.106	R-01	mg/kg dry	25	1526083	6/19/2015 1:03:00PM	6/19/2015 7:59:00PM
n-Propylbenzene	BDL	0.106	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:06:00PM
o-Xylene	BDL	0.106	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:06:00PM
sec-Butylbenzene	BDL	0.106	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:06:00PM
Styrene	BDL	0.106	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:06:00PM
tert_Butylbenzene	BDL	0.106	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:06:00PM
Tetrachloroethene	BDL	0.106	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:06:00PM
Toluene	BDL	0.106	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:06:00PM
trans-1,2-Dichloroethene	BDL	0.106	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:06:00PM
trans-1,3-Dichloropropene	BDL	0.106	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:06:00PM
Trichloroethene	BDL	0.106	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:06:00PM
Trichlorofluoromethane	BDL	0.106	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:06:00PM
Vinyl Chloride	BDL	0.106	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:06:00PM
Vinyl acetate	BDL	0.213	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:06:00PM
Surrogate: 4-Bromofluorobenzene	*99.8 %*			*62-129*		*1526083*	6/19/2015 1:03:00PM	6/19/2015 7:59:00PM
Surrogate: 4-Bromofluorobenzene	*101 %*			*62-129*		*1525265*	6/19/2015 12:50:00PM	6/19/2015 8:06:00PM
Surrogate: Dibromofluoromethane	*103 %*			*71-129*		*1525265*	6/19/2015 12:50:00PM	6/19/2015 8:06:00PM
Surrogate: Dibromofluoromethane	*101 %*			*71-129*		*1526083*	6/19/2015 1:03:00PM	6/19/2015 7:59:00PM
Surrogate: Toluene-d8	*105 %*			*74-124*		*1526083*	6/19/2015 1:03:00PM	6/19/2015 7:59:00PM
Surrogate: Toluene-d8	*102 %*			*74-124*		*1525265*	6/19/2015 12:50:00PM	6/19/2015 8:06:00PM
Surrogate: 1,2-Dichloroethane-d4	*104 %*			*70-127*		*1526083*	6/19/2015 1:03:00PM	6/19/2015 7:59:00PM
Surrogate: 1,2-Dichloroethane-d4	*97.4 %*			*70-127*		*1525265*	6/19/2015 12:50:00PM	6/19/2015 8:06:00PM
PMOIST	**D 2216**						**Analyst: NL**	
Percent Moisture	**8.10**			% by Weight	1	1526192	6/24/2015 5:00:00PM	6/24/2015 5:00:00PM

CLIENT: Hull & Associates - Toledo Office
Project: COT235 Champion Spark Plug
Lab Order: 15F0709

Lab ID: 15F0709-08
Client Sample ID: COT235:HSB-8:S080100
Collection Date: 6/8/2015 10:20:00AM
Matrix: Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Prepared	Date Analyzed
TPH GRO		**SW 8015B**					**Analyst: MLR**	
Gasoline Range Organics, C6 - C12	BDL	6.48		mg/kg dry	1	1525157	6/17/2015 1:16:00PM	6/17/2015 6:34:00PM
Surrogate: Chlorobenzene-d5	*59.5 %*		*C, S-04*	*70-130*		*1525157*	6/17/2015 1:16:00PM	6/17/2015 6:34:00PM
ICP_Ag		**SW 6010B**					**Analyst: RJE**	
Silver	BDL	1.25		mg/kg dry	1	1527130	7/1/2015 1:54:00PM	7/2/2015 3:46:11AM
ICP_As		**SW 6010B**					**Analyst: RJE**	
Arsenic	**9.31**	1.20		mg/kg dry	1	1526108	6/23/2015 12:30:00PM	7/3/2015 1:40:37AM
ICP_Ba		**SW 6010B**					**Analyst: RJE**	
Barium	**120**	1.20		mg/kg dry	1	1526108	6/23/2015 12:30:00PM	7/3/2015 1:40:37AM
ICP_Cd		**SW 6010B**					**Analyst: RJE**	
Cadmium	BDL	0.601		mg/kg dry	1	1526108	6/23/2015 12:30:00PM	7/3/2015 1:40:37AM
ICP_Cr		**SW 6010B**					**Analyst: RJE**	
Chromium	**26.1**	1.20		mg/kg dry	1	1526108	6/23/2015 12:30:00PM	7/3/2015 1:40:37AM
ICP_Pb		**SW 6010B**					**Analyst: RJE**	
Lead	**13.9**	1.20		mg/kg dry	1	1526108	6/23/2015 12:30:00PM	7/3/2015 1:40:37AM
ICP_Se		**SW 6010B**					**Analyst: RJE**	
Selenium	BDL	6.01		mg/kg dry	1	1526108	6/23/2015 12:30:00PM	7/3/2015 1:40:37AM
HG		**SW 7471A**					**Analyst: CW**	
Mercury	BDL	0.120		mg/kg dry	1	1525141	6/17/2015 10:37:00AM	6/17/2015 1:43:00PM
VOC 8260_5035		**SW 8260B**					**Analyst: MLR**	
1,1,1,2-Tetrachloroethane	BDL	0.141	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:03:00PM
1,1,1-Trichloroethane	BDL	0.141	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:03:00PM
1,1,2,2-Tetrachloroethane	BDL	0.141	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:03:00PM
1,1,2-Trichloroethane	BDL	0.141	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:03:00PM
1,1-Dichloroethane	BDL	0.141	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:03:00PM
1,1-Dichloroethene	BDL	0.141	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:03:00PM
1,1-Dichloropropene	BDL	0.141	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:03:00PM
1,2,3-Trichlorobenzene	BDL	0.141	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:03:00PM
1,2,3-Trichloropropane	BDL	0.141	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:03:00PM
1,2,4-Trichlorobenzene	BDL	0.141	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:03:00PM
1,2,4-Trimethylbenzene	BDL	0.141	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:03:00PM
1,2-Dibromo-3-chloropropane	BDL	0.281	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:03:00PM
1,2-Dibromoethane	BDL	0.141	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:03:00PM

CLIENT: Hull & Associates - Toledo Office **Lab Order:** 15F0709
Project: COT235 Champion Spark Plug

Lab ID: 15F0709-08 **Collection Date:** 6/8/2015 10:20:00AM
Client Sample ID: COT235:HSB-8:S080100 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Prepared	Date Analyzed
1,2-Dichlorobenzene	BDL	0.141	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:03:00PM
1,2-Dichloroethane	BDL	0.141	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:03:00PM
1,2-Dichloropropane	BDL	0.141	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:03:00PM
1,3,5-Trimethylbenzene	BDL	0.141	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:03:00PM
1,3-Dichlorobenzene	BDL	0.141	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:03:00PM
1,3-Dichloropropane	BDL	0.141	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:03:00PM
1,4-Dichlorobenzene	BDL	0.141	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:03:00PM
2,2-Dichloropropane	BDL	0.141	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:03:00PM
2-Butanone	BDL	0.562	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:03:00PM
2-Chlorotoluene	BDL	0.141	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:03:00PM
2-Hexanone	BDL	0.562	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:03:00PM
4-Chlorotoluene	BDL	0.141	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:03:00PM
4-Isopropyltoluene	BDL	0.141	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:03:00PM
4-Methyl-2-pentanone	BDL	0.562	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:03:00PM
Acetone	BDL	1.41	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:03:00PM
Acetonitrile	BDL	1.12	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:03:00PM
Acrolein	BDL	1.41	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:03:00PM
Acrylonitrile	BDL	0.562	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:03:00PM
Allyl chloride	BDL	0.281	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:03:00PM
Benzene	BDL	0.141	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:03:00PM
Bromobenzene	BDL	0.141	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:03:00PM
Bromochloromethane	BDL	0.141	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:03:00PM
Bromodichloromethane	BDL	0.141	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:03:00PM
Bromoform	BDL	0.141	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:03:00PM
Bromomethane	BDL	0.141	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:03:00PM
Carbon Disulfide	BDL	0.562	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:03:00PM
Carbon Tetrachloride	BDL	0.141	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:03:00PM
Chlorobenzene	BDL	0.141	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:03:00PM
Chloroethane	BDL	0.141	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:03:00PM
Chloroform	BDL	0.141	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:03:00PM
Chloromethane	BDL	0.141	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:03:00PM
cis-1,2-Dichloroethene	BDL	0.141	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:03:00PM
cis-1,3-Dichloropropene	BDL	0.141	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:03:00PM
Dibromochloromethane	BDL	0.141	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:03:00PM
Dibromomethane	BDL	0.141	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:03:00PM
Dichlorodifluoromethane	BDL	0.141	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:03:00PM
Ethylbenzene	BDL	0.141	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:03:00PM
Hexachlorobutadiene	BDL	0.141	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:03:00PM
Iodomethane	BDL	0.281	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:03:00PM
Isopropylbenzene	BDL	0.141	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:03:00PM
Methylene Chloride	BDL	0.141	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:03:00PM
Methyl tert-Butyl Ether	BDL	0.281	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:03:00PM
m,p-Xylene	BDL	0.281	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:03:00PM
Naphthalene	BDL	0.141	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:03:00PM

CLIENT: Hull & Associates - Toledo Office **Lab Order:** 15F0709
Project: COT235 Champion Spark Plug

Lab ID: 15F0709-08 **Collection Date:** 6/8/2015 10:20:00AM
Client Sample ID: COT235:HSB-8:S080100 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Prepared	Date Analyzed
n-Butylbenzene	BDL	0.141	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:03:00PM
n-Hexane	BDL	0.141	R-01	mg/kg dry	25	1526083	6/19/2015 1:03:00PM	6/19/2015 4:02:00PM
n-Propylbenzene	BDL	0.141	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:03:00PM
o-Xylene	BDL	0.141	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:03:00PM
sec-Butylbenzene	BDL	0.141	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:03:00PM
Styrene	BDL	0.141	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:03:00PM
tert_Butylbenzene	BDL	0.141	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:03:00PM
Tetrachloroethene	BDL	0.141	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:03:00PM
Toluene	BDL	0.141	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:03:00PM
trans-1,2-Dichloroethene	BDL	0.141	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:03:00PM
trans-1,3-Dichloropropene	BDL	0.141	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:03:00PM
Trichloroethene	BDL	0.141	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:03:00PM
Trichlorofluoromethane	BDL	0.141	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:03:00PM
Vinyl Chloride	BDL	0.141	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:03:00PM
Vinyl acetate	BDL	0.281	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:03:00PM
Surrogate: 4-Bromofluorobenzene	*101 %*			*62-129*		*1526083*	6/19/2015 1:03:00PM	6/19/2015 4:02:00PM
Surrogate: 4-Bromofluorobenzene	*98.7 %*			*62-129*		*1525265*	6/19/2015 12:50:00PM	6/19/2015 4:03:00PM
Surrogate: Dibromofluoromethane	*98.5 %*			*71-129*		*1525265*	6/19/2015 12:50:00PM	6/19/2015 4:03:00PM
Surrogate: Dibromofluoromethane	*102 %*			*71-129*		*1526083*	6/19/2015 1:03:00PM	6/19/2015 4:02:00PM
Surrogate: Toluene-d8	*106 %*			*74-124*		*1526083*	6/19/2015 1:03:00PM	6/19/2015 4:02:00PM
Surrogate: Toluene-d8	*100 %*			*74-124*		*1525265*	6/19/2015 12:50:00PM	6/19/2015 4:03:00PM
Surrogate: 1,2-Dichloroethane-d4	*106 %*			*70-127*		*1526083*	6/19/2015 1:03:00PM	6/19/2015 4:02:00PM
Surrogate: 1,2-Dichloroethane-d4	*93.9 %*			*70-127*		*1525265*	6/19/2015 12:50:00PM	6/19/2015 4:03:00PM
PMOIST	**D 2216**						**Analyst:**	**NL**
Percent Moisture	**24.4**			% by Weight	1	1526192	6/24/2015 5:00:00PM	6/24/2015 5:00:00PM

CLIENT: Hull & Associates - Toledo Office
Project: COT235 Champion Spark Plug
Lab Order: 15F0709

Lab ID: 15F0709-09
Client Sample ID: COT235:HSB-9:S060080
Collection Date: 6/8/2015 1:25:00PM
Matrix: Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Prepared	Date Analyzed
TPH GRO		**SW 8015B**					**Analyst: MLR**	
Gasoline Range Organics, C6 - C12	**6.96**	6.34		mg/kg dry	1	1525157	6/17/2015 1:16:00PM	6/17/2015 7:02:00PM
Surrogate: Chlorobenzene-d5		*56.5 %*	*C, S-04*	*70-130*		*1525157*	6/17/2015 1:16:00PM	6/17/2015 7:02:00PM
ICP_Ag		**SW 6010B**					**Analyst: RJE**	
Silver	BDL	1.07		mg/kg dry	1	1527130	7/1/2015 1:54:00PM	7/2/2015 3:51:55AM
ICP_As		**SW 6010B**					**Analyst: RJE**	
Arsenic	**3.98**	1.24		mg/kg dry	1	1526108	6/23/2015 12:30:00PM	7/3/2015 1:47:36AM
ICP_Ba		**SW 6010B**					**Analyst: RJE**	
Barium	**93.9**	1.24		mg/kg dry	1	1526108	6/23/2015 12:30:00PM	7/3/2015 1:47:36AM
ICP_Cd		**SW 6010B**					**Analyst: RJE**	
Cadmium	BDL	0.620		mg/kg dry	1	1526108	6/23/2015 12:30:00PM	7/3/2015 1:47:36AM
ICP_Cr		**SW 6010B**					**Analyst: RJE**	
Chromium	**18.4**	1.24		mg/kg dry	1	1526108	6/23/2015 12:30:00PM	7/3/2015 1:47:36AM
ICP_Pb		**SW 6010B**					**Analyst: RJE**	
Lead	**8.43**	1.24		mg/kg dry	1	1526108	6/23/2015 12:30:00PM	7/3/2015 1:47:36AM
ICP_Se		**SW 6010B**					**Analyst: RJE**	
Selenium	BDL	6.20		mg/kg dry	1	1526108	6/23/2015 12:30:00PM	7/3/2015 1:47:36AM
HG		**SW 7471A**					**Analyst: CW**	
Mercury	BDL	0.121		mg/kg dry	1	1525141	6/17/2015 10:37:00AM	6/17/2015 1:43:00PM
VOC 8260_5035		**SW 8260B**					**Analyst: MLR**	
1,1,1,2-Tetrachloroethane	BDL	0.141	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:37:00PM
1,1,1-Trichloroethane	BDL	0.141	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:37:00PM
1,1,2,2-Tetrachloroethane	BDL	0.141	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:37:00PM
1,1,2-Trichloroethane	BDL	0.141	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:37:00PM
1,1-Dichloroethane	BDL	0.141	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:37:00PM
1,1-Dichloroethene	BDL	0.141	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:37:00PM
1,1-Dichloropropene	BDL	0.141	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:37:00PM
1,2,3-Trichlorobenzene	BDL	0.141	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:37:00PM
1,2,3-Trichloropropane	BDL	0.141	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:37:00PM
1,2,4-Trichlorobenzene	BDL	0.141	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:37:00PM
1,2,4-Trimethylbenzene	**0.341**	0.141	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:37:00PM
1,2-Dibromo-3-chloropropane	BDL	0.282	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:37:00PM
1,2-Dibromoethane	BDL	0.141	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:37:00PM

CLIENT: Hull & Associates - Toledo Office **Lab Order:** 15F0709
Project: COT235 Champion Spark Plug

Lab ID: 15F0709-09 **Collection Date:** 6/8/2015 1:25:00PM
Client Sample ID: COT235:HSB-9:S060080 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Prepared	Date Analyzed
1,2-Dichlorobenzene	BDL	0.141	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:37:00PM
1,2-Dichloroethane	BDL	0.141	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:37:00PM
1,2-Dichloropropane	BDL	0.141	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:37:00PM
1,3,5-Trimethylbenzene	BDL	0.141	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:37:00PM
1,3-Dichlorobenzene	BDL	0.141	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:37:00PM
1,3-Dichloropropane	BDL	0.141	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:37:00PM
1,4-Dichlorobenzene	BDL	0.141	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:37:00PM
2,2-Dichloropropane	BDL	0.141	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:37:00PM
2-Butanone	**1.98**	0.563	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:37:00PM
2-Chlorotoluene	BDL	0.141	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:37:00PM
2-Hexanone	BDL	0.563	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:37:00PM
4-Chlorotoluene	BDL	0.141	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:37:00PM
4-Isopropyltoluene	**0.181**	0.141	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:37:00PM
4-Methyl-2-pentanone	BDL	0.563	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:37:00PM
Acetone	BDL	1.41	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:37:00PM
Acetonitrile	BDL	1.13	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:37:00PM
Acrolein	**3.23**	1.41	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:37:00PM
Acrylonitrile	BDL	0.563	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:37:00PM
Allyl chloride	BDL	0.282	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:37:00PM
Benzene	**3.51**	0.141	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:37:00PM
Bromobenzene	BDL	0.141	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:37:00PM
Bromochloromethane	BDL	0.141	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:37:00PM
Bromodichloromethane	BDL	0.141	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:37:00PM
Bromoform	BDL	0.141	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:37:00PM
Bromomethane	BDL	0.141	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:37:00PM
Carbon Disulfide	BDL	0.563	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:37:00PM
Carbon Tetrachloride	BDL	0.141	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:37:00PM
Chlorobenzene	BDL	0.141	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:37:00PM
Chloroethane	BDL	0.141	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:37:00PM
Chloroform	BDL	0.141	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:37:00PM
Chloromethane	BDL	0.141	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:37:00PM
cis-1,2-Dichloroethene	BDL	0.141	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:37:00PM
cis-1,3-Dichloropropene	BDL	0.141	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:37:00PM
Dibromochloromethane	BDL	0.141	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:37:00PM
Dibromomethane	BDL	0.141	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:37:00PM
Dichlorodifluoromethane	BDL	0.141	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:37:00PM
Ethylbenzene	**1.08**	0.141	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:37:00PM
Hexachlorobutadiene	BDL	0.141	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:37:00PM
Iodomethane	BDL	0.282	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:37:00PM
Isopropylbenzene	**0.892**	0.141	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:37:00PM
Methylene Chloride	BDL	0.141	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:37:00PM
Methyl tert-Butyl Ether	BDL	0.282	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:37:00PM
m,p-Xylene	**0.463**	0.282	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:37:00PM

CLIENT: Hull & Associates - Toledo Office
Project: COT235 Champion Spark Plug
Lab Order: 15F0709

Lab ID: 15F0709-09
Client Sample ID: COT235:HSB-9:S060080
Collection Date: 6/8/2015 1:25:00PM
Matrix: Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Prepared	Date Analyzed
Naphthalene	**1.36**	0.141	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:37:00PM
n-Butylbenzene	**2.06**	0.141	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:37:00PM
n-Hexane	**2.50**	0.141	R-06	mg/kg dry	25	1526083	6/19/2015 1:03:00PM	6/19/2015 4:36:00PM
n-Propylbenzene	**4.18**	0.141	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:37:00PM
o-Xylene	BDL	0.141	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:37:00PM
sec-Butylbenzene	**0.900**	0.141	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:37:00PM
Styrene	BDL	0.141	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:37:00PM
tert_Butylbenzene	BDL	0.141	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:37:00PM
Tetrachloroethene	BDL	0.141	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:37:00PM
Toluene	BDL	0.141	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:37:00PM
trans-1,2-Dichloroethene	BDL	0.141	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:37:00PM
trans-1,3-Dichloropropene	BDL	0.141	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:37:00PM
Trichloroethene	BDL	0.141	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:37:00PM
Trichlorofluoromethane	BDL	0.141	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:37:00PM
Vinyl Chloride	BDL	0.141	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:37:00PM
Vinyl acetate	BDL	0.282	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 4:37:00PM
Surrogate: 4-Bromofluorobenzene	*103 %*			*62-129*		*1526083*	6/19/2015 1:03:00PM	6/19/2015 4:36:00PM
Surrogate: 4-Bromofluorobenzene	*99.6 %*			*62-129*		*1525265*	6/19/2015 12:50:00PM	6/19/2015 4:37:00PM
Surrogate: Dibromofluoromethane	*95.0 %*			*71-129*		*1525265*	6/19/2015 12:50:00PM	6/19/2015 4:37:00PM
Surrogate: Dibromofluoromethane	*97.2 %*			*71-129*		*1526083*	6/19/2015 1:03:00PM	6/19/2015 4:36:00PM
Surrogate: Toluene-d8	*98.9 %*			*74-124*		*1526083*	6/19/2015 1:03:00PM	6/19/2015 4:36:00PM
Surrogate: Toluene-d8	*95.0 %*			*74-124*		*1525265*	6/19/2015 12:50:00PM	6/19/2015 4:37:00PM
Surrogate: 1,2-Dichloroethane-d4	*101 %*			*70-127*		*1526083*	6/19/2015 1:03:00PM	6/19/2015 4:36:00PM
Surrogate: 1,2-Dichloroethane-d4	*90.1 %*			*70-127*		*1525265*	6/19/2015 12:50:00PM	6/19/2015 4:37:00PM
PMOIST	**D 2216**						**Analyst: NL**	
Percent Moisture	**22.4**			% by Weight	1	1526192	6/24/2015 5:00:00PM	6/24/2015 5:00:00PM

CLIENT: Hull & Associates - Toledo Office
Project: COT235 Champion Spark Plug
Lab Order: 15F0709

Lab ID: 15F0709-10
Client Sample ID: COT235:HSB-10:S000020
Collection Date: 6/8/2015 3:10:00PM
Matrix: Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Prepared	Date Analyzed
TPH GRO		**SW 8015B**					**Analyst: MLR**	
Gasoline Range Organics, C6 - C12	BDL	6.23		mg/kg dry	1	1525157	6/17/2015 1:16:00PM	6/17/2015 7:30:00PM
Surrogate: Chlorobenzene-d5		*63.2 %*	*C, S-04*	*70-130*		*1525157*	6/17/2015 1:16:00PM	6/17/2015 7:30:00PM
ICP_Ag		**SW 6010B**					**Analyst: RJE**	
Silver	**1.65**	1.07		mg/kg dry	1	1527130	7/1/2015 1:54:00PM	7/2/2015 3:57:57AM
ICP_As		**SW 6010B**					**Analyst: RJE**	
Arsenic	**18.8**	1.17		mg/kg dry	1	1526108	6/23/2015 12:30:00PM	7/3/2015 1:55:00AM
ICP_Ba		**SW 6010B**					**Analyst: RJE**	
Barium	**115**	1.17		mg/kg dry	1	1526108	6/23/2015 12:30:00PM	7/3/2015 1:55:00AM
ICP_Cd		**SW 6010B**					**Analyst: RJE**	
Cadmium	BDL	0.587		mg/kg dry	1	1526108	6/23/2015 12:30:00PM	7/3/2015 1:55:00AM
ICP_Cr		**SW 6010B**					**Analyst: RJE**	
Chromium	**26.8**	1.17		mg/kg dry	1	1526108	6/23/2015 12:30:00PM	7/3/2015 1:55:00AM
ICP_Pb		**SW 6010B**					**Analyst: RJE**	
Lead	**16.8**	1.17		mg/kg dry	1	1526108	6/23/2015 12:30:00PM	7/3/2015 1:55:00AM
ICP_Se		**SW 6010B**					**Analyst: RJE**	
Selenium	BDL	5.87		mg/kg dry	1	1526108	6/23/2015 12:30:00PM	7/3/2015 1:55:00AM
HG		**SW 7471A**					**Analyst: CW**	
Mercury	BDL	0.110		mg/kg dry	1	1525141	6/17/2015 10:37:00AM	6/17/2015 1:43:00PM
VOC 8260_5035		**SW 8260B**					**Analyst: MLR**	
1,1,1,2-Tetrachloroethane	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:11:00PM
1,1,1-Trichloroethane	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:11:00PM
1,1,2,2-Tetrachloroethane	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:11:00PM
1,1,2-Trichloroethane	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:11:00PM
1,1-Dichloroethane	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:11:00PM
1,1-Dichloroethene	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:11:00PM
1,1-Dichloropropene	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:11:00PM
1,2,3-Trichlorobenzene	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:11:00PM
1,2,3-Trichloropropane	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:11:00PM
1,2,4-Trichlorobenzene	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:11:00PM
1,2,4-Trimethylbenzene	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:11:00PM
1,2-Dibromo-3-chloropropane	BDL	0.242	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:11:00PM
1,2-Dibromoethane	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:11:00PM

CLIENT: Hull & Associates - Toledo Office **Lab Order:** 15F0709
Project: COT235 Champion Spark Plug

Lab ID: 15F0709-10 **Collection Date:** 6/8/2015 3:10:00PM
Client Sample ID: COT235:HSB-10:S000020 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Prepared	Date Analyzed
1,2-Dichlorobenzene	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:11:00PM
1,2-Dichloroethane	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:11:00PM
1,2-Dichloropropane	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:11:00PM
1,3,5-Trimethylbenzene	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:11:00PM
1,3-Dichlorobenzene	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:11:00PM
1,3-Dichloropropane	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:11:00PM
1,4-Dichlorobenzene	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:11:00PM
2,2-Dichloropropane	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:11:00PM
2-Butanone	BDL	0.483	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:11:00PM
2-Chlorotoluene	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:11:00PM
2-Hexanone	BDL	0.483	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:11:00PM
4-Chlorotoluene	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:11:00PM
4-Isopropyltoluene	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:11:00PM
4-Methyl-2-pentanone	BDL	0.483	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:11:00PM
Acetone	BDL	1.21	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:11:00PM
Acetonitrile	BDL	0.966	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:11:00PM
Acrolein	BDL	1.21	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:11:00PM
Acrylonitrile	BDL	0.483	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:11:00PM
Allyl chloride	BDL	0.242	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:11:00PM
Benzene	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:11:00PM
Bromobenzene	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:11:00PM
Bromochloromethane	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:11:00PM
Bromodichloromethane	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:11:00PM
Bromoform	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:11:00PM
Bromomethane	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:11:00PM
Carbon Disulfide	BDL	0.483	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:11:00PM
Carbon Tetrachloride	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:11:00PM
Chlorobenzene	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:11:00PM
Chloroethane	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:11:00PM
Chloroform	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:11:00PM
Chloromethane	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:11:00PM
cis-1,2-Dichloroethene	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:11:00PM
cis-1,3-Dichloropropene	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:11:00PM
Dibromochloromethane	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:11:00PM
Dibromomethane	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:11:00PM
Dichlorodifluoromethane	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:11:00PM
Ethylbenzene	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:11:00PM
Hexachlorobutadiene	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:11:00PM
Iodomethane	BDL	0.242	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:11:00PM
Isopropylbenzene	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:11:00PM
Methylene Chloride	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:11:00PM
Methyl tert-Butyl Ether	BDL	0.242	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:11:00PM
m,p-Xylene	BDL	0.242	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:11:00PM
Naphthalene	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:11:00PM

CLIENT: Hull & Associates - Toledo Office
Project: COT235 Champion Spark Plug
Lab Order: 15F0709

Lab ID: 15F0709-10
Client Sample ID: COT235:HSB-10:S000020
Collection Date: 6/8/2015 3:10:00PM
Matrix: Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Prepared	Date Analyzed
n-Butylbenzene	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:11:00PM
n-Hexane	BDL	0.121	R-01	mg/kg dry	25	1526083	6/19/2015 1:03:00PM	6/19/2015 5:10:00PM
n-Propylbenzene	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:11:00PM
o-Xylene	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:11:00PM
sec-Butylbenzene	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:11:00PM
Styrene	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:11:00PM
tert_Butylbenzene	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:11:00PM
Tetrachloroethene	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:11:00PM
Toluene	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:11:00PM
trans-1,2-Dichloroethene	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:11:00PM
trans-1,3-Dichloropropene	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:11:00PM
Trichloroethene	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:11:00PM
Trichlorofluoromethane	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:11:00PM
Vinyl Chloride	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:11:00PM
Vinyl acetate	BDL	0.242	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:11:00PM
Surrogate: 4-Bromofluorobenzene	*101 %*			*62-129*		*1526083*	6/19/2015 1:03:00PM	6/19/2015 5:10:00PM
Surrogate: 4-Bromofluorobenzene	*101 %*			*62-129*		*1525265*	6/19/2015 12:50:00PM	6/19/2015 5:11:00PM
Surrogate: Dibromofluoromethane	*101 %*			*71-129*		*1525265*	6/19/2015 12:50:00PM	6/19/2015 5:11:00PM
Surrogate: Dibromofluoromethane	*99.6 %*			*71-129*		*1526083*	6/19/2015 1:03:00PM	6/19/2015 5:10:00PM
Surrogate: Toluene-d8	*104 %*			*74-124*		*1526083*	6/19/2015 1:03:00PM	6/19/2015 5:10:00PM
Surrogate: Toluene-d8	*102 %*			*74-124*		*1525265*	6/19/2015 12:50:00PM	6/19/2015 5:11:00PM
Surrogate: 1,2-Dichloroethane-d4	*101 %*			*70-127*		*1526083*	6/19/2015 1:03:00PM	6/19/2015 5:10:00PM
Surrogate: 1,2-Dichloroethane-d4	*96.6 %*			*70-127*		*1525265*	6/19/2015 12:50:00PM	6/19/2015 5:11:00PM
PMOIST	**D 2216**						**Analyst: NL**	
Percent Moisture	**21.1**			% by Weight	1	1526192	6/24/2015 5:00:00PM	6/24/2015 5:00:00PM

CLIENT: Hull & Associates - Toledo Office
Project: COT235 Champion Spark Plug
Lab Order: 15F0709

Lab ID: 15F0709-11
Client Sample ID: COT235:HSB-11:S000020
Collection Date: 6/9/2015 4:25:00PM
Matrix: Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Prepared	Date Analyzed
TPH GRO		**SW 8015B**						**Analyst: MLR**
Gasoline Range Organics, C6 - C12	BDL	6.17		mg/kg dry	1	1525239	6/19/2015 11:00:00AM	6/19/2015 12:12:00PM
Surrogate: Chlorobenzene-d5		*79.5 %*		*70-130*		*1525239*	6/19/2015 11:00:00AM	6/19/2015 12:12:00PM
ICP_Ag		**SW 6010B**						**Analyst: RJE**
Silver	BDL	1.21		mg/kg dry	1	1527130	7/1/2015 1:54:00PM	7/2/2015 4:04:35AM
ICP_As		**SW 6010B**						**Analyst: RJE**
Arsenic	**7.59**	1.21		mg/kg dry	1	1526108	6/23/2015 12:30:00PM	7/3/2015 2:02:59AM
ICP_Ba		**SW 6010B**						**Analyst: RJE**
Barium	**117**	1.21		mg/kg dry	1	1526108	6/23/2015 12:30:00PM	7/3/2015 2:02:59AM
ICP_Cd		**SW 6010B**						**Analyst: RJE**
Cadmium	BDL	0.606		mg/kg dry	1	1526108	6/23/2015 12:30:00PM	7/3/2015 2:02:59AM
ICP_Cr		**SW 6010B**						**Analyst: RJE**
Chromium	**23.6**	1.21		mg/kg dry	1	1526108	6/23/2015 12:30:00PM	7/3/2015 2:02:59AM
ICP_Pb		**SW 6010B**						**Analyst: RJE**
Lead	**12.4**	1.21		mg/kg dry	1	1526108	6/23/2015 12:30:00PM	7/3/2015 2:02:59AM
ICP_Se		**SW 6010B**						**Analyst: RJE**
Selenium	BDL	6.06		mg/kg dry	1	1526108	6/23/2015 12:30:00PM	7/3/2015 2:02:59AM
HG		**SW 7471A**						**Analyst: CW**
Mercury	BDL	0.110		mg/kg dry	1	1525141	6/17/2015 10:37:00AM	6/17/2015 1:43:00PM
VOC 8260_5035		**SW 8260B**						**Analyst: MLR**
1,1,1,2-Tetrachloroethane	BDL	0.123	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:41:00PM
1,1,1-Trichloroethane	BDL	0.123	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:41:00PM
1,1,2,2-Tetrachloroethane	BDL	0.123	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:41:00PM
1,1,2-Trichloroethane	BDL	0.123	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:41:00PM
1,1-Dichloroethane	BDL	0.123	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:41:00PM
1,1-Dichloroethene	BDL	0.123	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:41:00PM
1,1-Dichloropropene	BDL	0.123	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:41:00PM
1,2,3-Trichlorobenzene	BDL	0.123	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:41:00PM
1,2,3-Trichloropropane	BDL	0.123	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:41:00PM
1,2,4-Trichlorobenzene	BDL	0.123	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:41:00PM
1,2,4-Trimethylbenzene	BDL	0.123	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:41:00PM
1,2-Dibromo-3-chloropropane	BDL	0.246	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:41:00PM
1,2-Dibromoethane	BDL	0.123	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:41:00PM

CLIENT: Hull & Associates - Toledo Office **Lab Order:** 15F0709
Project: COT235 Champion Spark Plug

Lab ID: 15F0709-11 **Collection Date:** 6/9/2015 4:25:00PM
Client Sample ID: COT235:HSB-11:S000020 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Prepared	Date Analyzed
1,2-Dichlorobenzene	BDL	0.123	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:41:00PM
1,2-Dichloroethane	BDL	0.123	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:41:00PM
1,2-Dichloropropane	BDL	0.123	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:41:00PM
1,3,5-Trimethylbenzene	BDL	0.123	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:41:00PM
1,3-Dichlorobenzene	BDL	0.123	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:41:00PM
1,3-Dichloropropane	BDL	0.123	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:41:00PM
1,4-Dichlorobenzene	BDL	0.123	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:41:00PM
2,2-Dichloropropane	BDL	0.123	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:41:00PM
2-Butanone	BDL	0.492	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:41:00PM
2-Chlorotoluene	BDL	0.123	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:41:00PM
2-Hexanone	BDL	0.492	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:41:00PM
4-Chlorotoluene	BDL	0.123	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:41:00PM
4-Isopropyltoluene	BDL	0.123	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:41:00PM
4-Methyl-2-pentanone	BDL	0.492	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:41:00PM
Acetone	BDL	1.23	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:41:00PM
Acetonitrile	BDL	0.984	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:41:00PM
Acrolein	BDL	1.23	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:41:00PM
Acrylonitrile	BDL	0.492	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:41:00PM
Allyl chloride	BDL	0.246	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:41:00PM
Benzene	BDL	0.123	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:41:00PM
Bromobenzene	BDL	0.123	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:41:00PM
Bromochloromethane	BDL	0.123	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:41:00PM
Bromodichloromethane	BDL	0.123	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:41:00PM
Bromoform	BDL	0.123	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:41:00PM
Bromomethane	BDL	0.123	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:41:00PM
Carbon Disulfide	BDL	0.492	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:41:00PM
Carbon Tetrachloride	BDL	0.123	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:41:00PM
Chlorobenzene	BDL	0.123	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:41:00PM
Chloroethane	BDL	0.123	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:41:00PM
Chloroform	BDL	0.123	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:41:00PM
Chloromethane	BDL	0.123	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:41:00PM
cis-1,2-Dichloroethene	BDL	0.123	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:41:00PM
cis-1,3-Dichloropropene	BDL	0.123	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:41:00PM
Dibromochloromethane	BDL	0.123	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:41:00PM
Dibromomethane	BDL	0.123	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:41:00PM
Dichlorodifluoromethane	BDL	0.123	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:41:00PM
Ethylbenzene	BDL	0.123	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:41:00PM
Hexachlorobutadiene	BDL	0.123	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:41:00PM
Iodomethane	BDL	0.246	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:41:00PM
Isopropylbenzene	BDL	0.123	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:41:00PM
Methylene Chloride	BDL	0.123	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:41:00PM
Methyl tert-Butyl Ether	BDL	0.246	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:41:00PM
m,p-Xylene	BDL	0.246	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:41:00PM
Naphthalene	BDL	0.123	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:41:00PM

CLIENT: Hull & Associates - Toledo Office **Lab Order:** 15F0709
Project: COT235 Champion Spark Plug

Lab ID: 15F0709-11 **Collection Date:** 6/9/2015 4:25:00PM
Client Sample ID: COT235:HSB-11:S000020 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Prepared	Date Analyzed
n-Butylbenzene	BDL	0.123	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:41:00PM
n-Hexane	BDL	0.123	R-01	mg/kg dry	25	1526083	6/19/2015 1:03:00PM	6/19/2015 8:33:00PM
n-Propylbenzene	BDL	0.123	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:41:00PM
o-Xylene	BDL	0.123	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:41:00PM
sec-Butylbenzene	BDL	0.123	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:41:00PM
Styrene	BDL	0.123	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:41:00PM
tert_Butylbenzene	BDL	0.123	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:41:00PM
Tetrachloroethene	BDL	0.123	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:41:00PM
Toluene	BDL	0.123	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:41:00PM
trans-1,2-Dichloroethene	BDL	0.123	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:41:00PM
trans-1,3-Dichloropropene	BDL	0.123	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:41:00PM
Trichloroethene	BDL	0.123	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:41:00PM
Trichlorofluoromethane	BDL	0.123	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:41:00PM
Vinyl Chloride	BDL	0.123	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:41:00PM
Vinyl acetate	BDL	0.246	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 8:41:00PM
Surrogate: 4-Bromofluorobenzene	*101 %*			*62-129*		*1526083*	6/19/2015 1:03:00PM	6/19/2015 8:33:00PM
Surrogate: 4-Bromofluorobenzene	*99.0 %*			*62-129*		*1525265*	6/19/2015 12:50:00PM	6/19/2015 8:41:00PM
Surrogate: Dibromofluoromethane	*101 %*			*71-129*		*1526083*	6/19/2015 1:03:00PM	6/19/2015 8:33:00PM
Surrogate: Dibromofluoromethane	*101 %*			*71-129*		*1525265*	6/19/2015 12:50:00PM	6/19/2015 8:41:00PM
Surrogate: Toluene-d8	*101 %*			*74-124*		*1525265*	6/19/2015 12:50:00PM	6/19/2015 8:41:00PM
Surrogate: Toluene-d8	*105 %*			*74-124*		*1526083*	6/19/2015 1:03:00PM	6/19/2015 8:33:00PM
Surrogate: 1,2-Dichloroethane-d4	*93.5 %*			*70-127*		*1525265*	6/19/2015 12:50:00PM	6/19/2015 8:41:00PM
Surrogate: 1,2-Dichloroethane-d4	*103 %*			*70-127*		*1526083*	6/19/2015 1:03:00PM	6/19/2015 8:33:00PM
PMOIST	**D 2216**						**Analyst:**	**NL**
Percent Moisture	**20.6**			% by Weight	1	1526198	6/24/2015 5:00:00PM	6/24/2015 5:00:00PM

CLIENT: Hull & Associates - Toledo Office
Project: COT235 Champion Spark Plug
Lab Order: 15F0709

Lab ID: 15F0709-12
Client Sample ID: COT235:HSB-12:S000020
Collection Date: 6/8/2015 4:05:00PM
Matrix: Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Prepared	Date Analyzed
TPH GRO		**SW 8015B**					**Analyst: MLR**	
Gasoline Range Organics, C6 - C12	BDL	5.92		mg/kg dry	1	1525239	6/19/2015 11:00:00AM	6/19/2015 5:31:00PM
Surrogate: Chlorobenzene-d5		*91.8 %*		*70-130*		*1525239*	6/19/2015 11:00:00AM	6/19/2015 5:31:00PM
ICP_Ag		**SW 6010B**					**Analyst: RJE**	
Silver	**1.49**	1.17		mg/kg dry	1	1527130	7/1/2015 1:54:00PM	7/2/2015 4:10:14AM
ICP_As		**SW 6010B**					**Analyst: RJE**	
Arsenic	**17.2**	1.05		mg/kg dry	1	1526108	6/23/2015 12:30:00PM	7/3/2015 2:23:15AM
ICP_Ba		**SW 6010B**					**Analyst: RJE**	
Barium	**219**	1.05		mg/kg dry	1	1526108	6/23/2015 12:30:00PM	7/3/2015 2:23:15AM
ICP_Cd		**SW 6010B**					**Analyst: RJE**	
Cadmium	BDL	0.524		mg/kg dry	1	1526108	6/23/2015 12:30:00PM	7/3/2015 2:23:15AM
ICP_Cr		**SW 6010B**					**Analyst: RJE**	
Chromium	**19.7**	1.05		mg/kg dry	1	1526108	6/23/2015 12:30:00PM	7/3/2015 2:23:15AM
ICP_Pb		**SW 6010B**					**Analyst: RJE**	
Lead	**20.7**	1.05		mg/kg dry	1	1526108	6/23/2015 12:30:00PM	7/3/2015 2:23:15AM
ICP_Se		**SW 6010B**					**Analyst: RJE**	
Selenium	BDL	5.24		mg/kg dry	1	1526108	6/23/2015 12:30:00PM	7/3/2015 2:23:15AM
HG		**SW 7471A**					**Analyst: CW**	
Mercury	BDL	0.121		mg/kg dry	1	1525141	6/17/2015 10:37:00AM	6/17/2015 1:43:00PM
VOC 8260_5035		**SW 8260B**					**Analyst: MLR**	
1,1,1,2-Tetrachloroethane	BDL	0.107	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:45:00PM
1,1,1-Trichloroethane	BDL	0.107	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:45:00PM
1,1,2,2-Tetrachloroethane	BDL	0.107	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:45:00PM
1,1,2-Trichloroethane	BDL	0.107	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:45:00PM
1,1-Dichloroethane	BDL	0.107	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:45:00PM
1,1-Dichloroethene	BDL	0.107	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:45:00PM
1,1-Dichloropropene	BDL	0.107	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:45:00PM
1,2,3-Trichlorobenzene	BDL	0.107	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:45:00PM
1,2,3-Trichloropropane	BDL	0.107	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:45:00PM
1,2,4-Trichlorobenzene	BDL	0.107	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:45:00PM
1,2,4-Trimethylbenzene	BDL	0.107	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:45:00PM
1,2-Dibromo-3-chloropropane	BDL	0.215	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:45:00PM
1,2-Dibromoethane	BDL	0.107	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:45:00PM

CLIENT: Hull & Associates - Toledo Office **Lab Order:** 15F0709
Project: COT235 Champion Spark Plug

Lab ID: 15F0709-12 **Collection Date:** 6/8/2015 4:05:00PM
Client Sample ID: COT235:HSB-12:S000020 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Prepared	Date Analyzed
1,2-Dichlorobenzene	BDL	0.107	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:45:00PM
1,2-Dichloroethane	BDL	0.107	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:45:00PM
1,2-Dichloropropane	BDL	0.107	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:45:00PM
1,3,5-Trimethylbenzene	BDL	0.107	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:45:00PM
1,3-Dichlorobenzene	BDL	0.107	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:45:00PM
1,3-Dichloropropane	BDL	0.107	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:45:00PM
1,4-Dichlorobenzene	BDL	0.107	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:45:00PM
2,2-Dichloropropane	BDL	0.107	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:45:00PM
2-Butanone	BDL	0.430	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:45:00PM
2-Chlorotoluene	BDL	0.107	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:45:00PM
2-Hexanone	BDL	0.430	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:45:00PM
4-Chlorotoluene	BDL	0.107	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:45:00PM
4-Isopropyltoluene	BDL	0.107	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:45:00PM
4-Methyl-2-pentanone	BDL	0.430	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:45:00PM
Acetone	BDL	1.07	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:45:00PM
Acetonitrile	BDL	0.859	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:45:00PM
Acrolein	BDL	1.07	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:45:00PM
Acrylonitrile	BDL	0.430	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:45:00PM
Allyl chloride	BDL	0.215	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:45:00PM
Benzene	BDL	0.107	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:45:00PM
Bromobenzene	BDL	0.107	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:45:00PM
Bromochloromethane	BDL	0.107	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:45:00PM
Bromodichloromethane	BDL	0.107	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:45:00PM
Bromoform	BDL	0.107	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:45:00PM
Bromomethane	BDL	0.107	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:45:00PM
Carbon Disulfide	BDL	0.430	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:45:00PM
Carbon Tetrachloride	BDL	0.107	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:45:00PM
Chlorobenzene	BDL	0.107	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:45:00PM
Chloroethane	BDL	0.107	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:45:00PM
Chloroform	BDL	0.107	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:45:00PM
Chloromethane	BDL	0.107	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:45:00PM
cis-1,2-Dichloroethene	BDL	0.107	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:45:00PM
cis-1,3-Dichloropropene	BDL	0.107	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:45:00PM
Dibromochloromethane	BDL	0.107	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:45:00PM
Dibromomethane	BDL	0.107	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:45:00PM
Dichlorodifluoromethane	BDL	0.107	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:45:00PM
Ethylbenzene	BDL	0.107	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:45:00PM
Hexachlorobutadiene	BDL	0.107	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:45:00PM
Iodomethane	BDL	0.215	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:45:00PM
Isopropylbenzene	BDL	0.107	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:45:00PM
Methylene Chloride	BDL	0.107	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:45:00PM
Methyl tert-Butyl Ether	BDL	0.215	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:45:00PM
m,p-Xylene	BDL	0.215	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:45:00PM
Naphthalene	BDL	0.107	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:45:00PM

CLIENT: Hull & Associates - Toledo Office
Project: COT235 Champion Spark Plug
Lab Order: 15F0709

Lab ID: 15F0709-12
Client Sample ID: COT235:HSB-12:S000020
Collection Date: 6/8/2015 4:05:00PM
Matrix: Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Prepared	Date Analyzed
n-Butylbenzene	BDL	0.107	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:45:00PM
n-Hexane	BDL	0.107	R-01	mg/kg dry	25	1526083	6/19/2015 1:03:00PM	6/19/2015 5:44:00PM
n-Propylbenzene	BDL	0.107	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:45:00PM
o-Xylene	BDL	0.107	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:45:00PM
sec-Butylbenzene	BDL	0.107	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:45:00PM
Styrene	BDL	0.107	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:45:00PM
tert_Butylbenzene	BDL	0.107	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:45:00PM
Tetrachloroethene	BDL	0.107	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:45:00PM
Toluene	BDL	0.107	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:45:00PM
trans-1,2-Dichloroethene	BDL	0.107	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:45:00PM
trans-1,3-Dichloropropene	BDL	0.107	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:45:00PM
Trichloroethene	BDL	0.107	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:45:00PM
Trichlorofluoromethane	BDL	0.107	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:45:00PM
Vinyl Chloride	BDL	0.107	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:45:00PM
Vinyl acetate	BDL	0.215	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 5:45:00PM
Surrogate: 4-Bromofluorobenzene	*99.8 %*			*62-129*		*1526083*	6/19/2015 1:03:00PM	6/19/2015 5:44:00PM
Surrogate: 4-Bromofluorobenzene	*101 %*			*62-129*		*1525265*	6/19/2015 12:50:00PM	6/19/2015 5:45:00PM
Surrogate: Dibromofluoromethane	*102 %*			*71-129*		*1525265*	6/19/2015 12:50:00PM	6/19/2015 5:45:00PM
Surrogate: Dibromofluoromethane	*101 %*			*71-129*		*1526083*	6/19/2015 1:03:00PM	6/19/2015 5:44:00PM
Surrogate: Toluene-d8	*105 %*			*74-124*		*1526083*	6/19/2015 1:03:00PM	6/19/2015 5:44:00PM
Surrogate: Toluene-d8	*102 %*			*74-124*		*1525265*	6/19/2015 12:50:00PM	6/19/2015 5:45:00PM
Surrogate: 1,2-Dichloroethane-d4	*101 %*			*70-127*		*1526083*	6/19/2015 1:03:00PM	6/19/2015 5:44:00PM
Surrogate: 1,2-Dichloroethane-d4	*94.6 %*			*70-127*		*1525265*	6/19/2015 12:50:00PM	6/19/2015 5:45:00PM
PMOIST	**D 2216**						**Analyst: NL**	
Percent Moisture	**17.7**			% by Weight	1	1526198	6/24/2015 5:00:00PM	6/24/2015 5:00:00PM

CLIENT: Hull & Associates - Toledo Office **Lab Order:** 15F0709
Project: COT235 Champion Spark Plug

Lab ID: 15F0709-13 **Collection Date:** 6/9/2015 3:25:00PM
Client Sample ID: COT235:HSB-13:S100120 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Prepared	Date Analyzed
TPH GRO		**SW 8015B**					**Analyst: MLR**	
Gasoline Range Organics, C6 - C12	BDL	6.32		mg/kg dry	1	1525239	6/19/2015 11:00:00AM	6/19/2015 1:10:00PM
Surrogate: Chlorobenzene-d5	*41.8 %*		*C, S-04*	*70-130*		*1525239*	6/19/2015 11:00:00AM	6/19/2015 1:10:00PM
ICP_Ag		**SW 6010B**					**Analyst: RJE**	
Silver	BDL	1.18		mg/kg dry	1	1527130	7/1/2015 1:54:00PM	7/2/2015 4:16:17AM
ICP_As		**SW 6010B**					**Analyst: RJE**	
Arsenic	**26.6**	1.21		mg/kg dry	1	1526108	6/23/2015 12:30:00PM	7/3/2015 2:32:16AM
ICP_Ba		**SW 6010B**					**Analyst: RJE**	
Barium	**170**	1.21		mg/kg dry	1	1526108	6/23/2015 12:30:00PM	7/3/2015 2:32:16AM
ICP_Cd		**SW 6010B**					**Analyst: RJE**	
Cadmium	BDL	0.603		mg/kg dry	1	1526108	6/23/2015 12:30:00PM	7/3/2015 2:32:16AM
ICP_Cr		**SW 6010B**					**Analyst: RJE**	
Chromium	**19.1**	1.21		mg/kg dry	1	1526108	6/23/2015 12:30:00PM	7/3/2015 2:32:16AM
ICP_Pb		**SW 6010B**					**Analyst: RJE**	
Lead	**14.3**	1.21		mg/kg dry	1	1526108	6/23/2015 12:30:00PM	7/3/2015 2:32:16AM
ICP_Se		**SW 6010B**					**Analyst: RJE**	
Selenium	BDL	6.03		mg/kg dry	1	1526108	6/23/2015 12:30:00PM	7/3/2015 2:32:16AM
HG		**SW 7471A**					**Analyst: CW**	
Mercury	BDL	0.118		mg/kg dry	1	1525141	6/17/2015 10:37:00AM	6/17/2015 1:43:00PM
VOC 8260_5035		**SW 8260B**					**Analyst: MLR**	
1,1,1,2-Tetrachloroethane	BDL	0.116	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:15:00PM
1,1,1-Trichloroethane	BDL	0.116	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:15:00PM
1,1,2,2-Tetrachloroethane	BDL	0.116	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:15:00PM
1,1,2-Trichloroethane	BDL	0.116	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:15:00PM
1,1-Dichloroethane	BDL	0.116	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:15:00PM
1,1-Dichloroethene	BDL	0.116	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:15:00PM
1,1-Dichloropropene	BDL	0.116	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:15:00PM
1,2,3-Trichlorobenzene	BDL	0.116	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:15:00PM
1,2,3-Trichloropropane	BDL	0.116	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:15:00PM
1,2,4-Trichlorobenzene	BDL	0.116	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:15:00PM
1,2,4-Trimethylbenzene	BDL	0.116	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:15:00PM
1,2-Dibromo-3-chloropropane	BDL	0.232	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:15:00PM
1,2-Dibromoethane	BDL	0.116	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:15:00PM

CLIENT: Hull & Associates - Toledo Office **Lab Order:** 15F0709
Project: COT235 Champion Spark Plug

Lab ID: 15F0709-13 **Collection Date:** 6/9/2015 3:25:00PM
Client Sample ID: COT235:HSB-13:S100120 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Prepared	Date Analyzed
1,2-Dichlorobenzene	BDL	0.116	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:15:00PM
1,2-Dichloroethane	BDL	0.116	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:15:00PM
1,2-Dichloropropane	BDL	0.116	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:15:00PM
1,3,5-Trimethylbenzene	BDL	0.116	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:15:00PM
1,3-Dichlorobenzene	BDL	0.116	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:15:00PM
1,3-Dichloropropane	BDL	0.116	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:15:00PM
1,4-Dichlorobenzene	BDL	0.116	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:15:00PM
2,2-Dichloropropane	BDL	0.116	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:15:00PM
2-Butanone	BDL	0.465	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:15:00PM
2-Chlorotoluene	BDL	0.116	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:15:00PM
2-Hexanone	BDL	0.465	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:15:00PM
4-Chlorotoluene	BDL	0.116	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:15:00PM
4-Isopropyltoluene	BDL	0.116	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:15:00PM
4-Methyl-2-pentanone	BDL	0.465	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:15:00PM
Acetone	BDL	1.16	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:15:00PM
Acetonitrile	BDL	0.929	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:15:00PM
Acrolein	BDL	1.16	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:15:00PM
Acrylonitrile	BDL	0.465	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:15:00PM
Allyl chloride	BDL	0.232	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:15:00PM
Benzene	BDL	0.116	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:15:00PM
Bromobenzene	BDL	0.116	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:15:00PM
Bromochloromethane	BDL	0.116	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:15:00PM
Bromodichloromethane	BDL	0.116	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:15:00PM
Bromoform	BDL	0.116	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:15:00PM
Bromomethane	BDL	0.116	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:15:00PM
Carbon Disulfide	BDL	0.465	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:15:00PM
Carbon Tetrachloride	BDL	0.116	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:15:00PM
Chlorobenzene	BDL	0.116	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:15:00PM
Chloroethane	BDL	0.116	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:15:00PM
Chloroform	BDL	0.116	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:15:00PM
Chloromethane	BDL	0.116	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:15:00PM
cis-1,2-Dichloroethene	**3.74**	0.116	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:15:00PM
cis-1,3-Dichloropropene	BDL	0.116	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:15:00PM
Dibromochloromethane	BDL	0.116	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:15:00PM
Dibromomethane	BDL	0.116	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:15:00PM
Dichlorodifluoromethane	BDL	0.116	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:15:00PM
Ethylbenzene	BDL	0.116	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:15:00PM
Hexachlorobutadiene	BDL	0.116	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:15:00PM
Iodomethane	BDL	0.232	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:15:00PM
Isopropylbenzene	BDL	0.116	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:15:00PM
Methylene Chloride	BDL	0.116	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:15:00PM
Methyl tert-Butyl Ether	BDL	0.232	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:15:00PM
m,p-Xylene	BDL	0.232	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:15:00PM

CLIENT: Hull & Associates - Toledo Office **Lab Order:** 15F0709
Project: COT235 Champion Spark Plug

Lab ID: 15F0709-13 **Collection Date:** 6/9/2015 3:25:00PM
Client Sample ID: COT235:HSB-13:S100120 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Prepared	Date Analyzed
Naphthalene	BDL	0.116	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:15:00PM
n-Butylbenzene	BDL	0.116	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:15:00PM
n-Hexane	BDL	0.116	R-06	mg/kg dry	25	1526083	6/19/2015 1:03:00PM	6/19/2015 9:07:00PM
n-Propylbenzene	BDL	0.116	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:15:00PM
o-Xylene	BDL	0.116	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:15:00PM
sec-Butylbenzene	BDL	0.116	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:15:00PM
Styrene	BDL	0.116	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:15:00PM
tert_Butylbenzene	BDL	0.116	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:15:00PM
Tetrachloroethene	**0.361**	0.116	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:15:00PM
Toluene	BDL	0.116	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:15:00PM
trans-1,2-Dichloroethene	BDL	0.116	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:15:00PM
trans-1,3-Dichloropropene	BDL	0.116	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:15:00PM
Trichloroethene	**123**	2.32		mg/kg dry	500	1526079	6/20/2015 1:55:00PM	6/20/2015 7:30:00PM
Trichlorofluoromethane	BDL	0.116	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:15:00PM
Vinyl Chloride	BDL	0.116	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:15:00PM
Vinyl acetate	BDL	0.232	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:15:00PM
Surrogate: 4-Bromofluorobenzene	*99.9 %*			*62-129*		*1526083*	6/19/2015 1:03:00PM	6/19/2015 9:07:00PM
Surrogate: 4-Bromofluorobenzene	*97.2 %*			*62-129*		*1526079*	6/20/2015 1:55:00PM	6/20/2015 7:30:00PM
Surrogate: 4-Bromofluorobenzene	*99.8 %*			*62-129*		*1525265*	6/19/2015 12:50:00PM	6/19/2015 9:15:00PM
Surrogate: Dibromofluoromethane	*90.7 %*			*71-129*		*1526079*	6/20/2015 1:55:00PM	6/20/2015 7:30:00PM
Surrogate: Dibromofluoromethane	*102 %*			*71-129*		*1525265*	6/19/2015 12:50:00PM	6/19/2015 9:15:00PM
Surrogate: Dibromofluoromethane	*103 %*			*71-129*		*1526083*	6/19/2015 1:03:00PM	6/19/2015 9:07:00PM
Surrogate: Toluene-d8	*99.0 %*			*74-124*		*1526079*	6/20/2015 1:55:00PM	6/20/2015 7:30:00PM
Surrogate: Toluene-d8	*94.7 %*			*74-124*		*1526083*	6/19/2015 1:03:00PM	6/19/2015 9:07:00PM
Surrogate: Toluene-d8	*108 %*			*74-124*		*1525265*	6/19/2015 12:50:00PM	6/19/2015 9:15:00PM
Surrogate: 1,2-Dichloroethane-d4	*102 %*			*70-127*		*1526083*	6/19/2015 1:03:00PM	6/19/2015 9:07:00PM
Surrogate: 1,2-Dichloroethane-d4	*91.3 %*			*70-127*		*1526079*	6/20/2015 1:55:00PM	6/20/2015 7:30:00PM
Surrogate: 1,2-Dichloroethane-d4	*93.2 %*			*70-127*		*1525265*	6/19/2015 12:50:00PM	6/19/2015 9:15:00PM
PMOIST	**D 2216**						**Analyst: NL**	
Percent Moisture	**21.8**			% by Weight	1	1526198	6/24/2015 5:00:00PM	6/24/2015 5:00:00PM

CLIENT: Hull & Associates - Toledo Office
Project: COT235 Champion Spark Plug
Lab Order: 15F0709

Lab ID: 15F0709-14
Client Sample ID: COT235:HSB-14:S040060
Collection Date: 6/9/2015 2:45:00PM
Matrix: Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Prepared	Date Analyzed
TPH GRO		**SW 8015B**					**Analyst: MLR**	
Gasoline Range Organics, C6 - C12	BDL	6.20		mg/kg dry	1	1525239	6/19/2015 11:00:00AM	6/19/2015 1:38:00PM
Surrogate: Chlorobenzene-d5		*59.2 %*	*C, S-04*	*70-130*		*1525239*	6/19/2015 11:00:00AM	6/19/2015 1:38:00PM
ICP_Ag		**SW 6010B**					**Analyst: RJE**	
Silver	**1.86**	1.20		mg/kg dry	1	1527130	7/1/2015 1:54:00PM	7/2/2015 4:22:13AM
ICP_As		**SW 6010B**					**Analyst: RJE**	
Arsenic	**16.2**	1.16		mg/kg dry	1	1526108	6/23/2015 12:30:00PM	7/3/2015 2:39:41AM
ICP_Ba		**SW 6010B**					**Analyst: RJE**	
Barium	**158**	1.16		mg/kg dry	1	1526108	6/23/2015 12:30:00PM	7/3/2015 2:39:41AM
ICP_Cd		**SW 6010B**					**Analyst: RJE**	
Cadmium	BDL	0.578		mg/kg dry	1	1526108	6/23/2015 12:30:00PM	7/3/2015 2:39:41AM
ICP_Cr		**SW 6010B**					**Analyst: RJE**	
Chromium	**25.1**	1.16		mg/kg dry	1	1526108	6/23/2015 12:30:00PM	7/3/2015 2:39:41AM
ICP_Pb		**SW 6010B**					**Analyst: RJE**	
Lead	**18.0**	1.16		mg/kg dry	1	1526108	6/23/2015 12:30:00PM	7/3/2015 2:39:41AM
ICP_Se		**SW 6010B**					**Analyst: RJE**	
Selenium	BDL	5.78		mg/kg dry	1	1526108	6/23/2015 12:30:00PM	7/3/2015 2:39:41AM
HG		**SW 7471A**					**Analyst: CW**	
Mercury	BDL	0.121		mg/kg dry	1	1525141	6/17/2015 10:37:00AM	6/17/2015 1:43:00PM
VOC 8260_5035		**SW 8260B**					**Analyst: MLR**	
1,1,1,2-Tetrachloroethane	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:50:00PM
1,1,1-Trichloroethane	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:50:00PM
1,1,2,2-Tetrachloroethane	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:50:00PM
1,1,2-Trichloroethane	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:50:00PM
1,1-Dichloroethane	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:50:00PM
1,1-Dichloroethene	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:50:00PM
1,1-Dichloropropene	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:50:00PM
1,2,3-Trichlorobenzene	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:50:00PM
1,2,3-Trichloropropane	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:50:00PM
1,2,4-Trichlorobenzene	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:50:00PM
1,2,4-Trimethylbenzene	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:50:00PM
1,2-Dibromo-3-chloropropane	BDL	0.242	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:50:00PM
1,2-Dibromoethane	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:50:00PM

CLIENT: Hull & Associates - Toledo Office **Lab Order:** 15F0709
Project: COT235 Champion Spark Plug

Lab ID: 15F0709-14 **Collection Date:** 6/9/2015 2:45:00PM
Client Sample ID: COT235:HSB-14:S040060 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Prepared	Date Analyzed
1,2-Dichlorobenzene	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:50:00PM
1,2-Dichloroethane	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:50:00PM
1,2-Dichloropropane	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:50:00PM
1,3,5-Trimethylbenzene	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:50:00PM
1,3-Dichlorobenzene	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:50:00PM
1,3-Dichloropropane	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:50:00PM
1,4-Dichlorobenzene	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:50:00PM
2,2-Dichloropropane	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:50:00PM
2-Butanone	BDL	0.483	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:50:00PM
2-Chlorotoluene	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:50:00PM
2-Hexanone	BDL	0.483	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:50:00PM
4-Chlorotoluene	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:50:00PM
4-Isopropyltoluene	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:50:00PM
4-Methyl-2-pentanone	BDL	0.483	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:50:00PM
Acetone	BDL	1.21	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:50:00PM
Acetonitrile	BDL	0.967	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:50:00PM
Acrolein	BDL	1.21	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:50:00PM
Acrylonitrile	BDL	0.483	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:50:00PM
Allyl chloride	BDL	0.242	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:50:00PM
Benzene	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:50:00PM
Bromobenzene	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:50:00PM
Bromochloromethane	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:50:00PM
Bromodichloromethane	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:50:00PM
Bromoform	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:50:00PM
Bromomethane	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:50:00PM
Carbon Disulfide	BDL	0.483	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:50:00PM
Carbon Tetrachloride	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:50:00PM
Chlorobenzene	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:50:00PM
Chloroethane	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:50:00PM
Chloroform	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:50:00PM
Chloromethane	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:50:00PM
cis-1,2-Dichloroethene	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:50:00PM
cis-1,3-Dichloropropene	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:50:00PM
Dibromochloromethane	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:50:00PM
Dibromomethane	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:50:00PM
Dichlorodifluoromethane	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:50:00PM
Ethylbenzene	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:50:00PM
Hexachlorobutadiene	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:50:00PM
Iodomethane	BDL	0.242	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:50:00PM
Isopropylbenzene	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:50:00PM
Methylene Chloride	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:50:00PM
Methyl tert-Butyl Ether	BDL	0.242	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:50:00PM
m,p-Xylene	BDL	0.242	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:50:00PM
Naphthalene	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:50:00PM

CLIENT: Hull & Associates - Toledo Office **Lab Order:** 15F0709
Project: COT235 Champion Spark Plug

Lab ID: 15F0709-14 **Collection Date:** 6/9/2015 2:45:00PM
Client Sample ID: COT235:HSB-14:S040060 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Prepared	Date Analyzed
n-Butylbenzene	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:50:00PM
n-Hexane	BDL	0.121	R-01	mg/kg dry	25	1526083	6/19/2015 1:03:00PM	6/19/2015 9:41:00PM
n-Propylbenzene	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:50:00PM
o-Xylene	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:50:00PM
sec-Butylbenzene	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:50:00PM
Styrene	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:50:00PM
tert_Butylbenzene	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:50:00PM
Tetrachloroethene	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:50:00PM
Toluene	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:50:00PM
trans-1,2-Dichloroethene	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:50:00PM
trans-1,3-Dichloropropene	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:50:00PM
Trichloroethene	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:50:00PM
Trichlorofluoromethane	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:50:00PM
Vinyl Chloride	BDL	0.121	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:50:00PM
Vinyl acetate	BDL	0.242	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 9:50:00PM
Surrogate: 4-Bromofluorobenzene	*98.3 %*			*62-129*		*1525265*	6/19/2015 12:50:00PM	6/19/2015 9:50:00PM
Surrogate: 4-Bromofluorobenzene	*98.6 %*			*62-129*		*1526083*	6/19/2015 1:03:00PM	6/19/2015 9:41:00PM
Surrogate: Dibromofluoromethane	*103 %*			*71-129*		*1525265*	6/19/2015 12:50:00PM	6/19/2015 9:50:00PM
Surrogate: Dibromofluoromethane	*100 %*			*71-129*		*1526083*	6/19/2015 1:03:00PM	6/19/2015 9:41:00PM
Surrogate: Toluene-d8	*101 %*			*74-124*		*1525265*	6/19/2015 12:50:00PM	6/19/2015 9:50:00PM
Surrogate: Toluene-d8	*105 %*			*74-124*		*1526083*	6/19/2015 1:03:00PM	6/19/2015 9:41:00PM
Surrogate: 1,2-Dichloroethane-d4	*95.7 %*			*70-127*		*1525265*	6/19/2015 12:50:00PM	6/19/2015 9:50:00PM
Surrogate: 1,2-Dichloroethane-d4	*101 %*			*70-127*		*1526083*	6/19/2015 1:03:00PM	6/19/2015 9:41:00PM
PMOIST	**D 2216**							**Analyst: NL**
Percent Moisture	**21.4**			% by Weight	1	1526198	6/24/2015 5:00:00PM	6/24/2015 5:00:00PM

CLIENT: Hull & Associates - Toledo Office
Project: COT235 Champion Spark Plug
Lab Order: 15F0709

Lab ID: 15F0709-15
Client Sample ID: COT235:HSB-16:S020040
Collection Date: 6/9/2015 1:30:00PM
Matrix: Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Prepared	Date Analyzed
TPH GRO		**SW 8015B**						**Analyst: MLR**
Gasoline Range Organics, C6 - C12	**6.83**	5.49		mg/kg dry	1	1525239	6/19/2015 11:00:00AM	6/19/2015 2:06:00PM
Surrogate: Chlorobenzene-d5		*77.5 %*		*70-130*		*1525239*	6/19/2015 11:00:00AM	6/19/2015 2:06:00PM
ICP_Ag		**SW 6010B**						**Analyst: RJE**
Silver	BDL	1.03		mg/kg dry	1	1527130	7/1/2015 1:54:00PM	7/2/2015 4:28:35AM
ICP_As		**SW 6010B**						**Analyst: RJE**
Arsenic	**2.22**	1.03		mg/kg dry	1	1526108	6/23/2015 12:30:00PM	7/3/2015 2:47:26AM
ICP_Ba		**SW 6010B**						**Analyst: RJE**
Barium	**39.4**	1.03		mg/kg dry	1	1526108	6/23/2015 12:30:00PM	7/3/2015 2:47:26AM
ICP_Cd		**SW 6010B**						**Analyst: RJE**
Cadmium	BDL	0.516		mg/kg dry	1	1526108	6/23/2015 12:30:00PM	7/3/2015 2:47:26AM
ICP_Cr		**SW 6010B**						**Analyst: RJE**
Chromium	**8.88**	1.03		mg/kg dry	1	1526108	6/23/2015 12:30:00PM	7/3/2015 2:47:26AM
ICP_Pb		**SW 6010B**						**Analyst: RJE**
Lead	**16.2**	1.03		mg/kg dry	1	1526108	6/23/2015 12:30:00PM	7/3/2015 2:47:26AM
ICP_Se		**SW 6010B**						**Analyst: RJE**
Selenium	BDL	5.16		mg/kg dry	1	1526108	6/23/2015 12:30:00PM	7/3/2015 2:47:26AM
HG		**SW 7471A**						**Analyst: CW**
Mercury	BDL	0.104		mg/kg dry	1	1525141	6/17/2015 10:37:00AM	6/17/2015 1:43:00PM
VOC 8260_5035		**SW 8260B**						**Analyst: MLR**
1,1,1,2-Tetrachloroethane	BDL	0.125	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 10:24:00PM
1,1,1-Trichloroethane	BDL	0.125	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 10:24:00PM
1,1,2,2-Tetrachloroethane	BDL	0.125	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 10:24:00PM
1,1,2-Trichloroethane	BDL	0.125	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 10:24:00PM
1,1-Dichloroethane	BDL	0.125	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 10:24:00PM
1,1-Dichloroethene	BDL	0.125	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 10:24:00PM
1,1-Dichloropropene	BDL	0.125	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 10:24:00PM
1,2,3-Trichlorobenzene	BDL	0.125	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 10:24:00PM
1,2,3-Trichloropropane	BDL	0.125	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 10:24:00PM
1,2,4-Trichlorobenzene	BDL	0.125	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 10:24:00PM
1,2,4-Trimethylbenzene	**0.873**	0.125	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 10:24:00PM
1,2-Dibromo-3-chloropropane	BDL	0.249	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 10:24:00PM
1,2-Dibromoethane	BDL	0.125	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 10:24:00PM

CLIENT: Hull & Associates - Toledo Office **Lab Order:** 15F0709
Project: COT235 Champion Spark Plug

Lab ID: 15F0709-15 **Collection Date:** 6/9/2015 1:30:00PM
Client Sample ID: COT235:HSB-16:S020040 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Prepared	Date Analyzed
1,2-Dichlorobenzene	BDL	0.125	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 10:24:00PM
1,2-Dichloroethane	BDL	0.125	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 10:24:00PM
1,2-Dichloropropane	BDL	0.125	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 10:24:00PM
1,3,5-Trimethylbenzene	**0.701**	0.125	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 10:24:00PM
1,3-Dichlorobenzene	BDL	0.125	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 10:24:00PM
1,3-Dichloropropane	BDL	0.125	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 10:24:00PM
1,4-Dichlorobenzene	BDL	0.125	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 10:24:00PM
2,2-Dichloropropane	BDL	0.125	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 10:24:00PM
2-Butanone	BDL	0.498	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 10:24:00PM
2-Chlorotoluene	BDL	0.125	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 10:24:00PM
2-Hexanone	BDL	0.498	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 10:24:00PM
4-Chlorotoluene	BDL	0.125	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 10:24:00PM
4-Isopropyltoluene	BDL	0.125	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 10:24:00PM
4-Methyl-2-pentanone	BDL	0.498	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 10:24:00PM
Acetone	BDL	1.25	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 10:24:00PM
Acetonitrile	BDL	0.997	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 10:24:00PM
Acrolein	BDL	1.25	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 10:24:00PM
Acrylonitrile	BDL	0.498	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 10:24:00PM
Allyl chloride	BDL	0.249	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 10:24:00PM
Benzene	BDL	0.125	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 10:24:00PM
Bromobenzene	BDL	0.125	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 10:24:00PM
Bromochloromethane	BDL	0.125	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 10:24:00PM
Bromodichloromethane	BDL	0.125	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 10:24:00PM
Bromoform	BDL	0.125	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 10:24:00PM
Bromomethane	BDL	0.125	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 10:24:00PM
Carbon Disulfide	BDL	0.498	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 10:24:00PM
Carbon Tetrachloride	BDL	0.125	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 10:24:00PM
Chlorobenzene	BDL	0.125	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 10:24:00PM
Chloroethane	BDL	0.125	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 10:24:00PM
Chloroform	BDL	0.125	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 10:24:00PM
Chloromethane	BDL	0.125	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 10:24:00PM
cis-1,2-Dichloroethene	**5.24**	0.125	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 10:24:00PM
cis-1,3-Dichloropropene	BDL	0.125	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 10:24:00PM
Dibromochloromethane	BDL	0.125	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 10:24:00PM
Dibromomethane	BDL	0.125	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 10:24:00PM
Dichlorodifluoromethane	BDL	0.125	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 10:24:00PM
Ethylbenzene	**0.130**	0.125	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 10:24:00PM
Hexachlorobutadiene	BDL	0.125	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 10:24:00PM
Iodomethane	BDL	0.249	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 10:24:00PM
Isopropylbenzene	BDL	0.125	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 10:24:00PM
Methylene Chloride	BDL	0.125	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 10:24:00PM
Methyl tert-Butyl Ether	BDL	0.249	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 10:24:00PM
m,p-Xylene	**0.593**	0.249	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 10:24:00PM

CLIENT: Hull & Associates - Toledo Office **Lab Order:** 15F0709
Project: COT235 Champion Spark Plug

Lab ID: 15F0709-15 **Collection Date:** 6/9/2015 1:30:00PM
Client Sample ID: COT235:HSB-16:S020040 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Prepared	Date Analyzed
Naphthalene	BDL	0.125	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 10:24:00PM
n-Butylbenzene	BDL	0.125	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 10:24:00PM
n-Hexane	BDL	0.125	R-06	mg/kg dry	25	1526084	6/20/2015 9:07:00PM	6/20/2015 11:45:00PM
n-Propylbenzene	BDL	0.125	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 10:24:00PM
o-Xylene	**0.703**	0.125	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 10:24:00PM
sec-Butylbenzene	**0.145**	0.125	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 10:24:00PM
Styrene	BDL	0.125	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 10:24:00PM
tert_Butylbenzene	BDL	0.125	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 10:24:00PM
Tetrachloroethene	**0.195**	0.125	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 10:24:00PM
Toluene	**0.505**	0.125	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 10:24:00PM
trans-1,2-Dichloroethene	**0.125**	0.125	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 10:24:00PM
trans-1,3-Dichloropropene	BDL	0.125	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 10:24:00PM
Trichloroethene	**14.4**	0.498		mg/kg dry	100	1526079	6/20/2015 1:55:00PM	6/20/2015 8:04:00PM
Trichlorofluoromethane	BDL	0.125	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 10:24:00PM
Vinyl Chloride	BDL	0.125	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 10:24:00PM
Vinyl acetate	BDL	0.249	R-06	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 10:24:00PM
Surrogate: 4-Bromofluorobenzene	*104 %*			*62-129*		*1526084*	6/20/2015 9:07:00PM	6/20/2015 11:45:00PM
Surrogate: 4-Bromofluorobenzene	*98.2 %*			*62-129*		*1526079*	6/20/2015 1:55:00PM	6/20/2015 8:04:00PM
Surrogate: 4-Bromofluorobenzene	*97.5 %*			*62-129*		*1525265*	6/19/2015 12:50:00PM	6/19/2015 10:24:00PM
Surrogate: Dibromofluoromethane	*99.2 %*			*71-129*		*1526079*	6/20/2015 1:55:00PM	6/20/2015 8:04:00PM
Surrogate: Dibromofluoromethane	*101 %*			*71-129*		*1526084*	6/20/2015 9:07:00PM	6/20/2015 11:45:00PM
Surrogate: Dibromofluoromethane	*105 %*			*71-129*		*1525265*	6/19/2015 12:50:00PM	6/19/2015 10:24:00PM
Surrogate: Toluene-d8	*98.2 %*			*74-124*		*1526079*	6/20/2015 1:55:00PM	6/20/2015 8:04:00PM
Surrogate: Toluene-d8	*98.1 %*			*74-124*		*1526084*	6/20/2015 9:07:00PM	6/20/2015 11:45:00PM
Surrogate: Toluene-d8	*99.1 %*			*74-124*		*1525265*	6/19/2015 12:50:00PM	6/19/2015 10:24:00PM
Surrogate: 1,2-Dichloroethane-d4	*102 %*			*70-127*		*1525265*	6/19/2015 12:50:00PM	6/19/2015 10:24:00PM
Surrogate: 1,2-Dichloroethane-d4	*97.0 %*			*70-127*		*1526079*	6/20/2015 1:55:00PM	6/20/2015 8:04:00PM
Surrogate: 1,2-Dichloroethane-d4	*104 %*			*70-127*		*1526084*	6/20/2015 9:07:00PM	6/20/2015 11:45:00PM
PMOIST	**D 2216**						**Analyst: NL**	
Percent Moisture	**10.3**			% by Weight	1	1526198	6/24/2015 5:00:00PM	6/24/2015 5:00:00PM

CLIENT: Hull & Associates - Toledo Office
Project: COT235 Champion Spark Plug
Lab Order: 15F0709

Lab ID: 15F0709-16
Client Sample ID: COT235:HSB-17:S080100
Collection Date: 6/8/2015 2:20:00PM
Matrix: Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Prepared	Date Analyzed
TPH GRO		**SW 8015B**					**Analyst: MLR**	
Gasoline Range Organics, C6 - C12	BDL	6.34		mg/kg dry	1	1525239	6/19/2015 11:00:00AM	6/19/2015 2:34:00PM
Surrogate: Chlorobenzene-d5		*61.0 %*	*S-04, C*	*70-130*		*1525239*	6/19/2015 11:00:00AM	6/19/2015 2:34:00PM
ICP_Ag		**SW 6010B**					**Analyst: RJE**	
Silver	**1.18**	1.18		mg/kg dry	1	1527130	7/1/2015 1:54:00PM	7/2/2015 4:34:24AM
ICP_As		**SW 6010B**					**Analyst: RJE**	
Arsenic	**16.7**	1.24		mg/kg dry	1	1526108	6/23/2015 12:30:00PM	7/3/2015 2:53:46AM
ICP_Ba		**SW 6010B**					**Analyst: RJE**	
Barium	**253**	1.24		mg/kg dry	1	1526108	6/23/2015 12:30:00PM	7/3/2015 2:53:46AM
ICP_Cd		**SW 6010B**					**Analyst: RJE**	
Cadmium	BDL	0.622		mg/kg dry	1	1526108	6/23/2015 12:30:00PM	7/3/2015 2:53:46AM
ICP_Cr		**SW 6010B**					**Analyst: RJE**	
Chromium	**20.0**	1.24		mg/kg dry	1	1526108	6/23/2015 12:30:00PM	7/3/2015 2:53:46AM
ICP_Pb		**SW 6010B**					**Analyst: RJE**	
Lead	**11.7**	1.24		mg/kg dry	1	1526108	6/23/2015 12:30:00PM	7/3/2015 2:53:46AM
ICP_Se		**SW 6010B**					**Analyst: RJE**	
Selenium	BDL	6.22		mg/kg dry	1	1526108	6/23/2015 12:30:00PM	7/3/2015 2:53:46AM
HG		**SW 7471A**					**Analyst: CW**	
Mercury	BDL	0.125		mg/kg dry	1	1525141	6/17/2015 10:37:00AM	6/17/2015 1:43:00PM
VOC 8260_5035		**SW 8260B**					**Analyst: MLR**	
1,1,1,2-Tetrachloroethane	BDL	0.135	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:19:00PM
1,1,1-Trichloroethane	BDL	0.135	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:19:00PM
1,1,2,2-Tetrachloroethane	BDL	0.135	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:19:00PM
1,1,2-Trichloroethane	BDL	0.135	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:19:00PM
1,1-Dichloroethane	BDL	0.135	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:19:00PM
1,1-Dichloroethene	BDL	0.135	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:19:00PM
1,1-Dichloropropene	BDL	0.135	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:19:00PM
1,2,3-Trichlorobenzene	BDL	0.135	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:19:00PM
1,2,3-Trichloropropane	BDL	0.135	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:19:00PM
1,2,4-Trichlorobenzene	BDL	0.135	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:19:00PM
1,2,4-Trimethylbenzene	BDL	0.135	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:19:00PM
1,2-Dibromo-3-chloropropane	BDL	0.270	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:19:00PM
1,2-Dibromoethane	BDL	0.135	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:19:00PM

CLIENT: Hull & Associates - Toledo Office **Lab Order:** 15F0709
Project: COT235 Champion Spark Plug

Lab ID: 15F0709-16 **Collection Date:** 6/8/2015 2:20:00PM
Client Sample ID: COT235:HSB-17:S080100 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Prepared	Date Analyzed
1,2-Dichlorobenzene	BDL	0.135	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:19:00PM
1,2-Dichloroethane	BDL	0.135	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:19:00PM
1,2-Dichloropropane	BDL	0.135	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:19:00PM
1,3,5-Trimethylbenzene	BDL	0.135	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:19:00PM
1,3-Dichlorobenzene	BDL	0.135	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:19:00PM
1,3-Dichloropropane	BDL	0.135	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:19:00PM
1,4-Dichlorobenzene	BDL	0.135	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:19:00PM
2,2-Dichloropropane	BDL	0.135	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:19:00PM
2-Butanone	BDL	0.540	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:19:00PM
2-Chlorotoluene	BDL	0.135	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:19:00PM
2-Hexanone	BDL	0.540	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:19:00PM
4-Chlorotoluene	BDL	0.135	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:19:00PM
4-Isopropyltoluene	BDL	0.135	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:19:00PM
4-Methyl-2-pentanone	BDL	0.540	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:19:00PM
Acetone	BDL	1.35	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:19:00PM
Acetonitrile	BDL	1.08	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:19:00PM
Acrolein	BDL	1.35	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:19:00PM
Acrylonitrile	BDL	0.540	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:19:00PM
Allyl chloride	BDL	0.270	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:19:00PM
Benzene	BDL	0.135	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:19:00PM
Bromobenzene	BDL	0.135	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:19:00PM
Bromochloromethane	BDL	0.135	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:19:00PM
Bromodichloromethane	BDL	0.135	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:19:00PM
Bromoform	BDL	0.135	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:19:00PM
Bromomethane	BDL	0.135	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:19:00PM
Carbon Disulfide	BDL	0.540	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:19:00PM
Carbon Tetrachloride	BDL	0.135	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:19:00PM
Chlorobenzene	BDL	0.135	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:19:00PM
Chloroethane	BDL	0.135	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:19:00PM
Chloroform	BDL	0.135	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:19:00PM
Chloromethane	BDL	0.135	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:19:00PM
cis-1,2-Dichloroethene	BDL	0.135	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:19:00PM
cis-1,3-Dichloropropene	BDL	0.135	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:19:00PM
Dibromochloromethane	BDL	0.135	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:19:00PM
Dibromomethane	BDL	0.135	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:19:00PM
Dichlorodifluoromethane	BDL	0.135	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:19:00PM
Ethylbenzene	BDL	0.135	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:19:00PM
Hexachlorobutadiene	BDL	0.135	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:19:00PM
Iodomethane	BDL	0.270	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:19:00PM
Isopropylbenzene	BDL	0.135	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:19:00PM
Methylene Chloride	BDL	0.135	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:19:00PM
Methyl tert-Butyl Ether	BDL	0.270	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:19:00PM
m,p-Xylene	BDL	0.270	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:19:00PM
Naphthalene	BDL	0.135	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:19:00PM

CLIENT: Hull & Associates - Toledo Office **Lab Order:** 15F0709
Project: COT235 Champion Spark Plug

Lab ID: 15F0709-16 **Collection Date:** 6/8/2015 2:20:00PM
Client Sample ID: COT235:HSB-17:S080100 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Prepared	Date Analyzed
n-Butylbenzene	BDL	0.135	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:19:00PM
n-Hexane	BDL	0.135	R-01	mg/kg dry	25	1526083	6/19/2015 1:03:00PM	6/19/2015 6:18:00PM
n-Propylbenzene	BDL	0.135	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:19:00PM
o-Xylene	BDL	0.135	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:19:00PM
sec-Butylbenzene	BDL	0.135	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:19:00PM
Styrene	BDL	0.135	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:19:00PM
tert_Butylbenzene	BDL	0.135	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:19:00PM
Tetrachloroethene	BDL	0.135	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:19:00PM
Toluene	BDL	0.135	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:19:00PM
trans-1,2-Dichloroethene	BDL	0.135	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:19:00PM
trans-1,3-Dichloropropene	BDL	0.135	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:19:00PM
Trichloroethene	BDL	0.135	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:19:00PM
Trichlorofluoromethane	BDL	0.135	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:19:00PM
Vinyl Chloride	BDL	0.135	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:19:00PM
Vinyl acetate	BDL	0.270	R-01	mg/kg dry	25	1525265	6/19/2015 12:50:00PM	6/19/2015 6:19:00PM
Surrogate: 4-Bromofluorobenzene	*99.5 %*			*62-129*		*1525265*	6/19/2015 12:50:00PM	6/19/2015 6:19:00PM
Surrogate: 4-Bromofluorobenzene	*101 %*			*62-129*		*1526083*	6/19/2015 1:03:00PM	6/19/2015 6:18:00PM
Surrogate: Dibromofluoromethane	*103 %*			*71-129*		*1525265*	6/19/2015 12:50:00PM	6/19/2015 6:19:00PM
Surrogate: Dibromofluoromethane	*100 %*			*71-129*		*1526083*	6/19/2015 1:03:00PM	6/19/2015 6:18:00PM
Surrogate: Toluene-d8	*105 %*			*74-124*		*1526083*	6/19/2015 1:03:00PM	6/19/2015 6:18:00PM
Surrogate: Toluene-d8	*102 %*			*74-124*		*1525265*	6/19/2015 12:50:00PM	6/19/2015 6:19:00PM
Surrogate: 1,2-Dichloroethane-d4	*95.3 %*			*70-127*		*1525265*	6/19/2015 12:50:00PM	6/19/2015 6:19:00PM
Surrogate: 1,2-Dichloroethane-d4	*104 %*			*70-127*		*1526083*	6/19/2015 1:03:00PM	6/19/2015 6:18:00PM
PMOIST	**D 2216**						**Analyst: NL**	
Percent Moisture	**22.7**			% by Weight	1	1526198	6/24/2015 5:00:00PM	6/24/2015 5:00:00PM

CLIENT: Hull & Associates - Toledo Office
Project: COT235 Champion Spark Plug
Lab Order: 15F0709

Lab ID: 15F0709-17
Client Sample ID: COT235:HSB-18:S040060
Collection Date: 6/9/2015 3:55:00PM
Matrix: Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Prepared	Date Analyzed
TPH GRO		**SW 8015B**					**Analyst: MLR**	
Gasoline Range Organics, C6 - C12	**16.8**	6.09		mg/kg dry	1	1525239	6/19/2015 11:00:00AM	6/19/2015 7:24:00PM
Surrogate: Chlorobenzene-d5		*88.0 %*		*70-130*		*1525239*	6/19/2015 11:00:00AM	6/19/2015 7:24:00PM
ICP_Ag		**SW 6010B**					**Analyst: RJE**	
Silver	**1.05**	1.05		mg/kg dry	1	1527130	7/1/2015 1:54:00PM	7/2/2015 4:52:09AM
ICP_As		**SW 6010B**					**Analyst: RJE**	
Arsenic	**8.92**	1.14		mg/kg dry	1	1526108	6/23/2015 12:30:00PM	7/3/2015 3:00:43AM
ICP_Ba		**SW 6010B**					**Analyst: RJE**	
Barium	**109**	1.14		mg/kg dry	1	1526108	6/23/2015 12:30:00PM	7/3/2015 3:00:43AM
ICP_Cd		**SW 6010B**					**Analyst: RJE**	
Cadmium	BDL	0.571		mg/kg dry	1	1526108	6/23/2015 12:30:00PM	7/3/2015 3:00:43AM
ICP_Cr		**SW 6010B**					**Analyst: RJE**	
Chromium	**22.6**	1.14		mg/kg dry	1	1526108	6/23/2015 12:30:00PM	7/3/2015 3:00:43AM
ICP_Pb		**SW 6010B**					**Analyst: RJE**	
Lead	**12.6**	1.14		mg/kg dry	1	1526108	6/23/2015 12:30:00PM	7/3/2015 3:00:43AM
ICP_Se		**SW 6010B**					**Analyst: RJE**	
Selenium	BDL	5.71		mg/kg dry	1	1526108	6/23/2015 12:30:00PM	7/3/2015 3:00:43AM
HG		**SW 7471A**					**Analyst: CW**	
Mercury	BDL	0.111		mg/kg dry	1	1525141	6/17/2015 10:37:00AM	6/17/2015 1:43:00PM
VOC 8260_5035		**SW 8260B**					**Analyst: MLR**	
1,1,1,2-Tetrachloroethane	BDL	0.125	R-06	mg/kg dry	25	1526079	6/20/2015 1:55:00PM	6/20/2015 9:49:00PM
1,1,1-Trichloroethane	BDL	0.125	R-06	mg/kg dry	25	1526079	6/20/2015 1:55:00PM	6/20/2015 9:49:00PM
1,1,2,2-Tetrachloroethane	BDL	0.125	R-06	mg/kg dry	25	1526079	6/20/2015 1:55:00PM	6/20/2015 9:49:00PM
1,1,2-Trichloroethane	BDL	0.125	R-06	mg/kg dry	25	1526079	6/20/2015 1:55:00PM	6/20/2015 9:49:00PM
1,1-Dichloroethane	BDL	0.125	R-06	mg/kg dry	25	1526079	6/20/2015 1:55:00PM	6/20/2015 9:49:00PM
1,1-Dichloroethene	BDL	0.125	R-06	mg/kg dry	25	1526079	6/20/2015 1:55:00PM	6/20/2015 9:49:00PM
1,1-Dichloropropene	BDL	0.125	R-06	mg/kg dry	25	1526079	6/20/2015 1:55:00PM	6/20/2015 9:49:00PM
1,2,3-Trichlorobenzene	BDL	0.125	R-06	mg/kg dry	25	1526079	6/20/2015 1:55:00PM	6/20/2015 9:49:00PM
1,2,3-Trichloropropane	BDL	0.125	R-06	mg/kg dry	25	1526079	6/20/2015 1:55:00PM	6/20/2015 9:49:00PM
1,2,4-Trichlorobenzene	BDL	0.125	R-06	mg/kg dry	25	1526079	6/20/2015 1:55:00PM	6/20/2015 9:49:00PM
1,2,4-Trimethylbenzene	BDL	0.125	R-06	mg/kg dry	25	1526079	6/20/2015 1:55:00PM	6/20/2015 9:49:00PM
1,2-Dibromo-3-chloropropane	BDL	0.249	R-06	mg/kg dry	25	1526079	6/20/2015 1:55:00PM	6/20/2015 9:49:00PM
1,2-Dibromoethane	BDL	0.125	R-06	mg/kg dry	25	1526079	6/20/2015 1:55:00PM	6/20/2015 9:49:00PM

CLIENT: Hull & Associates - Toledo Office **Lab Order:** 15F0709
Project: COT235 Champion Spark Plug

Lab ID: 15F0709-17 **Collection Date:** 6/9/2015 3:55:00PM
Client Sample ID: COT235:HSB-18:S040060 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Prepared	Date Analyzed
1,2-Dichlorobenzene	**0.674**	0.125	R-06	mg/kg dry	25	1526079	6/20/2015 1:55:00PM	6/20/2015 9:49:00PM
1,2-Dichloroethane	BDL	0.125	R-06	mg/kg dry	25	1526079	6/20/2015 1:55:00PM	6/20/2015 9:49:00PM
1,2-Dichloropropane	BDL	0.125	R-06	mg/kg dry	25	1526079	6/20/2015 1:55:00PM	6/20/2015 9:49:00PM
1,3,5-Trimethylbenzene	BDL	0.125	R-06	mg/kg dry	25	1526079	6/20/2015 1:55:00PM	6/20/2015 9:49:00PM
1,3-Dichlorobenzene	BDL	0.125	R-06	mg/kg dry	25	1526079	6/20/2015 1:55:00PM	6/20/2015 9:49:00PM
1,3-Dichloropropane	BDL	0.125	R-06	mg/kg dry	25	1526079	6/20/2015 1:55:00PM	6/20/2015 9:49:00PM
1,4-Dichlorobenzene	**0.249**	0.125	R-06	mg/kg dry	25	1526079	6/20/2015 1:55:00PM	6/20/2015 9:49:00PM
2,2-Dichloropropane	BDL	0.125	R-06	mg/kg dry	25	1526079	6/20/2015 1:55:00PM	6/20/2015 9:49:00PM
2-Butanone	**7.24**	0.498	R-06	mg/kg dry	25	1526079	6/20/2015 1:55:00PM	6/20/2015 9:49:00PM
2-Chlorotoluene	BDL	0.125	R-06	mg/kg dry	25	1526079	6/20/2015 1:55:00PM	6/20/2015 9:49:00PM
2-Hexanone	BDL	0.498	R-06	mg/kg dry	25	1526079	6/20/2015 1:55:00PM	6/20/2015 9:49:00PM
4-Chlorotoluene	BDL	0.125	R-06	mg/kg dry	25	1526079	6/20/2015 1:55:00PM	6/20/2015 9:49:00PM
4-Isopropyltoluene	**0.320**	0.125	R-06	mg/kg dry	25	1526079	6/20/2015 1:55:00PM	6/20/2015 9:49:00PM
4-Methyl-2-pentanone	BDL	0.498	R-06	mg/kg dry	25	1526079	6/20/2015 1:55:00PM	6/20/2015 9:49:00PM
Acetone	BDL	1.25	R-06	mg/kg dry	25	1526079	6/20/2015 1:55:00PM	6/20/2015 9:49:00PM
Acetonitrile	BDL	0.996	R-06	mg/kg dry	25	1526079	6/20/2015 1:55:00PM	6/20/2015 9:49:00PM
Acrolein	BDL	1.25	R-06	mg/kg dry	25	1526079	6/20/2015 1:55:00PM	6/20/2015 9:49:00PM
Acrylonitrile	BDL	0.498	R-06	mg/kg dry	25	1526079	6/20/2015 1:55:00PM	6/20/2015 9:49:00PM
Allyl chloride	BDL	0.249	R-06	mg/kg dry	25	1526079	6/20/2015 1:55:00PM	6/20/2015 9:49:00PM
Benzene	BDL	0.125	R-06	mg/kg dry	25	1526079	6/20/2015 1:55:00PM	6/20/2015 9:49:00PM
Bromobenzene	BDL	0.125	R-06	mg/kg dry	25	1526079	6/20/2015 1:55:00PM	6/20/2015 9:49:00PM
Bromochloromethane	BDL	0.125	R-06	mg/kg dry	25	1526079	6/20/2015 1:55:00PM	6/20/2015 9:49:00PM
Bromodichloromethane	BDL	0.125	R-06	mg/kg dry	25	1526079	6/20/2015 1:55:00PM	6/20/2015 9:49:00PM
Bromoform	BDL	0.125	R-06	mg/kg dry	25	1526079	6/20/2015 1:55:00PM	6/20/2015 9:49:00PM
Bromomethane	BDL	0.125	R-06	mg/kg dry	25	1526079	6/20/2015 1:55:00PM	6/20/2015 9:49:00PM
Carbon Disulfide	BDL	0.498	R-06	mg/kg dry	25	1526079	6/20/2015 1:55:00PM	6/20/2015 9:49:00PM
Carbon Tetrachloride	BDL	0.125	R-06	mg/kg dry	25	1526079	6/20/2015 1:55:00PM	6/20/2015 9:49:00PM
Chlorobenzene	BDL	0.125	R-06	mg/kg dry	25	1526079	6/20/2015 1:55:00PM	6/20/2015 9:49:00PM
Chloroethane	BDL	0.125	R-06	mg/kg dry	25	1526079	6/20/2015 1:55:00PM	6/20/2015 9:49:00PM
Chloroform	BDL	0.125	R-06	mg/kg dry	25	1526079	6/20/2015 1:55:00PM	6/20/2015 9:49:00PM
Chloromethane	BDL	0.125	R-06	mg/kg dry	25	1526079	6/20/2015 1:55:00PM	6/20/2015 9:49:00PM
cis-1,2-Dichloroethene	BDL	0.125	R-06	mg/kg dry	25	1526079	6/20/2015 1:55:00PM	6/20/2015 9:49:00PM
cis-1,3-Dichloropropene	BDL	0.125	R-06	mg/kg dry	25	1526079	6/20/2015 1:55:00PM	6/20/2015 9:49:00PM
Dibromochloromethane	BDL	0.125	R-06	mg/kg dry	25	1526079	6/20/2015 1:55:00PM	6/20/2015 9:49:00PM
Dibromomethane	BDL	0.125	R-06	mg/kg dry	25	1526079	6/20/2015 1:55:00PM	6/20/2015 9:49:00PM
Dichlorodifluoromethane	BDL	0.125	R-06	mg/kg dry	25	1526079	6/20/2015 1:55:00PM	6/20/2015 9:49:00PM
Ethylbenzene	**1.65**	0.125	R-06	mg/kg dry	25	1526079	6/20/2015 1:55:00PM	6/20/2015 9:49:00PM
Hexachlorobutadiene	BDL	0.125	R-06	mg/kg dry	25	1526079	6/20/2015 1:55:00PM	6/20/2015 9:49:00PM
Iodomethane	BDL	0.249	R-06	mg/kg dry	25	1526079	6/20/2015 1:55:00PM	6/20/2015 9:49:00PM
Isopropylbenzene	**0.456**	0.125	R-06	mg/kg dry	25	1526079	6/20/2015 1:55:00PM	6/20/2015 9:49:00PM
Methylene Chloride	BDL	0.125	R-06	mg/kg dry	25	1526079	6/20/2015 1:55:00PM	6/20/2015 9:49:00PM
Methyl tert-Butyl Ether	BDL	0.249	R-06	mg/kg dry	25	1526079	6/20/2015 1:55:00PM	6/20/2015 9:49:00PM
m,p-Xylene	BDL	0.249	R-06	mg/kg dry	25	1526079	6/20/2015 1:55:00PM	6/20/2015 9:49:00PM

CLIENT: Hull & Associates - Toledo Office **Lab Order:** 15F0709
Project: COT235 Champion Spark Plug

Lab ID: 15F0709-17 **Collection Date:** 6/9/2015 3:55:00PM
Client Sample ID: COT235:HSB-18:S040060 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Prepared	Date Analyzed
Naphthalene	**8.69**	0.125	R-06	mg/kg dry	25	1526079	6/20/2015 1:55:00PM	6/20/2015 9:49:00PM
n-Butylbenzene	**2.34**	0.125	R-06	mg/kg dry	25	1526079	6/20/2015 1:55:00PM	6/20/2015 9:49:00PM
n-Hexane	**2.42**	0.125	R-06	mg/kg dry	25	1526084	6/20/2015 9:07:00PM	6/21/2015 12:19:00AM
n-Propylbenzene	**2.35**	0.125	R-06	mg/kg dry	25	1526079	6/20/2015 1:55:00PM	6/20/2015 9:49:00PM
o-Xylene	BDL	0.125	R-06	mg/kg dry	25	1526079	6/20/2015 1:55:00PM	6/20/2015 9:49:00PM
sec-Butylbenzene	**0.903**	0.125	R-06	mg/kg dry	25	1526079	6/20/2015 1:55:00PM	6/20/2015 9:49:00PM
Styrene	BDL	0.125	R-06	mg/kg dry	25	1526079	6/20/2015 1:55:00PM	6/20/2015 9:49:00PM
tert_Butylbenzene	BDL	0.125	R-06	mg/kg dry	25	1526079	6/20/2015 1:55:00PM	6/20/2015 9:49:00PM
Tetrachloroethene	BDL	0.125	R-06	mg/kg dry	25	1526079	6/20/2015 1:55:00PM	6/20/2015 9:49:00PM
Toluene	BDL	0.125	R-06	mg/kg dry	25	1526079	6/20/2015 1:55:00PM	6/20/2015 9:49:00PM
trans-1,2-Dichloroethene	BDL	0.125	R-06	mg/kg dry	25	1526079	6/20/2015 1:55:00PM	6/20/2015 9:49:00PM
trans-1,3-Dichloropropene	BDL	0.125	R-06	mg/kg dry	25	1526079	6/20/2015 1:55:00PM	6/20/2015 9:49:00PM
Trichloroethene	BDL	0.125	R-06	mg/kg dry	25	1526079	6/20/2015 1:55:00PM	6/20/2015 9:49:00PM
Trichlorofluoromethane	BDL	0.125	R-06	mg/kg dry	25	1526079	6/20/2015 1:55:00PM	6/20/2015 9:49:00PM
Vinyl Chloride	BDL	0.125	R-06	mg/kg dry	25	1526079	6/20/2015 1:55:00PM	6/20/2015 9:49:00PM
Vinyl acetate	BDL	0.249	R-06	mg/kg dry	25	1526079	6/20/2015 1:55:00PM	6/20/2015 9:49:00PM
Surrogate: 4-Bromofluorobenzene	*127 %*			*62-129*		*1526084*	6/20/2015 9:07:00PM	6/21/2015 12:19:00AM
Surrogate: 4-Bromofluorobenzene	*114 %*			*62-129*		*1526079*	6/20/2015 1:55:00PM	6/20/2015 9:49:00PM
Surrogate: Dibromofluoromethane	*97.6 %*			*71-129*		*1526079*	6/20/2015 1:55:00PM	6/20/2015 9:49:00PM
Surrogate: Dibromofluoromethane	*98.4 %*			*71-129*		*1526084*	6/20/2015 9:07:00PM	6/21/2015 12:19:00AM
Surrogate: Toluene-d8	*92.0 %*			*74-124*		*1526084*	6/20/2015 9:07:00PM	6/21/2015 12:19:00AM
Surrogate: Toluene-d8	*93.2 %*			*74-124*		*1526079*	6/20/2015 1:55:00PM	6/20/2015 9:49:00PM
Surrogate: 1,2-Dichloroethane-d4	*92.9 %*			*70-127*		*1526079*	6/20/2015 1:55:00PM	6/20/2015 9:49:00PM
Surrogate: 1,2-Dichloroethane-d4	*103 %*			*70-127*		*1526084*	6/20/2015 9:07:00PM	6/21/2015 12:19:00AM
PMOIST	**D 2216**						**Analyst: NL**	
Percent Moisture	**20.3**			% by Weight	1	1526198	6/24/2015 5:00:00PM	6/24/2015 5:00:00PM

CLIENT: Hull & Associates - Toledo Office
Project: COT235 Champion Spark Plug
Lab Order: 15F0709

Lab ID: 15F0709-18
Client Sample ID: COT235:Trip
Collection Date: 6/8/2015 10:20:00AM
Matrix: Water

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Prepared	Date Analyzed
BTEX_MTBE_MS_TB		**SW 8260B**					**Analyst: EAH**	
Benzene	BDL	1.00		ug/L	1	1524311	6/11/2015 5:00:00PM	6/11/2015 7:05:00PM
Ethylbenzene	BDL	1.00		ug/L	1	1524311	6/11/2015 5:00:00PM	6/11/2015 7:05:00PM
Methyl tert-Butyl Ether	BDL	10.0		ug/L	1	1524311	6/11/2015 5:00:00PM	6/11/2015 7:05:00PM
m,p-Xylene	BDL	2.00		ug/L	1	1524311	6/11/2015 5:00:00PM	6/11/2015 7:05:00PM
o-Xylene	BDL	1.00		ug/L	1	1524311	6/11/2015 5:00:00PM	6/11/2015 7:05:00PM
Toluene	BDL	1.00		ug/L	1	1524311	6/11/2015 5:00:00PM	6/11/2015 7:05:00PM
Surrogate: 4-Bromofluorobenzene	*95.4 %*			*85-115*		*1524311*	6/11/2015 5:00:00PM	6/11/2015 7:05:00PM
Surrogate: Dibromofluoromethane	*92.4 %*			*85-115*		*1524311*	6/11/2015 5:00:00PM	6/11/2015 7:05:00PM
Surrogate: Toluene-d8	*92.4 %*			*85-115*		*1524311*	6/11/2015 5:00:00PM	6/11/2015 7:05:00PM
Surrogate: 1,2-Dichloroethane-d4	*93.6 %*			*85-115*		*1524311*	6/11/2015 5:00:00PM	6/11/2015 7:05:00PM
VOC 8260_TB		**SW 8260B**					**Analyst: EAH**	
1,1,1,2-Tetrachloroethane	BDL	1.00		ug/L	1	1524311	6/11/2015 5:00:00PM	6/11/2015 7:05:00PM
1,1,1-Trichloroethane	BDL	1.00		ug/L	1	1524311	6/11/2015 5:00:00PM	6/11/2015 7:05:00PM
1,1,2,2-Tetrachloroethane	BDL	1.00		ug/L	1	1524311	6/11/2015 5:00:00PM	6/11/2015 7:05:00PM
1,1,2-Trichloroethane	BDL	1.00		ug/L	1	1524311	6/11/2015 5:00:00PM	6/11/2015 7:05:00PM
1,1-Dichloroethane	BDL	2.00		ug/L	1	1524311	6/11/2015 5:00:00PM	6/11/2015 7:05:00PM
1,1-Dichloroethene	BDL	1.00		ug/L	1	1524311	6/11/2015 5:00:00PM	6/11/2015 7:05:00PM
1,1-Dichloropropene	BDL	5.00		ug/L	1	1524311	6/11/2015 5:00:00PM	6/11/2015 7:05:00PM
1,2-Dibromoethane	BDL	5.00		ug/L	1	1524311	6/11/2015 5:00:00PM	6/11/2015 7:05:00PM
1,2-Dichloroethane	BDL	1.00		ug/L	1	1524311	6/11/2015 5:00:00PM	6/11/2015 7:05:00PM
1,2-Dichloropropane	BDL	1.00		ug/L	1	1524311	6/11/2015 5:00:00PM	6/11/2015 7:05:00PM
1,3-Dichloropropane	BDL	1.00		ug/L	1	1524311	6/11/2015 5:00:00PM	6/11/2015 7:05:00PM
2,2-Dichloropropane	BDL	1.00		ug/L	1	1524311	6/11/2015 5:00:00PM	6/11/2015 7:05:00PM
2-Butanone	BDL	10.0		ug/L	1	1524311	6/11/2015 5:00:00PM	6/11/2015 7:05:00PM
2-Chlorotoluene	BDL	1.00		ug/L	1	1524311	6/11/2015 5:00:00PM	6/11/2015 7:05:00PM
2-Hexanone	BDL	10.0		ug/L	1	1524311	6/11/2015 5:00:00PM	6/11/2015 7:05:00PM
4-Chlorotoluene	BDL	1.00		ug/L	1	1524311	6/11/2015 5:00:00PM	6/11/2015 7:05:00PM
4-Methyl-2-pentanone	BDL	10.0		ug/L	1	1524311	6/11/2015 5:00:00PM	6/11/2015 7:05:00PM
Acetone	BDL	10.0		ug/L	1	1524311	6/11/2015 5:00:00PM	6/11/2015 7:05:00PM
Acetonitrile	BDL	40.0		ug/L	1	1524311	6/11/2015 5:00:00PM	6/11/2015 7:05:00PM
Acrolein	BDL	20.0		ug/L	1	1524311	6/11/2015 5:00:00PM	6/11/2015 7:05:00PM
Acrylonitrile	BDL	10.0		ug/L	1	1524311	6/11/2015 5:00:00PM	6/11/2015 7:05:00PM
Allyl chloride	BDL	1.00		ug/L	1	1524311	6/11/2015 5:00:00PM	6/11/2015 7:05:00PM
Benzene	BDL	1.00		ug/L	1	1524311	6/11/2015 5:00:00PM	6/11/2015 7:05:00PM
Bromobenzene	BDL	1.00		ug/L	1	1524311	6/11/2015 5:00:00PM	6/11/2015 7:05:00PM
Bromochloromethane	BDL	1.00		ug/L	1	1524311	6/11/2015 5:00:00PM	6/11/2015 7:05:00PM
Bromodichloromethane	BDL	1.00		ug/L	1	1524311	6/11/2015 5:00:00PM	6/11/2015 7:05:00PM
Bromoform	BDL	1.00		ug/L	1	1524311	6/11/2015 5:00:00PM	6/11/2015 7:05:00PM
Bromomethane	BDL	2.00		ug/L	1	1524311	6/11/2015 5:00:00PM	6/11/2015 7:05:00PM
Carbon Disulfide	BDL	5.00		ug/L	1	1524311	6/11/2015 5:00:00PM	6/11/2015 7:05:00PM

CLIENT: Hull & Associates - Toledo Office
Project: COT235 Champion Spark Plug
Lab Order: 15F0709

Lab ID: 15F0709-18
Client Sample ID: COT235:Trip
Collection Date: 6/8/2015 10:20:00AM
Matrix: Water

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Prepared	Date Analyzed
Carbon Tetrachloride	BDL	1.00		ug/L	1	1524311	6/11/2015 5:00:00PM	6/11/2015 7:05:00PM
Chlorobenzene	BDL	1.00		ug/L	1	1524311	6/11/2015 5:00:00PM	6/11/2015 7:05:00PM
Chloroethane	BDL	1.00		ug/L	1	1524311	6/11/2015 5:00:00PM	6/11/2015 7:05:00PM
Chloroform	BDL	1.00		ug/L	1	1524311	6/11/2015 5:00:00PM	6/11/2015 7:05:00PM
Chloromethane	BDL	1.00		ug/L	1	1524311	6/11/2015 5:00:00PM	6/11/2015 7:05:00PM
cis-1,2-Dichloroethene	BDL	1.00		ug/L	1	1524311	6/11/2015 5:00:00PM	6/11/2015 7:05:00PM
cis-1,3-Dichloropropene	BDL	1.00		ug/L	1	1524311	6/11/2015 5:00:00PM	6/11/2015 7:05:00PM
Dibromochloromethane	BDL	1.00		ug/L	1	1524311	6/11/2015 5:00:00PM	6/11/2015 7:05:00PM
Dibromomethane	BDL	1.00		ug/L	1	1524311	6/11/2015 5:00:00PM	6/11/2015 7:05:00PM
Dichlorodifluoromethane	BDL	2.00		ug/L	1	1524311	6/11/2015 5:00:00PM	6/11/2015 7:05:00PM
Ethylbenzene	BDL	1.00		ug/L	1	1524311	6/11/2015 5:00:00PM	6/11/2015 7:05:00PM
Iodomethane	BDL	10.0		ug/L	1	1524311	6/11/2015 5:00:00PM	6/11/2015 7:05:00PM
Methylene Chloride	BDL	1.00		ug/L	1	1524311	6/11/2015 5:00:00PM	6/11/2015 7:05:00PM
Methyl tert-Butyl Ether	BDL	10.0		ug/L	1	1524311	6/11/2015 5:00:00PM	6/11/2015 7:05:00PM
m,p-Xylene	BDL	2.00		ug/L	1	1524311	6/11/2015 5:00:00PM	6/11/2015 7:05:00PM
n-Hexane	BDL	5.00		ug/L	1	1524311	6/11/2015 5:00:00PM	6/11/2015 7:05:00PM
o-Xylene	BDL	1.00		ug/L	1	1524311	6/11/2015 5:00:00PM	6/11/2015 7:05:00PM
Styrene	BDL	1.00		ug/L	1	1524311	6/11/2015 5:00:00PM	6/11/2015 7:05:00PM
Tetrachloroethene	BDL	2.00		ug/L	1	1524311	6/11/2015 5:00:00PM	6/11/2015 7:05:00PM
Toluene	BDL	1.00		ug/L	1	1524311	6/11/2015 5:00:00PM	6/11/2015 7:05:00PM
trans-1,2-Dichloroethene	BDL	1.00		ug/L	1	1524311	6/11/2015 5:00:00PM	6/11/2015 7:05:00PM
trans-1,3-Dichloropropene	BDL	1.00		ug/L	1	1524311	6/11/2015 5:00:00PM	6/11/2015 7:05:00PM
Trichloroethene	BDL	2.00		ug/L	1	1524311	6/11/2015 5:00:00PM	6/11/2015 7:05:00PM
Trichlorofluoromethane	BDL	2.00		ug/L	1	1524311	6/11/2015 5:00:00PM	6/11/2015 7:05:00PM
Vinyl Chloride	BDL	1.00		ug/L	1	1524311	6/11/2015 5:00:00PM	6/11/2015 7:05:00PM
Vinyl acetate	BDL	10.0		ug/L	1	1524311	6/11/2015 5:00:00PM	6/11/2015 7:05:00PM
Surrogate: 4-Bromofluorobenzene	*95.4 %*			*85-115*		*1524311*	6/11/2015 5:00:00PM	6/11/2015 7:05:00PM
Surrogate: Dibromofluoromethane	*92.4 %*			*85-115*		*1524311*	6/11/2015 5:00:00PM	6/11/2015 7:05:00PM
Surrogate: Toluene-d8	*92.4 %*			*85-115*		*1524311*	6/11/2015 5:00:00PM	6/11/2015 7:05:00PM
Surrogate: 1,2-Dichloroethane-d4	*93.6 %*			*85-115*		*1524311*	6/11/2015 5:00:00PM	6/11/2015 7:05:00PM

CLIENT: Hull & Associates - Toledo Office
Project: COT235 Champion Spark Plug
Lab Order: 15F0709

Lab ID: 15F0709-19
Client Sample ID: COT235:E. Blank:W060915
Collection Date: 6/9/2015 4:50:00PM
Matrix: Groundwater

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Prepared	Date Analyzed
TPH GRO							**Analyst: MLR**	
Gasoline Range Organics, C6 - C12	BDL	5.00		mg/L	1	1525063	6/15/2015 12:58:00PM	6/15/2015 3:50:00PM
Surrogate: Chlorobenzene-d5	*103 %*	*70-130*				*1525063*	6/15/2015 12:58:00PM	6/15/2015 3:50:00PM
ICP_Ag		**SW 6010B**					**Analyst: RJE**	
Silver	BDL	0.00200		mg/L	1	1525086	6/16/2015 9:00:00AM	6/16/2015 7:50:52PM
ICP_As		**SW 6010B**					**Analyst: RJE**	
Arsenic	BDL	0.00500		mg/L	1	1525086	6/16/2015 9:00:00AM	6/16/2015 7:50:52PM
ICP_Ba		**SW 6010B**					**Analyst: RJE**	
Barium	BDL	0.00500		mg/L	1	1525086	6/16/2015 9:00:00AM	6/16/2015 7:50:52PM
ICP_Cd		**SW 6010B**					**Analyst: RJE**	
Cadmium	BDL	0.00200		mg/L	1	1525086	6/16/2015 9:00:00AM	6/16/2015 7:50:52PM
ICP_Cr		**SW 6010B**					**Analyst: RJE**	
Chromium	BDL	0.00500		mg/L	1	1525086	6/16/2015 9:00:00AM	6/16/2015 7:50:52PM
ICP_Pb		**SW 6010B**					**Analyst: RJE**	
Lead	BDL	0.00500		mg/L	1	1525086	6/16/2015 9:00:00AM	6/16/2015 7:50:52PM
ICP_Se		**SW 6010B**					**Analyst: RJE**	
Selenium	BDL	0.0100		mg/L	1	1525086	6/16/2015 9:00:00AM	6/16/2015 7:50:52PM
HG		**SW 7470A**					**Analyst: CW**	
Mercury	BDL	0.000200		mg/L	1	1525083	6/16/2015 9:45:00AM	6/17/2015 9:40:00AM

Petroleum Hydrocarbons by GC FID - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1525063 - GC Prep										
Blank (1525063-BLK1)				Prepared & Analyzed: 06/15/15						
Gasoline Range Organics, C6 - C12	BDL	5.00	mg/L							
Surrogate: Chlorobenzene-d5	*0.359*		*mg/L*	*0.4000*		*89.8*	*70-130*			
LCS (1525063-BS1)				Prepared & Analyzed: 06/15/15						
Gasoline Range Organics, C6 - C12	9.51	5.00	mg/L	10.00		95.1	83.3-106			
Surrogate: Chlorobenzene-d5	*0.326*		*mg/L*	*0.4000*		*81.5*	*70-130*			
Batch 1525157 - GC Prep										
Blank (1525157-BLK1)				Prepared & Analyzed: 06/17/15						
Gasoline Range Organics, C6 - C12	BDL	5.00	mg/kg wet							
Surrogate: Chlorobenzene-d5	*0.381*		*mg/L*	*0.4000*		*95.2*	*70-130*			
LCS (1525157-BS1)				Prepared & Analyzed: 06/17/15						
Gasoline Range Organics, C6 - C12	9.06	5.00	mg/kg wet	10.00		90.6	79.3-112			
Surrogate: Chlorobenzene-d5	*0.363*		*mg/L*	*0.4000*		*90.8*	*70-130*			
Batch 1525201 - GC Prep										
Blank (1525201-BLK1)				Prepared & Analyzed: 06/18/15						
Gasoline Range Organics, C6 - C12	BDL	5.00	mg/kg wet							
Surrogate: Chlorobenzene-d5	*0.400*		*mg/L*	*0.4000*		*100*	*70-130*			
LCS (1525201-BS1)				Prepared & Analyzed: 06/18/15						
Gasoline Range Organics, C6 - C12	9.50	5.00	mg/kg wet	10.00		95.0	79.3-112			
Surrogate: Chlorobenzene-d5	*0.371*		*mg/L*	*0.4000*		*92.8*	*70-130*			

Petroleum Hydrocarbons by GC FID - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1525239 - GC Prep										
Blank (1525239-BLK1)				Prepared & Analyzed: 06/19/15						
Gasoline Range Organics, C6 - C12	BDL	5.00	mg/kg wet							
Surrogate: Chlorobenzene-d5	*0.368*		*mg/L*	*0.4000*		*92.0*	*70-130*			
LCS (1525239-BS1)				Prepared & Analyzed: 06/19/15						
Gasoline Range Organics, C6 - C12	9.92	5.00	mg/kg wet	10.00		99.2	79.3-112			
Surrogate: Chlorobenzene-d5	*0.369*		*mg/L*	*0.4000*		*92.2*	*70-130*			
Matrix Spike (1525239-MS1)		**Source: 15F0709-11**		Prepared & Analyzed: 06/19/15						
Gasoline Range Organics, C6 - C12	11.8	6.24	mg/kg dry	12.47	4.58	58.2	16-134			
Surrogate: Chlorobenzene-d5	*0.323*		*mg/L*	*0.4000*		*80.8*	*70-130*			
Matrix Spike Dup (1525239-MSD1)		**Source: 15F0709-11**		Prepared & Analyzed: 06/19/15						
Gasoline Range Organics, C6 - C12	10.6	6.16	mg/kg dry	12.31	4.58	48.6	16-134	11.4	22	
Surrogate: Chlorobenzene-d5	*0.273*		*mg/L*	*0.4000*		*68.2*	*70-130*			*S-04*

Total Metals by ICP - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1525086 - PREP_ICP_W										
Blank (1525086-BLK1)				Prepared & Analyzed: 06/16/15						
Arsenic	BDL	0.00500	mg/L							
Barium	BDL	0.00500	mg/L							
Cadmium	BDL	0.00200	mg/L							
Chromium	BDL	0.00500	mg/L							
Lead	BDL	0.00500	mg/L							
Selenium	BDL	0.0100	mg/L							
Silver	BDL	0.00200	mg/L							
LCS (1525086-BS1)				Prepared & Analyzed: 06/16/15						
Arsenic	0.956	0.00500	mg/L	1.000		95.6	85-115			
Barium	1.03	0.00500	mg/L	1.000		103	85-115			
Cadmium	0.994	0.00200	mg/L	1.000		99.4	85-115			
Chromium	0.983	0.00500	mg/L	1.000		98.3	85-115			
Lead	0.987	0.00500	mg/L	1.000		98.7	85-115			
Selenium	0.993	0.0100	mg/L	1.000		99.3	85-115			
Silver	0.972	0.00200	mg/L	1.000		97.2	85-115			
LCS Dup (1525086-BSD1)				Prepared & Analyzed: 06/16/15						
Arsenic	0.948	0.00500	mg/L	1.000		94.8	85-115	0.829	20	
Barium	1.02	0.00500	mg/L	1.000		102	85-115	1.41	20	
Cadmium	0.984	0.00200	mg/L	1.000		98.4	85-115	1.03	20	
Chromium	0.971	0.00500	mg/L	1.000		97.1	85-115	1.27	20	
Lead	0.974	0.00500	mg/L	1.000		97.4	85-115	1.35	20	
Selenium	0.988	0.0100	mg/L	1.000		98.8	85-115	0.530	20	
Silver	0.957	0.00200	mg/L	1.000		95.7	85-115	1.54	20	
Duplicate (1525086-DUP1)		**Source: 15F0621-02**		Prepared & Analyzed: 06/16/15						
Arsenic	BDL	0.00500	mg/L		ND				20	
Barium	0.273	0.00500	mg/L		0.280			2.35	20	
Cadmium	BDL	0.00200	mg/L		ND				20	
Chromium	0.00127	0.00500	mg/L		0.00125			1.43	20	
Lead	BDL	0.00500	mg/L		ND				20	
Selenium	0.00384	0.0100	mg/L		0.00244			44.7	20	R
Silver	0.00197	0.00200	mg/L		0.00191			3.04	20	

Total Metals by ICP - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1525086 - PREP_ICP_W										
Matrix Spike (1525086-MS1)	**Source: 15F0407-14**			Prepared & Analyzed: 06/16/15						
Arsenic	0.926	0.00500	mg/L	1.000	0.00754	91.8	75-125			
Barium	0.980	0.00500	mg/L	1.000	0.0289	95.1	75-125			
Cadmium	0.879	0.00200	mg/L	1.000	0.000410	87.9	75-125			
Chromium	0.889	0.00500	mg/L	1.000	0.00285	88.6	75-125			
Lead	0.884	0.00500	mg/L	1.000	ND	88.4	75-125			
Selenium	0.956	0.0100	mg/L	1.000	0.00780	94.8	75-125			
Silver	0.930	0.00200	mg/L	1.000	0.00181	92.8	75-125			
Matrix Spike Dup (1525086-MSD1)	**Source: 15F0407-14**			Prepared & Analyzed: 06/16/15						
Arsenic	0.936	0.00500	mg/L	1.000	0.00754	92.9	75-125	1.13	20	
Barium	0.978	0.00500	mg/L	1.000	0.0289	95.0	75-125	0.151	20	
Cadmium	0.883	0.00200	mg/L	1.000	0.000410	88.2	75-125	0.385	20	
Chromium	0.892	0.00500	mg/L	1.000	0.00285	88.9	75-125	0.389	20	
Lead	0.887	0.00500	mg/L	1.000	ND	88.7	75-125	0.395	20	
Selenium	0.967	0.0100	mg/L	1.000	0.00780	95.9	75-125	1.17	20	
Silver	0.928	0.00200	mg/L	1.000	0.00181	92.6	75-125	0.188	20	
Post Spike (1525086-PS1)	**Source: 15F0407-14**			Prepared & Analyzed: 06/16/15						
Arsenic	0.886		mg/L	1.000	0.00754	87.9	75-125			
Barium	0.957		mg/L	1.000	0.0289	92.8	75-125			
Cadmium	0.863		mg/L	1.000	0.000410	86.2	75-125			
Chromium	0.872		mg/L	1.000	0.00285	86.9	75-125			
Lead	0.867		mg/L	1.000	0.000779	86.6	75-125			
Selenium	0.944		mg/L	1.000	0.00780	93.6	75-125			
Silver	0.899		mg/L	1.000	0.00181	89.7	75-125			
Batch 1526108 - PREP_ICP_S										
Blank (1526108-BLK1)				Prepared: 06/23/15 Analyzed: 07/01/15						
Arsenic	BDL	1.00	mg/kg wet							
Barium	BDL	1.00	mg/kg wet							
Cadmium	BDL	0.500	mg/kg wet							
Chromium	BDL	1.00	mg/kg wet							
Lead	BDL	1.00	mg/kg wet							
Selenium	BDL	5.00	mg/kg wet							

CLIENT: Hull & Associates - Toledo Office **Lab Order:** 15F0709
Project: COT235 Champion Spark Plug

Total Metals by ICP - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1526108 - PREP_ICP_S										
LCS (1526108-BS2)				Prepared: 06/23/15 Analyzed: 07/01/15						
Arsenic	92.5	1.00	mg/kg wet	100.0		92.5	80-120			
Barium	101	1.00	mg/kg wet	100.0		101	80-120			
Cadmium	96.0	0.500	mg/kg wet	100.0		96.0	80-120			
Chromium	96.4	1.00	mg/kg wet	100.0		96.4	80-120			
Lead	97.3	1.00	mg/kg wet	100.0		97.3	80-120			
Selenium	96.1	5.00	mg/kg wet	100.0		96.1	80-120			
LCS Dup (1526108-BSD2)				Prepared: 06/23/15 Analyzed: 07/01/15						
Arsenic	93.5	1.00	mg/kg wet	100.0		93.5	80-120	1.04	20	
Barium	102	1.00	mg/kg wet	100.0		102	80-120	0.345	20	
Cadmium	96.3	0.500	mg/kg wet	100.0		96.3	80-120	0.308	20	
Chromium	97.1	1.00	mg/kg wet	100.0		97.1	80-120	0.689	20	
Lead	97.3	1.00	mg/kg wet	100.0		97.3	80-120	0.0296	20	
Selenium	96.3	5.00	mg/kg wet	100.0		96.3	80-120	0.201	20	
Duplicate (1526108-DUP1)		**Source: 15F1040-01**		Prepared: 06/23/15 Analyzed: 07/01/15						
Arsenic	3.38	0.935	mg/kg dry		2.68			23.2	20	R
Barium	17.0	0.935	mg/kg dry		8.29			69.1	20	R
Cadmium	BDL	0.468	mg/kg dry		ND				20	
Chromium	3.50	0.935	mg/kg dry		2.99			15.6	20	
Lead	2.70	0.935	mg/kg dry		2.07			26.6	20	R
Selenium	BDL	4.68	mg/kg dry		ND				20	
Matrix Spike (1526108-MS1)		**Source: 15F1040-01**		Prepared: 06/23/15 Analyzed: 07/01/15						
Arsenic	80.2	0.888	mg/kg dry	88.79	2.68	87.3	75-125			
Barium	86.4	0.888	mg/kg dry	88.79	8.29	87.9	75-125			
Cadmium	67.9	0.444	mg/kg dry	88.79	ND	76.5	75-125			
Chromium	76.1	0.888	mg/kg dry	88.79	2.99	82.3	75-125			
Lead	72.5	0.888	mg/kg dry	88.79	2.07	79.3	75-125			
Selenium	76.5	4.44	mg/kg dry	88.79	ND	86.1	75-125			

CLIENT: Hull & Associates - Toledo Office **Lab Order:** 15F0709
Project: COT235 Champion Spark Plug

Total Metals by ICP - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1526108 - PREP_ICP_S										
Matrix Spike Dup (1526108-MSD1)		**Source: 15F1040-01**		Prepared: 06/23/15 Analyzed: 07/01/15						
Arsenic	87.1	0.970	mg/kg dry	97.01	2.68	87.0	75-125	8.28	20	
Barium	96.9	0.970	mg/kg dry	97.01	8.29	91.4	75-125	11.5	20	
Cadmium	72.8	0.485	mg/kg dry	97.01	ND	75.0	75-125	6.93	20	
Chromium	82.6	0.970	mg/kg dry	97.01	2.99	82.1	75-125	8.24	20	
Lead	79.4	0.970	mg/kg dry	97.01	2.07	79.7	75-125	9.12	20	
Selenium	81.1	4.85	mg/kg dry	97.01	ND	83.6	75-125	5.94	20	
Post Spike (1526108-PS1)		**Source: 15F1040-01**		Prepared: 06/23/15 Analyzed: 07/01/15						
Arsenic	84.3	0.919	mg/kg dry	91.91	2.68	88.8	75-125			
Barium	98.3	0.919	mg/kg dry	91.91	8.29	97.9	75-125			
Cadmium	72.8	0.460	mg/kg dry	91.91	ND	79.2	75-125			
Chromium	80.8	0.919	mg/kg dry	91.91	2.99	84.7	75-125			
Lead	77.8	0.919	mg/kg dry	91.91	2.07	82.4	75-125			
Selenium	82.2	4.60	mg/kg dry	91.91	ND	89.5	75-125			
Batch 1527130 - PREP_ICP_S										
Blank (1527130-BLK1)				Prepared: 07/01/15 Analyzed: 07/02/15						
Silver	BDL	1.00	mg/kg wet							
LCS (1527130-BS1)				Prepared: 07/01/15 Analyzed: 07/02/15						
Silver	89.5	1.00	mg/kg wet	100.0		89.5	80-120			
LCS Dup (1527130-BSD1)				Prepared: 07/01/15 Analyzed: 07/02/15						
Silver	89.7	1.00	mg/kg wet	100.0		89.7	80-120	0.181	20	
Duplicate (1527130-DUP1)		**Source: 15F1653-18**		Prepared: 07/01/15 Analyzed: 07/02/15						
Silver	10.5	2.92	mg/kg dry		10.4			0.551	20	

CLIENT: Hull & Associates - Toledo Office **Lab Order:** 15F0709
Project: COT235 Champion Spark Plug

Total Metals by ICP - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1527130 - PREP_ICP_S										
Matrix Spike (1527130-MS1)	**Source: 15F1653-18**			Prepared: 07/01/15 Analyzed: 07/02/15						
Silver	271	2.92	mg/kg dry	292.3	10.4	89.3	75-125			
Matrix Spike Dup (1527130-MSD1)	**Source: 15F1653-18**			Prepared: 07/01/15 Analyzed: 07/02/15						
Silver	260	2.86	mg/kg dry	286.5	10.4	87.2	75-125	4.20	20	
Post Spike (1527130-PS1)	**Source: 15F1653-18**			Prepared: 07/01/15 Analyzed: 07/02/15						
Silver	0.958		mg/L	1.000	0.0358	92.2	75-125			

Mercury Analysis - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1525083 - PREP_HG_W										
Blank (1525083-BLK1)				Prepared: 06/16/15 Analyzed: 06/17/15						
Mercury	BDL	0.000200	mg/L							
LCS (1525083-BS1)				Prepared: 06/16/15 Analyzed: 06/17/15						
Mercury	0.00626	0.000200	mg/L	0.006250		100	80-120			
LCS Dup (1525083-BSD1)				Prepared: 06/16/15 Analyzed: 06/17/15						
Mercury	0.00582	0.000200	mg/L	0.006250		93	80-120	7	20	
Matrix Spike (1525083-MS1)		**Source: 15F0709-19**		Prepared: 06/16/15 Analyzed: 06/17/15						
Mercury	0.00629	0.000200	mg/L	0.006250	ND	101	70-130			
Matrix Spike Dup (1525083-MSD1)		**Source: 15F0709-19**		Prepared: 06/16/15 Analyzed: 06/17/15						
Mercury	0.00642	0.000200	mg/L	0.006250	ND	103	70-130	2	30	
Batch 1525141 - PREP_HG_S										
Blank (1525141-BLK1)				Prepared & Analyzed: 06/17/15						
Mercury	BDL	0.100	mg/kg wet							
LCS (1525141-BS1)				Prepared & Analyzed: 06/17/15						
Mercury	0.850	0.100	mg/kg wet	0.8333		102	80-120			
LCS Dup (1525141-BSD1)				Prepared & Analyzed: 06/17/15						
Mercury	0.867	0.100	mg/kg wet	0.8333		104	80-120	2	20	
Matrix Spike (1525141-MS1)		**Source: 15F0959-01**		Prepared & Analyzed: 06/17/15						
Mercury	1.47	0.144	mg/kg dry	1.198	0.258	101	70-130			

CLIENT: Hull & Associates - Toledo Office **Lab Order:** 15F0709
Project: COT235 Champion Spark Plug

Mercury Analysis - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1525141 - PREP_HG_S										
Matrix Spike Dup (1525141-MSD1)	**Source: 15F0959-01**			Prepared & Analyzed: 06/17/15						
Mercury	1.45	0.137	mg/kg dry	1.143	0.258	104	70-130	2	30	

CLIENT: Hull & Associates - Toledo Office **Lab Order:** 15F0709
Project: COT235 Champion Spark Plug

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1524311 - VOC PREP										
Blank (1524311-BLK1)				Prepared & Analyzed: 06/11/15						
1,1,1,2-Tetrachloroethane	BDL	1.00	ug/L							
1,1,1-Trichloroethane	BDL	1.00	ug/L							
1,1,2,2-Tetrachloroethane	BDL	1.00	ug/L							
1,1,2-Trichloroethane	BDL	1.00	ug/L							
1,1-Dichloroethane	BDL	2.00	ug/L							
1,1-Dichloroethene	BDL	1.00	ug/L							
1,1-Dichloropropene	BDL	5.00	ug/L							
1,2-Dibromoethane	BDL	5.00	ug/L							
1,2-Dichloroethane	BDL	1.00	ug/L							
1,2-Dichloropropane	BDL	1.00	ug/L							
1,3-Dichloropropane	BDL	1.00	ug/L							
2,2-Dichloropropane	BDL	1.00	ug/L							
2-Butanone	BDL	10.0	ug/L							
2-Chlorotoluene	BDL	1.00	ug/L							
2-Hexanone	BDL	10.0	ug/L							
4-Chlorotoluene	BDL	1.00	ug/L							
4-Methyl-2-pentanone	BDL	10.0	ug/L							
Acetone	BDL	10.0	ug/L							
Acetonitrile	BDL	40.0	ug/L							
Acrolein	BDL	20.0	ug/L							
Acrylonitrile	BDL	10.0	ug/L							
Allyl chloride	BDL	1.00	ug/L							
Benzene	BDL	1.00	ug/L							
Benzene	BDL	1.00	ug/L							
Bromobenzene	BDL	1.00	ug/L							
Bromochloromethane	BDL	1.00	ug/L							
Bromodichloromethane	BDL	1.00	ug/L							
Bromoform	BDL	1.00	ug/L							
Bromomethane	BDL	2.00	ug/L							
Carbon Disulfide	BDL	5.00	ug/L							
Carbon Tetrachloride	BDL	1.00	ug/L							
Chlorobenzene	BDL	1.00	ug/L							
Chloroethane	BDL	1.00	ug/L							
Chloroform	BDL	1.00	ug/L							
Chloromethane	BDL	1.00	ug/L							
cis-1,2-Dichloroethene	BDL	1.00	ug/L							
cis-1,3-Dichloropropene	BDL	1.00	ug/L							
Dibromochloromethane	BDL	1.00	ug/L							
Dibromomethane	BDL	1.00	ug/L							
Dichlorodifluoromethane	BDL	2.00	ug/L							
Ethylbenzene	BDL	1.00	ug/L							
Ethylbenzene	BDL	1.00	ug/L							
Iodomethane	BDL	10.0	ug/L							
Methylene Chloride	BDL	1.00	ug/L							
Methyl tert-Butyl Ether	BDL	10.0	ug/L							

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1524311 - VOC PREP										
Blank (1524311-BLK1)				Prepared & Analyzed: 06/11/15						
Methyl tert-Butyl Ether	BDL	10.0	ug/L							
m,p-Xylene	BDL	2.00	ug/L							
m,p-Xylene	BDL	2.00	ug/L							
n-Hexane	BDL	5.00	ug/L							
o-Xylene	BDL	1.00	ug/L							
o-Xylene	BDL	1.00	ug/L							
Styrene	BDL	1.00	ug/L							
Tetrachloroethene	BDL	2.00	ug/L							
Toluene	BDL	1.00	ug/L							
Toluene	BDL	1.00	ug/L							
trans-1,2-Dichloroethene	BDL	1.00	ug/L							
trans-1,3-Dichloropropene	BDL	1.00	ug/L							
Trichloroethene	BDL	2.00	ug/L							
Trichlorofluoromethane	BDL	2.00	ug/L							
Vinyl Chloride	BDL	1.00	ug/L							
Vinyl acetate	BDL	10.0	ug/L							
Surrogate: 4-Bromofluorobenzene	*47.3*		*ug/L*	*50.00*		*94.6*	*85-115*			
Surrogate: 4-Bromofluorobenzene	*47.3*		*ug/L*	*50.00*		*94.6*	*85-115*			
Surrogate: Dibromofluoromethane	*46.3*		*ug/L*	*50.00*		*92.6*	*85-115*			
Surrogate: Dibromofluoromethane	*46.3*		*ug/L*	*50.00*		*92.6*	*85-115*			
Surrogate: Toluene-d8	*46.4*		*ug/L*	*50.00*		*92.8*	*85-115*			
Surrogate: Toluene-d8	*46.4*		*ug/L*	*50.00*		*92.8*	*85-115*			
Surrogate: 1,2-Dichloroethane-d4	*46.5*		*ug/L*	*50.00*		*93.0*	*85-115*			
Surrogate: 1,2-Dichloroethane-d4	*46.5*		*ug/L*	*50.00*		*93.0*	*85-115*			
LCS (1524311-BS1)				Prepared & Analyzed: 06/11/15						
1,1,1,2-Tetrachloroethane	21.6	1.00	ug/L	20.00		108	84.3-118			
1,1,1-Trichloroethane	19.5	1.00	ug/L	20.00		97.6	82-122			
1,1,2,2-Tetrachloroethane	22.7	1.00	ug/L	20.00		114	81-124			
1,1,2-Trichloroethane	19.7	1.00	ug/L	20.00		98.5	83.5-120			
1,1-Dichloroethane	18.3	2.00	ug/L	20.00		91.4	80.5-126			
1,1-Dichloroethene	18.6	1.00	ug/L	20.00		92.8	77.4-125			
1,1-Dichloropropene	18.8	5.00	ug/L	20.00		94.0	81.8-121			
1,2-Dibromoethane	22.1	5.00	ug/L	20.00		110	79.9-120			
1,2-Dichloroethane	20.4	1.00	ug/L	20.00		102	79.4-122			
1,2-Dichloropropane	19.7	1.00	ug/L	20.00		98.6	82-121			
1,3-Dichloropropane	19.6	1.00	ug/L	20.00		98.2	81.7-121			
2,2-Dichloropropane	18.8	1.00	ug/L	20.00		94.2	78.8-135			
2-Butanone	41.0	10.0	ug/L	40.00		102	53-155			
2-Chlorotoluene	20.9	1.00	ug/L	20.00		105	83.4-119			
2-Hexanone	44.2	10.0	ug/L	40.00		111	60.4-146			
4-Chlorotoluene	21.0	1.00	ug/L	20.00		105	81.9-124			
4-Methyl-2-pentanone	43.5	10.0	ug/L	40.00		109	77.6-125			
Acetone	38.4	10.0	ug/L	40.00		96.0	40.3-166			
Acetonitrile	19.8	40.0	ug/L	20.00		99.0	54.7-135			

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1524311 - VOC PREP										
LCS (1524311-BS1)				Prepared & Analyzed: 06/11/15						
Acrolein	38.8	20.0	ug/L	40.00		97.0	56.4-141			
Acrylonitrile	20.9	10.0	ug/L	20.00		105	72.1-130			
Allyl chloride	18.2	1.00	ug/L	20.00		91.2	77.7-127			
Benzene	18.9	1.00	ug/L	20.00		94.6	84.6-119			
Benzene	18.9	1.00	ug/L	20.00		94.6	84.6-119			
Bromobenzene	20.8	1.00	ug/L	20.00		104	81.6-123			
Bromochloromethane	17.9	1.00	ug/L	20.00		89.3	84.9-123			
Bromodichloromethane	19.6	1.00	ug/L	20.00		97.8	81.5-121			
Bromoform	22.4	1.00	ug/L	20.00		112	74.8-125			
Bromomethane	18.3	2.00	ug/L	20.00		91.3	60.9-164			
Carbon Disulfide	17.4	5.00	ug/L	20.00		86.8	78.7-125			
Carbon Tetrachloride	19.8	1.00	ug/L	20.00		99.0	82.9-122			
Chlorobenzene	20.8	1.00	ug/L	20.00		104	87.7-115			
Chloroethane	17.1	1.00	ug/L	20.00		85.6	79.5-133			
Chloroform	18.2	1.00	ug/L	20.00		91.1	80.8-125			
Chloromethane	17.6	1.00	ug/L	20.00		88.2	67.2-136			
cis-1,2-Dichloroethene	18.5	1.00	ug/L	20.00		92.3	79.7-126			
cis-1,3-Dichloropropene	19.2	1.00	ug/L	20.00		96.2	79.4-123			
Dibromochloromethane	22.1	1.00	ug/L	20.00		110	77.3-123			
Dibromomethane	19.6	1.00	ug/L	20.00		98.2	84.2-120			
Dichlorodifluoromethane	17.7	2.00	ug/L	20.00		88.5	79-132			
Ethylbenzene	20.8	1.00	ug/L	20.00		104	85.2-118			
Ethylbenzene	20.8	1.00	ug/L	20.00		104	85.2-118			
Iodomethane	15.6	10.0	ug/L	20.00		78.2	45.5-132			
Methylene Chloride	17.4	1.00	ug/L	20.00		87.0	73.8-131			
Methyl tert-Butyl Ether	18.2	10.0	ug/L	20.00		91.2	75.8-123			
Methyl tert-Butyl Ether	18.2	10.0	ug/L	20.00		91.2	75.8-123			
m,p-Xylene	42.4	2.00	ug/L	40.00		106	85.7-119			
m,p-Xylene	42.4	2.00	ug/L	40.00		106	85.7-119			
n-Hexane	18.7	5.00	ug/L	20.00		93.4	78.8-130			
o-Xylene	21.3	1.00	ug/L	20.00		107	82.9-121			
o-Xylene	21.3	1.00	ug/L	20.00		107	82.9-121			
Styrene	21.1	1.00	ug/L	20.00		106	82.3-120			
Tetrachloroethene	20.8	2.00	ug/L	20.00		104	84.2-119			
Toluene	18.8	1.00	ug/L	20.00		93.8	85.8-119			
Toluene	18.8	1.00	ug/L	20.00		93.8	85.8-119			
trans-1,2-Dichloroethene	17.8	1.00	ug/L	20.00		89.0	82.7-123			
trans-1,3-Dichloropropene	19.9	1.00	ug/L	20.00		99.4	82.3-121			
Trichloroethene	18.5	2.00	ug/L	20.00		92.3	82.2-120			
Trichlorofluoromethane	18.4	2.00	ug/L	20.00		91.8	82.6-132			
Vinyl Chloride	18.3	1.00	ug/L	20.00		91.4	81.2-132			
Vinyl acetate	21.2	10.0	ug/L	20.00		106	68.3-149			
Surrogate: 4-Bromofluorobenzene	*48.3*		*ug/L*	*50.00*		*96.6*	*85-115*			
Surrogate: 4-Bromofluorobenzene	*48.3*		*ug/L*	*50.00*		*96.6*	*85-115*			
Surrogate: Dibromofluoromethane	*46.1*		*ug/L*	*50.00*		*92.1*	*85-115*			

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1524311 - VOC PREP										
LCS (1524311-BS1)				Prepared & Analyzed: 06/11/15						
Surrogate: Dibromofluoromethane	*46.1*		*ug/L*	*50.00*		*92.1*	*85-115*			
Surrogate: Toluene-d8	*46.2*		*ug/L*	*50.00*		*92.4*	*85-115*			
Surrogate: Toluene-d8	*46.2*		*ug/L*	*50.00*		*92.4*	*85-115*			
Surrogate: 1,2-Dichloroethane-d4	*46.6*		*ug/L*	*50.00*		*93.1*	*85-115*			
Surrogate: 1,2-Dichloroethane-d4	*46.6*		*ug/L*	*50.00*		*93.1*	*85-115*			
Batch 1525265 - VOC PREP										
Blank (1525265-BLK1)				Prepared & Analyzed: 06/19/15						
1,1,1,2-Tetrachloroethane	BDL	0.00250	mg/kg wet							
1,1,1-Trichloroethane	BDL	0.00250	mg/kg wet							
1,1,2,2-Tetrachloroethane	BDL	0.00250	mg/kg wet							
1,1,2-Trichloroethane	BDL	0.00250	mg/kg wet							
1,1-Dichloroethane	BDL	0.00250	mg/kg wet							
1,1-Dichloroethene	BDL	0.00250	mg/kg wet							
1,1-Dichloropropene	BDL	0.00250	mg/kg wet							
1,2,3-Trichlorobenzene	BDL	0.00250	mg/kg wet							
1,2,3-Trichloropropane	BDL	0.00250	mg/kg wet							
1,2,4-Trichlorobenzene	BDL	0.00250	mg/kg wet							
1,2,4-Trimethylbenzene	BDL	0.00250	mg/kg wet							
1,2-Dibromo-3-chloropropane	BDL	0.00500	mg/kg wet							
1,2-Dibromoethane	BDL	0.00250	mg/kg wet							
1,2-Dichlorobenzene	BDL	0.00250	mg/kg wet							
1,2-Dichloroethane	BDL	0.00250	mg/kg wet							
1,2-Dichloropropane	BDL	0.00250	mg/kg wet							
1,3,5-Trimethylbenzene	BDL	0.00250	mg/kg wet							
1,3-Dichlorobenzene	BDL	0.00250	mg/kg wet							
1,3-Dichloropropane	BDL	0.00250	mg/kg wet							
1,4-Dichlorobenzene	BDL	0.00250	mg/kg wet							
2,2-Dichloropropane	BDL	0.00250	mg/kg wet							
2-Butanone	BDL	0.0100	mg/kg wet							
2-Chlorotoluene	BDL	0.00250	mg/kg wet							
2-Hexanone	BDL	0.0100	mg/kg wet							
4-Chlorotoluene	BDL	0.00250	mg/kg wet							
4-Isopropyltoluene	BDL	0.00250	mg/kg wet							
4-Methyl-2-pentanone	BDL	0.0100	mg/kg wet							
Acetone	BDL	0.0250	mg/kg wet							
Acetonitrile	BDL	0.0200	mg/kg wet							
Acrolein	BDL	0.0250	mg/kg wet							
Acrylonitrile	BDL	0.0100	mg/kg wet							
Allyl chloride	BDL	0.00500	mg/kg wet							
Benzene	BDL	0.00250	mg/kg wet							
Bromobenzene	BDL	0.00250	mg/kg wet							
Bromochloromethane	BDL	0.00250	mg/kg wet							
Bromodichloromethane	BDL	0.00250	mg/kg wet							
Bromoform	BDL	0.00250	mg/kg wet							

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1525265 - VOC PREP										
Blank (1525265-BLK1)				Prepared & Analyzed: 06/19/15						
Bromomethane	BDL	0.00250	mg/kg wet							
Carbon Disulfide	BDL	0.0100	mg/kg wet							
Carbon Tetrachloride	BDL	0.00250	mg/kg wet							
Chlorobenzene	BDL	0.00250	mg/kg wet							
Chloroethane	BDL	0.00250	mg/kg wet							
Chloroform	BDL	0.00250	mg/kg wet							
Chloromethane	BDL	0.00250	mg/kg wet							
cis-1,2-Dichloroethene	BDL	0.00250	mg/kg wet							
cis-1,3-Dichloropropene	BDL	0.00250	mg/kg wet							
Dibromochloromethane	BDL	0.00250	mg/kg wet							
Dibromomethane	BDL	0.00250	mg/kg wet							
Dichlorodifluoromethane	BDL	0.00250	mg/kg wet							
Ethylbenzene	BDL	0.00250	mg/kg wet							
Hexachlorobutadiene	BDL	0.00250	mg/kg wet							
Iodomethane	BDL	0.00500	mg/kg wet							
Isopropylbenzene	BDL	0.00250	mg/kg wet							
Methylene Chloride	BDL	0.00250	mg/kg wet							
Methyl tert-Butyl Ether	BDL	0.00500	mg/kg wet							
m,p-Xylene	BDL	0.00500	mg/kg wet							
Naphthalene	BDL	0.00250	mg/kg wet							
n-Butylbenzene	BDL	0.00250	mg/kg wet							
n-Propylbenzene	BDL	0.00250	mg/kg wet							
o-Xylene	BDL	0.00250	mg/kg wet							
sec-Butylbenzene	BDL	0.00250	mg/kg wet							
Styrene	BDL	0.00250	mg/kg wet							
tert_Butylbenzene	BDL	0.00250	mg/kg wet							
Tetrachloroethene	BDL	0.00250	mg/kg wet							
Toluene	BDL	0.00250	mg/kg wet							
trans-1,2-Dichloroethene	BDL	0.00250	mg/kg wet							
trans-1,3-Dichloropropene	BDL	0.00250	mg/kg wet							
Trichloroethene	BDL	0.00250	mg/kg wet							
Trichlorofluoromethane	BDL	0.00250	mg/kg wet							
Vinyl Chloride	BDL	0.00250	mg/kg wet							
Vinyl acetate	BDL	0.00500	mg/kg wet							
Surrogate: 4-Bromofluorobenzene	*49.0*		*ug/L*	*50.00*		*98.0*	*62-129*			
Surrogate: Dibromofluoromethane	*44.6*		*ug/L*	*50.00*		*89.1*	*71-129*			
Surrogate: Toluene-d8	*50.4*		*ug/L*	*50.00*		*101*	*74-124*			
Surrogate: 1,2-Dichloroethane-d4	*45.7*		*ug/L*	*50.00*		*91.4*	*70-127*			

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1525265 - VOC PREP										
LCS (1525265-BS1)				Prepared & Analyzed: 06/19/15						
1,1,1,2-Tetrachloroethane	0.0200	0.00250	mg/kg wet	0.02000		100	84.1-115			
1,1,1-Trichloroethane	0.0193	0.00250	mg/kg wet	0.02000		96.6	80-124			
1,1,2,2-Tetrachloroethane	0.0200	0.00250	mg/kg wet	0.02000		100	79.7-120			
1,1,2-Trichloroethane	0.0202	0.00250	mg/kg wet	0.02000		101	84.9-116			
1,1-Dichloroethane	0.0188	0.00250	mg/kg wet	0.02000		93.8	79.4-125			
1,1-Dichloroethene	0.0202	0.00250	mg/kg wet	0.02000		101	74-127			
1,1-Dichloropropene	0.0203	0.00250	mg/kg wet	0.02000		102	82.1-122			
1,2,3-Trichlorobenzene	0.0213	0.00250	mg/kg wet	0.02000		107	82.9-117			
1,2,3-Trichloropropane	0.0202	0.00250	mg/kg wet	0.02000		101	80.5-117			
1,2,4-Trichlorobenzene	0.0222	0.00250	mg/kg wet	0.02000		111	81.2-120			
1,2,4-Trimethylbenzene	0.0208	0.00250	mg/kg wet	0.02000		104	84.5-117			
1,2-Dibromo-3-chloropropane	0.0201	0.00500	mg/kg wet	0.02000		101	78.3-114			
1,2-Dibromoethane	0.0203	0.00250	mg/kg wet	0.02000		102	84.6-115			
1,2-Dichlorobenzene	0.0208	0.00250	mg/kg wet	0.02000		104	85.8-114			
1,2-Dichloroethane	0.0193	0.00250	mg/kg wet	0.02000		96.5	81.8-120			
1,2-Dichloropropane	0.0194	0.00250	mg/kg wet	0.02000		97.0	82.7-117			
1,3,5-Trimethylbenzene	0.0209	0.00250	mg/kg wet	0.02000		105	82.7-119			
1,3-Dichlorobenzene	0.0212	0.00250	mg/kg wet	0.02000		106	84.9-116			
1,3-Dichloropropane	0.0203	0.00250	mg/kg wet	0.02000		101	85-115			
1,4-Dichlorobenzene	0.0214	0.00250	mg/kg wet	0.02000		107	84.7-116			
2-Butanone	0.0370	0.0100	mg/kg wet	0.04000		92.5	54.1-152			
2-Chlorotoluene	0.0212	0.00250	mg/kg wet	0.02000		106	83.5-119			
2-Hexanone	0.0400	0.0100	mg/kg wet	0.04000		100	63.8-138			
4-Chlorotoluene	0.0220	0.00250	mg/kg wet	0.02000		110	84-119			
4-Isopropyltoluene	0.0212	0.00250	mg/kg wet	0.02000		106	82.1-119			
4-Methyl-2-pentanone	0.0402	0.0100	mg/kg wet	0.04000		100	77.9-124			
Acetone	0.0454	0.0250	mg/kg wet	0.04000		114	47.4-167			
Acetonitrile	0.0205	0.0200	mg/kg wet	0.02000		103	59.5-141			
Acrolein	0.0379	0.0250	mg/kg wet	0.04000		94.8	64.9-133			
Acrylonitrile	0.0204	0.0100	mg/kg wet	0.02000		102	71.6-124			
Allyl chloride	0.0195	0.00500	mg/kg wet	0.02000		97.4	71.6-127			
Benzene	0.0200	0.00250	mg/kg wet	0.02000		99.9	83.9-117			
Bromobenzene	0.0211	0.00250	mg/kg wet	0.02000		106	84.4-117			
Bromochloromethane	0.0203	0.00250	mg/kg wet	0.02000		102	85.7-120			
Bromodichloromethane	0.0195	0.00250	mg/kg wet	0.02000		97.4	82.6-117			
Bromoform	0.0211	0.00250	mg/kg wet	0.02000		105	78.3-117			
Bromomethane	0.0166	0.00250	mg/kg wet	0.02000		83.2	58.3-155			
Carbon Disulfide	0.0194	0.0100	mg/kg wet	0.02000		96.8	78.1-122			
Carbon Tetrachloride	0.0206	0.00250	mg/kg wet	0.02000		103	74.6-128			
Chlorobenzene	0.0208	0.00250	mg/kg wet	0.02000		104	86.3-115			
Chloroethane	0.0194	0.00250	mg/kg wet	0.02000		96.9	57.9-140			
Chloroform	0.0181	0.00250	mg/kg wet	0.02000		90.5	79.1-123			
Chloromethane	0.0203	0.00250	mg/kg wet	0.02000		102	66.5-130			
cis-1,2-Dichloroethene	0.0188	0.00250	mg/kg wet	0.02000		94.2	79.6-122			
cis-1,3-Dichloropropene	0.0201	0.00250	mg/kg wet	0.02000		101	85.2-116			

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1525265 - VOC PREP										
LCS (1525265-BS1)				Prepared & Analyzed: 06/19/15						
Dibromochloromethane	0.0201	0.00250	mg/kg wet	0.02000		100	79.7-119			
Dibromomethane	0.0194	0.00250	mg/kg wet	0.02000		97.0	85.2-116			
Dichlorodifluoromethane	0.0211	0.00250	mg/kg wet	0.02000		106	69.1-141			
Ethylbenzene	0.0207	0.00250	mg/kg wet	0.02000		103	82.6-118			
Hexachlorobutadiene	0.0214	0.00250	mg/kg wet	0.02000		107	76.4-123			
Iodomethane	0.0200	0.00500	mg/kg wet	0.02000		99.8	66.9-137			
Isopropylbenzene	0.0207	0.00250	mg/kg wet	0.02000		103	82.1-118			
Methylene Chloride	0.0150	0.00250	mg/kg wet	0.02000		75.0	62.1-129			
Methyl tert-Butyl Ether	0.0180	0.00500	mg/kg wet	0.02000		89.8	77-124			
m,p-Xylene	0.0421	0.00500	mg/kg wet	0.04000		105	82-120			
Naphthalene	0.0206	0.00250	mg/kg wet	0.02000		103	78.9-119			
n-Butylbenzene	0.0216	0.00250	mg/kg wet	0.02000		108	80-123			
n-Propylbenzene	0.0214	0.00250	mg/kg wet	0.02000		107	81.4-120			
o-Xylene	0.0212	0.00250	mg/kg wet	0.02000		106	85.2-117			
sec-Butylbenzene	0.0206	0.00250	mg/kg wet	0.02000		103	81.7-118			
Styrene	0.0210	0.00250	mg/kg wet	0.02000		105	85.7-116			
tert_Butylbenzene	0.0202	0.00250	mg/kg wet	0.02000		101	82.2-116			
Tetrachloroethene	0.0210	0.00250	mg/kg wet	0.02000		105	79.1-126			
Toluene	0.0210	0.00250	mg/kg wet	0.02000		105	82.7-119			
trans-1,2-Dichloroethene	0.0183	0.00250	mg/kg wet	0.02000		91.4	79.3-124			
trans-1,3-Dichloropropene	0.0206	0.00250	mg/kg wet	0.02000		103	85.5-118			
Trichloroethene	0.0216	0.00250	mg/kg wet	0.02000		108	83.1-122			
Trichlorofluoromethane	0.0208	0.00250	mg/kg wet	0.02000		104	74.3-141			
Vinyl Chloride	0.0192	0.00250	mg/kg wet	0.02000		96.0	71.1-129			
Vinyl acetate	0.0194	0.00500	mg/kg wet	0.02000		97.0	61.7-158			
Surrogate: 4-Bromofluorobenzene	*48.9*		*ug/L*	*50.00*		*97.8*	*62-129*			
Surrogate: Dibromofluoromethane	*44.1*		*ug/L*	*50.00*		*88.2*	*71-129*			
Surrogate: Toluene-d8	*50.2*		*ug/L*	*50.00*		*100*	*74-124*			
Surrogate: 1,2-Dichloroethane-d4	*44.7*		*ug/L*	*50.00*		*89.4*	*70-127*			

CLIENT: Hull & Associates - Toledo Office **Lab Order:** 15F0709
Project: COT235 Champion Spark Plug

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1526079 - VOC PREP										
Blank (1526079-BLK1)				Prepared & Analyzed: 06/20/15						
1,1,1,2-Tetrachloroethane	BDL	0.00250	mg/kg wet							
1,1,1-Trichloroethane	BDL	0.00250	mg/kg wet							
1,1,2,2-Tetrachloroethane	BDL	0.00250	mg/kg wet							
1,1,2-Trichloroethane	BDL	0.00250	mg/kg wet							
1,1-Dichloroethane	BDL	0.00250	mg/kg wet							
1,1-Dichloroethene	BDL	0.00250	mg/kg wet							
1,1-Dichloropropene	BDL	0.00250	mg/kg wet							
1,2,3-Trichlorobenzene	BDL	0.00250	mg/kg wet							
1,2,3-Trichloropropane	BDL	0.00250	mg/kg wet							
1,2,4-Trichlorobenzene	BDL	0.00250	mg/kg wet							
1,2,4-Trimethylbenzene	BDL	0.00250	mg/kg wet							
1,2-Dibromo-3-chloropropane	BDL	0.00500	mg/kg wet							
1,2-Dibromoethane	BDL	0.00250	mg/kg wet							
1,2-Dichlorobenzene	BDL	0.00250	mg/kg wet							
1,2-Dichloroethane	BDL	0.00250	mg/kg wet							
1,2-Dichloropropane	BDL	0.00250	mg/kg wet							
1,3,5-Trimethylbenzene	BDL	0.00250	mg/kg wet							
1,3-Dichlorobenzene	BDL	0.00250	mg/kg wet							
1,3-Dichloropropane	BDL	0.00250	mg/kg wet							
1,4-Dichlorobenzene	BDL	0.00250	mg/kg wet							
2,2-Dichloropropane	BDL	0.00250	mg/kg wet							
2-Butanone	BDL	0.0100	mg/kg wet							
2-Chlorotoluene	BDL	0.00250	mg/kg wet							
2-Hexanone	BDL	0.0100	mg/kg wet							
4-Chlorotoluene	BDL	0.00250	mg/kg wet							
4-Isopropyltoluene	BDL	0.00250	mg/kg wet							
4-Methyl-2-pentanone	BDL	0.0100	mg/kg wet							
Acetone	BDL	0.0250	mg/kg wet							
Acetonitrile	BDL	0.0200	mg/kg wet							
Acrolein	BDL	0.0250	mg/kg wet							
Acrylonitrile	BDL	0.0100	mg/kg wet							
Allyl chloride	BDL	0.00500	mg/kg wet							
Benzene	BDL	0.00250	mg/kg wet							
Bromobenzene	BDL	0.00250	mg/kg wet							
Bromochloromethane	BDL	0.00250	mg/kg wet							
Bromodichloromethane	BDL	0.00250	mg/kg wet							
Bromoform	BDL	0.00250	mg/kg wet							
Bromomethane	BDL	0.00250	mg/kg wet							
Carbon Disulfide	BDL	0.0100	mg/kg wet							
Carbon Tetrachloride	BDL	0.00250	mg/kg wet							
Chlorobenzene	BDL	0.00250	mg/kg wet							
Chloroethane	BDL	0.00250	mg/kg wet							
Chloroform	BDL	0.00250	mg/kg wet							
Chloromethane	BDL	0.00250	mg/kg wet							
cis-1,2-Dichloroethene	BDL	0.00250	mg/kg wet							

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1526079 - VOC PREP										
Blank (1526079-BLK1)				Prepared & Analyzed: 06/20/15						
cis-1,3-Dichloropropene	BDL	0.00250	mg/kg wet							
Dibromochloromethane	BDL	0.00250	mg/kg wet							
Dibromomethane	BDL	0.00250	mg/kg wet							
Dichlorodifluoromethane	BDL	0.00250	mg/kg wet							
Ethylbenzene	BDL	0.00250	mg/kg wet							
Hexachlorobutadiene	BDL	0.00250	mg/kg wet							
Iodomethane	BDL	0.00500	mg/kg wet							
Isopropylbenzene	BDL	0.00250	mg/kg wet							
Methylene Chloride	BDL	0.00250	mg/kg wet							
Methyl tert-Butyl Ether	BDL	0.00500	mg/kg wet							
m,p-Xylene	BDL	0.00500	mg/kg wet							
Naphthalene	BDL	0.00250	mg/kg wet							
n-Butylbenzene	BDL	0.00250	mg/kg wet							
n-Propylbenzene	BDL	0.00250	mg/kg wet							
o-Xylene	BDL	0.00250	mg/kg wet							
sec-Butylbenzene	BDL	0.00250	mg/kg wet							
Styrene	BDL	0.00250	mg/kg wet							
tert_Butylbenzene	BDL	0.00250	mg/kg wet							
Tetrachloroethene	BDL	0.00250	mg/kg wet							
Toluene	BDL	0.00250	mg/kg wet							
trans-1,2-Dichloroethene	BDL	0.00250	mg/kg wet							
trans-1,3-Dichloropropene	BDL	0.00250	mg/kg wet							
Trichloroethene	BDL	0.00250	mg/kg wet							
Trichlorofluoromethane	BDL	0.00250	mg/kg wet							
Vinyl Chloride	BDL	0.00250	mg/kg wet							
Vinyl acetate	BDL	0.00500	mg/kg wet							
Surrogate: 4-Bromofluorobenzene	*48.3*		*ug/L*	*50.00*		*96.5*	*62-129*			
Surrogate: Dibromofluoromethane	*45.9*		*ug/L*	*50.00*		*91.8*	*71-129*			
Surrogate: Toluene-d8	*49.5*		*ug/L*	*50.00*		*99.0*	*74-124*			
Surrogate: 1,2-Dichloroethane-d4	*47.4*		*ug/L*	*50.00*		*94.8*	*70-127*			

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1526079 - VOC PREP										
LCS (1526079-BS1)				Prepared & Analyzed: 06/20/15						
1,1,1,2-Tetrachloroethane	0.0207	0.00250	mg/kg wet	0.02000		103	84.1-115			
1,1,1-Trichloroethane	0.0198	0.00250	mg/kg wet	0.02000		98.9	80-124			
1,1,2,2-Tetrachloroethane	0.0202	0.00250	mg/kg wet	0.02000		101	79.7-120			
1,1,2-Trichloroethane	0.0195	0.00250	mg/kg wet	0.02000		97.6	84.9-116			
1,1-Dichloroethane	0.0200	0.00250	mg/kg wet	0.02000		100	79.4-125			
1,1-Dichloroethene	0.0208	0.00250	mg/kg wet	0.02000		104	74-127			
1,1-Dichloropropene	0.0202	0.00250	mg/kg wet	0.02000		101	82.1-122			
1,2,3-Trichlorobenzene	0.0204	0.00250	mg/kg wet	0.02000		102	82.9-117			
1,2,3-Trichloropropane	0.0201	0.00250	mg/kg wet	0.02000		100	80.5-117			
1,2,4-Trichlorobenzene	0.0213	0.00250	mg/kg wet	0.02000		107	81.2-120			
1,2,4-Trimethylbenzene	0.0210	0.00250	mg/kg wet	0.02000		105	84.5-117			
1,2-Dibromo-3-chloropropane	0.0190	0.00500	mg/kg wet	0.02000		94.8	78.3-114			
1,2-Dibromoethane	0.0206	0.00250	mg/kg wet	0.02000		103	84.6-115			
1,2-Dichlorobenzene	0.0210	0.00250	mg/kg wet	0.02000		105	85.8-114			
1,2-Dichloroethane	0.0196	0.00250	mg/kg wet	0.02000		98.2	81.8-120			
1,2-Dichloropropane	0.0198	0.00250	mg/kg wet	0.02000		99.3	82.7-117			
1,3,5-Trimethylbenzene	0.0215	0.00250	mg/kg wet	0.02000		107	82.7-119			
1,3-Dichlorobenzene	0.0214	0.00250	mg/kg wet	0.02000		107	84.9-116			
1,3-Dichloropropane	0.0201	0.00250	mg/kg wet	0.02000		100	85-115			
1,4-Dichlorobenzene	0.0212	0.00250	mg/kg wet	0.02000		106	84.7-116			
2-Butanone	0.0367	0.0100	mg/kg wet	0.04000		91.7	54.1-152			
2-Chlorotoluene	0.0211	0.00250	mg/kg wet	0.02000		106	83.5-119			
2-Hexanone	0.0379	0.0100	mg/kg wet	0.04000		94.8	63.8-138			
4-Chlorotoluene	0.0217	0.00250	mg/kg wet	0.02000		109	84-119			
4-Isopropyltoluene	0.0215	0.00250	mg/kg wet	0.02000		107	82.1-119			
4-Methyl-2-pentanone	0.0403	0.0100	mg/kg wet	0.04000		101	77.9-124			
Acetone	0.0397	0.0250	mg/kg wet	0.04000		99.3	47.4-167			
Acetonitrile	0.0171	0.0200	mg/kg wet	0.02000		85.4	59.5-141			
Acrolein	0.0359	0.0250	mg/kg wet	0.04000		89.7	64.9-133			
Acrylonitrile	0.0199	0.0100	mg/kg wet	0.02000		99.4	71.6-124			
Allyl chloride	0.0203	0.00500	mg/kg wet	0.02000		101	71.6-127			
Benzene	0.0204	0.00250	mg/kg wet	0.02000		102	83.9-117			
Bromobenzene	0.0208	0.00250	mg/kg wet	0.02000		104	84.4-117			
Bromochloromethane	0.0209	0.00250	mg/kg wet	0.02000		104	85.7-120			
Bromodichloromethane	0.0193	0.00250	mg/kg wet	0.02000		96.7	82.6-117			
Bromoform	0.0205	0.00250	mg/kg wet	0.02000		102	78.3-117			
Bromomethane	0.0147	0.00250	mg/kg wet	0.02000		73.6	58.3-155			
Carbon Disulfide	0.0200	0.0100	mg/kg wet	0.02000		99.8	78.1-122			
Carbon Tetrachloride	0.0206	0.00250	mg/kg wet	0.02000		103	74.6-128			
Chlorobenzene	0.0211	0.00250	mg/kg wet	0.02000		105	86.3-115			
Chloroethane	0.0195	0.00250	mg/kg wet	0.02000		97.5	57.9-140			
Chloroform	0.0192	0.00250	mg/kg wet	0.02000		96.2	79.1-123			
Chloromethane	0.0208	0.00250	mg/kg wet	0.02000		104	66.5-130			
cis-1,2-Dichloroethene	0.0203	0.00250	mg/kg wet	0.02000		101	79.6-122			
cis-1,3-Dichloropropene	0.0198	0.00250	mg/kg wet	0.02000		99.0	85.2-116			

CLIENT: Hull & Associates - Toledo Office **Lab Order:** 15F0709
Project: COT235 Champion Spark Plug

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1526079 - VOC PREP										
LCS (1526079-BS1)				Prepared & Analyzed: 06/20/15						
Dibromochloromethane	0.0200	0.00250	mg/kg wet	0.02000		100	79.7-119			
Dibromomethane	0.0199	0.00250	mg/kg wet	0.02000		99.6	85.2-116			
Dichlorodifluoromethane	0.0226	0.00250	mg/kg wet	0.02000		113	69.1-141			
Ethylbenzene	0.0211	0.00250	mg/kg wet	0.02000		106	82.6-118			
Hexachlorobutadiene	0.0211	0.00250	mg/kg wet	0.02000		105	76.4-123			
Iodomethane	0.0196	0.00500	mg/kg wet	0.02000		98.2	66.9-137			
Isopropylbenzene	0.0210	0.00250	mg/kg wet	0.02000		105	82.1-118			
Methylene Chloride	0.0146	0.00250	mg/kg wet	0.02000		73.2	62.1-129			
Methyl tert-Butyl Ether	0.0185	0.00500	mg/kg wet	0.02000		92.4	77-124			
m,p-Xylene	0.0428	0.00500	mg/kg wet	0.04000		107	82-120			
Naphthalene	0.0204	0.00250	mg/kg wet	0.02000		102	78.9-119			
n-Butylbenzene	0.0219	0.00250	mg/kg wet	0.02000		109	80-123			
n-Propylbenzene	0.0214	0.00250	mg/kg wet	0.02000		107	81.4-120			
o-Xylene	0.0211	0.00250	mg/kg wet	0.02000		106	85.2-117			
sec-Butylbenzene	0.0210	0.00250	mg/kg wet	0.02000		105	81.7-118			
Styrene	0.0212	0.00250	mg/kg wet	0.02000		106	85.7-116			
tert_Butylbenzene	0.0209	0.00250	mg/kg wet	0.02000		104	82.2-116			
Tetrachloroethene	0.0215	0.00250	mg/kg wet	0.02000		107	79.1-126			
Toluene	0.0205	0.00250	mg/kg wet	0.02000		103	82.7-119			
trans-1,2-Dichloroethene	0.0197	0.00250	mg/kg wet	0.02000		98.4	79.3-124			
trans-1,3-Dichloropropene	0.0204	0.00250	mg/kg wet	0.02000		102	85.5-118			
Trichloroethene	0.0210	0.00250	mg/kg wet	0.02000		105	83.1-122			
Trichlorofluoromethane	0.0223	0.00250	mg/kg wet	0.02000		112	74.3-141			
Vinyl Chloride	0.0181	0.00250	mg/kg wet	0.02000		90.6	71.1-129			
Vinyl acetate	0.0200	0.00500	mg/kg wet	0.02000		100	61.7-158			
Surrogate: 4-Bromofluorobenzene	*48.5*		*ug/L*	*50.00*		*97.0*	*62-129*			
Surrogate: Dibromofluoromethane	*46.9*		*ug/L*	*50.00*		*93.8*	*71-129*			
Surrogate: Toluene-d8	*49.0*		*ug/L*	*50.00*		*98.0*	*74-124*			
Surrogate: 1,2-Dichloroethane-d4	*45.4*		*ug/L*	*50.00*		*90.9*	*70-127*			

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1526079 - VOC PREP										
Matrix Spike (1526079-MS1)		**Source: 15F0709-03**		Prepared & Analyzed: 06/20/15						
1,1,1,2-Tetrachloroethane	0.0430	0.00609	mg/kg dry	0.04870	ND	88.3	48-135			
1,1,1-Trichloroethane	0.0411	0.00609	mg/kg dry	0.04870	ND	84.4	48.5-123			
1,1,2,2-Tetrachloroethane	0.0399	0.00609	mg/kg dry	0.04870	ND	81.9	42.8-135			
1,1,2-Trichloroethane	0.0418	0.00609	mg/kg dry	0.04870	ND	85.8	51.9-138			
1,1-Dichloroethane	0.0434	0.00609	mg/kg dry	0.04870	ND	89.0	61-129			
1,1-Dichloroethene	0.0429	0.00609	mg/kg dry	0.04870	ND	88.0	40.5-127			
1,1-Dichloropropene	0.0385	0.00609	mg/kg dry	0.04870	ND	79.1	43.6-119			
1,2,3-Trichlorobenzene	0.0247	0.00609	mg/kg dry	0.04870	ND	50.7	10-110			
1,2,3-Trichloropropane	0.0413	0.00609	mg/kg dry	0.04870	ND	84.7	46.3-128			
1,2,4-Trichlorobenzene	0.0273	0.00609	mg/kg dry	0.04870	ND	56.1	11.4-130			
1,2,4-Trimethylbenzene	0.0414	0.00609	mg/kg dry	0.04870	ND	84.9	23.6-153			
1,2-Dibromo-3-chloropropane	0.0419	0.0122	mg/kg dry	0.04870	ND	86.0	30-146			
1,2-Dibromoethane	0.0448	0.00609	mg/kg dry	0.04870	ND	92.0	51.1-136			
1,2-Dichlorobenzene	0.0377	0.00609	mg/kg dry	0.04870	ND	77.4	30.6-137			
1,2-Dichloroethane	0.0440	0.00609	mg/kg dry	0.04870	ND	90.4	65.3-124			
1,2-Dichloropropane	0.0415	0.00609	mg/kg dry	0.04870	ND	85.2	63.6-124			
1,3,5-Trimethylbenzene	0.0416	0.00609	mg/kg dry	0.04870	ND	85.4	30.5-140			
1,3-Dichlorobenzene	0.0382	0.00609	mg/kg dry	0.04870	ND	78.4	29.9-136			
1,3-Dichloropropane	0.0431	0.00609	mg/kg dry	0.04870	ND	88.4	57.4-127			
1,4-Dichlorobenzene	0.0385	0.00609	mg/kg dry	0.04870	ND	79.0	35.7-131			
2-Butanone	0.0797	0.0244	mg/kg dry	0.09741	ND	81.8	34.7-149			
2-Chlorotoluene	0.0377	0.00609	mg/kg dry	0.04870	ND	77.4	36.5-129			
2-Hexanone	0.0813	0.0244	mg/kg dry	0.09741	ND	83.5	34.3-134			
4-Chlorotoluene	0.0374	0.00609	mg/kg dry	0.04870	ND	76.7	32-131			
4-Isopropyltoluene	0.0379	0.00609	mg/kg dry	0.04870	ND	77.9	26.8-131			
4-Methyl-2-pentanone	0.0868	0.0244	mg/kg dry	0.09741	ND	89.1	49.4-137			
Acetone	0.0896	0.0609	mg/kg dry	0.09741	ND	92.0	12.2-177			
Acetonitrile	0.0386	0.0487	mg/kg dry	0.04870	ND	79.2	41.1-152			
Acrolein	0.0519	0.0609	mg/kg dry	0.09741	ND	53.2	10-200			
Acrylonitrile	0.0426	0.0244	mg/kg dry	0.04870	ND	87.5	53.8-136			
Allyl chloride	0.0425	0.0122	mg/kg dry	0.04870	ND	87.3	45.6-131			
Benzene	0.0436	0.00609	mg/kg dry	0.04870	ND	89.5	60.7-122			
Bromobenzene	0.0379	0.00609	mg/kg dry	0.04870	ND	77.7	38-133			
Bromochloromethane	0.0470	0.00609	mg/kg dry	0.04870	ND	96.4	69.8-130			
Bromodichloromethane	0.0421	0.00609	mg/kg dry	0.04870	ND	86.4	53.1-131			
Bromoform	0.0382	0.00609	mg/kg dry	0.04870	ND	78.5	48.5-127			
Bromomethane	0.0353	0.00609	mg/kg dry	0.04870	ND	72.4	14.9-168			
Carbon Disulfide	0.0390	0.0244	mg/kg dry	0.04870	ND	80.0	43.4-118			
Carbon Tetrachloride	0.0401	0.00609	mg/kg dry	0.04870	ND	82.2	38.6-121			
Chlorobenzene	0.0418	0.00609	mg/kg dry	0.04870	ND	85.8	45.5-130			
Chloroethane	0.0433	0.00609	mg/kg dry	0.04870	ND	88.9	6.47-154			
Chloroform	0.0419	0.00609	mg/kg dry	0.04870	ND	86.0	62.1-128			
Chloromethane	0.0462	0.00609	mg/kg dry	0.04870	ND	94.8	50.1-132			
cis-1,2-Dichloroethene	0.0440	0.00609	mg/kg dry	0.04870	ND	90.3	60.5-127			
cis-1,3-Dichloropropene	0.0419	0.00609	mg/kg dry	0.04870	ND	85.9	54.5-125			

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1526079 - VOC PREP										
Matrix Spike (1526079-MS1)		**Source: 15F0709-03**		Prepared & Analyzed: 06/20/15						
Dibromochloromethane	0.0422	0.00609	mg/kg dry	0.04870	ND	86.7	53.4-133			
Dibromomethane	0.0421	0.00609	mg/kg dry	0.04870	ND	86.4	64.1-127			
Dichlorodifluoromethane	0.0419	0.00609	mg/kg dry	0.04870	ND	86.0	10-184			
Ethylbenzene	0.0411	0.00609	mg/kg dry	0.04870	ND	84.3	40.3-129			
Hexachlorobutadiene	0.0293	0.00609	mg/kg dry	0.04870	ND	60.1	4.02-123			
Iodomethane	0.0432	0.0122	mg/kg dry	0.04870	ND	88.6	36.1-142			
Isopropylbenzene	0.0380	0.00609	mg/kg dry	0.04870	ND	78.1	42.2-121			
Methylene Chloride	0.0311	0.00609	mg/kg dry	0.04870	ND	63.9	45.8-146			
Methyl tert-Butyl Ether	0.0414	0.0122	mg/kg dry	0.04870	ND	85.0	59.8-132			
m,p-Xylene	0.0822	0.0122	mg/kg dry	0.09741	ND	84.4	42-130			
Naphthalene	0.0296	0.00609	mg/kg dry	0.04870	ND	60.8	7.89-150			
n-Butylbenzene	0.0341	0.00609	mg/kg dry	0.04870	ND	70.1	19.6-127			
n-Propylbenzene	0.0363	0.00609	mg/kg dry	0.04870	ND	74.5	32.9-126			
o-Xylene	0.0419	0.00609	mg/kg dry	0.04870	ND	85.9	41.7-135			
sec-Butylbenzene	0.0376	0.00609	mg/kg dry	0.04870	ND	77.1	26.8-130			
Styrene	0.0397	0.00609	mg/kg dry	0.04870	ND	81.4	40.5-132			
tert_Butylbenzene	0.0417	0.00609	mg/kg dry	0.04870	ND	85.6	36.1-129			
Tetrachloroethene	0.0390	0.00609	mg/kg dry	0.04870	ND	80.1	35.6-128			
Toluene	0.0418	0.00609	mg/kg dry	0.04870	ND	85.8	49.9-125			
trans-1,2-Dichloroethene	0.0422	0.00609	mg/kg dry	0.04870	ND	86.6	51.1-127			
trans-1,3-Dichloropropene	0.0416	0.00609	mg/kg dry	0.04870	ND	85.5	54.9-126			
Trichloroethene	0.0432	0.00609	mg/kg dry	0.04870	ND	88.7	46.6-132			
Trichlorofluoromethane	0.0401	0.00609	mg/kg dry	0.04870	ND	82.3	13.7-140			
Vinyl Chloride	0.0357	0.00609	mg/kg dry	0.04870	ND	73.4	34.8-130			
Vinyl acetate	0.0116	0.0122	mg/kg dry	0.04870	ND	23.8	10-127			
Surrogate: 4-Bromofluorobenzene	*46.0*		*ug/L*	*50.00*		*92.0*	*62-129*			
Surrogate: Dibromofluoromethane	*47.4*		*ug/L*	*50.00*		*94.8*	*71-129*			
Surrogate: Toluene-d8	*48.3*		*ug/L*	*50.00*		*96.5*	*74-124*			
Surrogate: 1,2-Dichloroethane-d4	*46.2*		*ug/L*	*50.00*		*92.4*	*70-127*			

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1526079 - VOC PREP										
Matrix Spike Dup (1526079-MSD1)	**Source: 15F0709-03**			Prepared & Analyzed: 06/20/15						
1,1,1,2-Tetrachloroethane	0.0453	0.00604	mg/kg dry	0.04835	ND	93.6	48-135	5.10	19.8	
1,1,1-Trichloroethane	0.0412	0.00604	mg/kg dry	0.04835	ND	85.2	48.5-123	0.331	22.7	
1,1,2,2-Tetrachloroethane	0.0424	0.00604	mg/kg dry	0.04835	ND	87.6	42.8-135	5.99	26.1	
1,1,2-Trichloroethane	0.0437	0.00604	mg/kg dry	0.04835	ND	90.3	51.9-138	4.38	21.2	
1,1-Dichloroethane	0.0445	0.00604	mg/kg dry	0.04835	ND	91.9	61-129	2.47	19.8	
1,1-Dichloroethene	0.0425	0.00604	mg/kg dry	0.04835	ND	87.9	40.5-127	0.900	27.5	
1,1-Dichloropropene	0.0396	0.00604	mg/kg dry	0.04835	ND	82.0	43.6-119	2.87	24.8	
1,2,3-Trichlorobenzene	0.0293	0.00604	mg/kg dry	0.04835	ND	60.5	10-110	16.9	29.9	
1,2,3-Trichloropropane	0.0433	0.00604	mg/kg dry	0.04835	ND	89.5	46.3-128	4.72	23.9	
1,2,4-Trichlorobenzene	0.0312	0.00604	mg/kg dry	0.04835	ND	64.4	11.4-130	13.1	38.3	
1,2,4-Trimethylbenzene	0.0451	0.00604	mg/kg dry	0.04835	ND	93.3	23.6-153	8.69	24.9	
1,2-Dibromo-3-chloropropane	0.0460	0.0121	mg/kg dry	0.04835	ND	95.2	30-146	9.37	25.5	
1,2-Dibromoethane	0.0469	0.00604	mg/kg dry	0.04835	ND	97.0	51.1-136	4.56	19.7	
1,2-Dichlorobenzene	0.0423	0.00604	mg/kg dry	0.04835	ND	87.4	30.6-137	11.5	24.7	
1,2-Dichloroethane	0.0453	0.00604	mg/kg dry	0.04835	ND	93.6	65.3-124	2.75	19.5	
1,2-Dichloropropane	0.0424	0.00604	mg/kg dry	0.04835	ND	87.6	63.6-124	2.05	20.3	
1,3,5-Trimethylbenzene	0.0459	0.00604	mg/kg dry	0.04835	ND	94.8	30.5-140	9.76	23.8	
1,3-Dichlorobenzene	0.0424	0.00604	mg/kg dry	0.04835	ND	87.6	29.9-136	10.4	25.2	
1,3-Dichloropropane	0.0439	0.00604	mg/kg dry	0.04835	ND	90.8	57.4-127	2.00	21	
1,4-Dichlorobenzene	0.0411	0.00604	mg/kg dry	0.04835	ND	85.0	35.7-131	6.52	24.4	
2-Butanone	0.0793	0.0242	mg/kg dry	0.09670	ND	82.0	34.7-149	0.577	22	
2-Chlorotoluene	0.0409	0.00604	mg/kg dry	0.04835	ND	84.5	36.5-129	8.04	24.2	
2-Hexanone	0.0811	0.0242	mg/kg dry	0.09670	ND	83.9	34.3-134	0.252	23.2	
4-Chlorotoluene	0.0397	0.00604	mg/kg dry	0.04835	ND	82.1	32-131	6.07	23.4	
4-Isopropyltoluene	0.0412	0.00604	mg/kg dry	0.04835	ND	85.2	26.8-131	8.28	26.4	
4-Methyl-2-pentanone	0.0861	0.0242	mg/kg dry	0.09670	ND	89.0	49.4-137	0.842	23.6	
Acetone	0.0842	0.0604	mg/kg dry	0.09670	ND	87.1	12.2-177	6.23	33.5	
Acetonitrile	0.0392	0.0483	mg/kg dry	0.04835	ND	81.0	41.1-152	1.52	37.8	
Acrolein	0.0465	0.0604	mg/kg dry	0.09670	ND	48.1	10-200	10.9	47.8	
Acrylonitrile	0.0361	0.0242	mg/kg dry	0.04835	ND	74.8	53.8-136	16.5	26.2	
Allyl chloride	0.0420	0.0121	mg/kg dry	0.04835	ND	86.8	45.6-131	1.36	30.6	
Benzene	0.0437	0.00604	mg/kg dry	0.04835	ND	90.4	60.7-122	0.215	19.7	
Bromobenzene	0.0413	0.00604	mg/kg dry	0.04835	ND	85.4	38-133	8.71	21.4	
Bromochloromethane	0.0477	0.00604	mg/kg dry	0.04835	ND	98.7	69.8-130	1.58	18.5	
Bromodichloromethane	0.0439	0.00604	mg/kg dry	0.04835	ND	90.7	53.1-131	4.12	20.5	
Bromoform	0.0437	0.00604	mg/kg dry	0.04835	ND	90.3	48.5-127	13.3	21.6	
Bromomethane	0.0344	0.00604	mg/kg dry	0.04835	ND	71.1	14.9-168	2.61	22.3	
Carbon Disulfide	0.0389	0.0242	mg/kg dry	0.04835	ND	80.4	43.4-118	0.294	33.4	
Carbon Tetrachloride	0.0405	0.00604	mg/kg dry	0.04835	ND	83.7	38.6-121	1.02	23.4	
Chlorobenzene	0.0441	0.00604	mg/kg dry	0.04835	ND	91.1	45.5-130	5.32	21.3	
Chloroethane	0.0447	0.00604	mg/kg dry	0.04835	ND	92.3	6.47-154	3.02	86.4	
Chloroform	0.0437	0.00604	mg/kg dry	0.04835	ND	90.4	62.1-128	4.31	19.3	
Chloromethane	0.0442	0.00604	mg/kg dry	0.04835	ND	91.4	50.1-132	4.33	24.6	
cis-1,2-Dichloroethene	0.0438	0.00604	mg/kg dry	0.04835	ND	90.6	60.5-127	0.454	19.7	
cis-1,3-Dichloropropene	0.0431	0.00604	mg/kg dry	0.04835	ND	89.0	54.5-125	2.81	21.4	

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1526079 - VOC PREP										
Matrix Spike Dup (1526079-MSD1)		**Source: 15F0709-03**		Prepared & Analyzed: 06/20/15						
Dibromochloromethane	0.0460	0.00604	mg/kg dry	0.04835	ND	95.0	53.4-133	8.46	20.7	
Dibromomethane	0.0436	0.00604	mg/kg dry	0.04835	ND	90.1	64.1-127	3.46	19.5	
Dichlorodifluoromethane	0.0418	0.00604	mg/kg dry	0.04835	ND	86.5	10-184	0.150	68.6	
Ethylbenzene	0.0430	0.00604	mg/kg dry	0.04835	ND	89.0	40.3-129	4.69	22.6	
Hexachlorobutadiene	0.0330	0.00604	mg/kg dry	0.04835	ND	68.4	4.02-123	12.0	57.3	
Iodomethane	0.0434	0.0121	mg/kg dry	0.04835	ND	89.8	36.1-142	0.560	25.2	
Isopropylbenzene	0.0403	0.00604	mg/kg dry	0.04835	ND	83.2	42.2-121	5.65	23.9	
Methylene Chloride	0.0320	0.00604	mg/kg dry	0.04835	ND	66.2	45.8-146	2.88	38.6	
Methyl tert-Butyl Ether	0.0417	0.0121	mg/kg dry	0.04835	ND	86.2	59.8-132	0.672	27.1	
m,p-Xylene	0.0864	0.0121	mg/kg dry	0.09670	ND	89.3	42-130	4.94	24.6	
Naphthalene	0.0364	0.00604	mg/kg dry	0.04835	ND	75.3	7.89-150	20.5	30.8	
n-Butylbenzene	0.0378	0.00604	mg/kg dry	0.04835	ND	78.2	19.6-127	10.2	29	
n-Propylbenzene	0.0380	0.00604	mg/kg dry	0.04835	ND	78.6	32.9-126	4.62	24.9	
o-Xylene	0.0434	0.00604	mg/kg dry	0.04835	ND	89.8	41.7-135	3.65	21.7	
sec-Butylbenzene	0.0412	0.00604	mg/kg dry	0.04835	ND	85.2	26.8-130	9.19	26.3	
Styrene	0.0417	0.00604	mg/kg dry	0.04835	ND	86.1	40.5-132	4.88	22.4	
tert_Butylbenzene	0.0455	0.00604	mg/kg dry	0.04835	ND	94.1	36.1-129	8.73	24.5	
Tetrachloroethene	0.0407	0.00604	mg/kg dry	0.04835	ND	84.2	35.6-128	4.20	22.8	
Toluene	0.0423	0.00604	mg/kg dry	0.04835	ND	87.5	49.9-125	1.23	20.4	
trans-1,2-Dichloroethene	0.0426	0.00604	mg/kg dry	0.04835	ND	88.0	51.1-127	0.873	30.8	
trans-1,3-Dichloropropene	0.0431	0.00604	mg/kg dry	0.04835	ND	89.1	54.9-126	3.39	21.3	
Trichloroethene	0.0435	0.00604	mg/kg dry	0.04835	ND	90.0	46.6-132	0.724	20	
Trichlorofluoromethane	0.0396	0.00604	mg/kg dry	0.04835	ND	82.0	13.7-140	1.22	24.1	
Vinyl Chloride	0.0346	0.00604	mg/kg dry	0.04835	ND	71.6	34.8-130	3.21	53.5	
Vinyl acetate	0.0119	0.0121	mg/kg dry	0.04835	ND	24.7	10-127	2.98	49.6	
Surrogate: 4-Bromofluorobenzene	*45.7*		*ug/L*	*50.00*		*91.4*	*62-129*			
Surrogate: Dibromofluoromethane	*48.0*		*ug/L*	*50.00*		*95.9*	*71-129*			
Surrogate: Toluene-d8	*48.6*		*ug/L*	*50.00*		*97.3*	*74-124*			
Surrogate: 1,2-Dichloroethane-d4	*45.5*		*ug/L*	*50.00*		*91.1*	*70-127*			

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1526083 - VOC PREP										
Blank (1526083-BLK1)				Prepared & Analyzed: 06/19/15						
n-Hexane	BDL	0.00250	mg/kg wet							
Surrogate: 4-Bromofluorobenzene	*49.3*		*ug/L*	*50.00*		*98.6*	*62-129*			
Surrogate: Dibromofluoromethane	*50.7*		*ug/L*	*50.00*		*101*	*71-129*			
Surrogate: Toluene-d8	*52.9*		*ug/L*	*50.00*		*106*	*74-124*			
Surrogate: 1,2-Dichloroethane-d4	*53.1*		*ug/L*	*50.00*		*106*	*70-127*			
LCS (1526083-BS1)				Prepared & Analyzed: 06/19/15						
n-Hexane	0.0160	0.00250	mg/kg wet	0.02000		80.2	67.2-144			
Surrogate: 4-Bromofluorobenzene	*49.6*		*ug/L*	*50.00*		*99.2*	*62-129*			
Surrogate: Dibromofluoromethane	*50.6*		*ug/L*	*50.00*		*101*	*71-129*			
Surrogate: Toluene-d8	*51.9*		*ug/L*	*50.00*		*104*	*74-124*			
Surrogate: 1,2-Dichloroethane-d4	*53.6*		*ug/L*	*50.00*		*107*	*70-127*			
Batch 1526084 - VOC PREP										
Blank (1526084-BLK1)				Prepared & Analyzed: 06/20/15						
n-Hexane	BDL	0.00250	mg/kg wet							
Surrogate: 4-Bromofluorobenzene	*49.1*		*ug/L*	*50.00*		*98.3*	*62-129*			
Surrogate: Dibromofluoromethane	*51.8*		*ug/L*	*50.00*		*104*	*71-129*			
Surrogate: Toluene-d8	*54.2*		*ug/L*	*50.00*		*108*	*74-124*			
Surrogate: 1,2-Dichloroethane-d4	*52.1*		*ug/L*	*50.00*		*104*	*70-127*			
LCS (1526084-BS1)				Prepared & Analyzed: 06/20/15						
n-Hexane	0.0237	0.00250	mg/kg wet	0.02000		119	67.2-144			
Surrogate: 4-Bromofluorobenzene	*50.4*		*ug/L*	*50.00*		*101*	*62-129*			
Surrogate: Dibromofluoromethane	*51.7*		*ug/L*	*50.00*		*103*	*71-129*			
Surrogate: Toluene-d8	*51.8*		*ug/L*	*50.00*		*104*	*74-124*			
Surrogate: 1,2-Dichloroethane-d4	*51.4*		*ug/L*	*50.00*		*103*	*70-127*			

Volatile Organic Compounds by EPA Method 8260A/B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1525265 - VOC PREP										
Blank (1525265-BLK1)				Prepared & Analyzed: 06/19/15						
1,1,1,2-Tetrachloroethane	BDL	0.00500	mg/kg wet							
1,1,1-Trichloroethane	BDL	0.00500	mg/kg wet							
1,1,2,2-Tetrachloroethane	BDL	0.00500	mg/kg wet							
1,1,2-Trichloroethane	BDL	0.00500	mg/kg wet							
1,1-Dichloroethane	BDL	0.00500	mg/kg wet							
1,1-Dichloroethene	BDL	0.00500	mg/kg wet							
1,1-Dichloropropene	BDL	0.00500	mg/kg wet							
1,2,3-Trichlorobenzene	BDL	0.00500	mg/kg wet							
1,2,3-Trichloropropane	BDL	0.00500	mg/kg wet							
1,2,4-Trichlorobenzene	BDL	0.00500	mg/kg wet							
1,2,4-Trimethylbenzene	BDL	0.00500	mg/kg wet							
1,2-Dibromo-3-chloropropane	BDL	0.0100	mg/kg wet							
1,2-Dibromoethane	BDL	0.00500	mg/kg wet							
1,2-Dichlorobenzene	BDL	0.00500	mg/kg wet							
1,2-Dichloroethane	BDL	0.00500	mg/kg wet							
1,2-Dichloropropane	BDL	0.00500	mg/kg wet							
1,3,5-Trimethylbenzene	BDL	0.00500	mg/kg wet							
1,3-Dichlorobenzene	BDL	0.00500	mg/kg wet							
1,3-Dichloropropane	BDL	0.00500	mg/kg wet							
1,4-Dichlorobenzene	BDL	0.00500	mg/kg wet							
2,2-Dichloropropane	BDL	0.00500	mg/kg wet							
2-Butanone	BDL	0.0200	mg/kg wet							
2-Chlorotoluene	BDL	0.00500	mg/kg wet							
2-Hexanone	BDL	0.0200	mg/kg wet							
4-Chlorotoluene	BDL	0.00500	mg/kg wet							
4-Isopropyltoluene	BDL	0.00500	mg/kg wet							
4-Methyl-2-pentanone	BDL	0.0200	mg/kg wet							
Acetone	BDL	0.0500	mg/kg wet							
Acetonitrile	BDL	0.0400	mg/kg wet							
Acrolein	BDL	0.0500	mg/kg wet							
Acrylonitrile	BDL	0.0200	mg/kg wet							
Allyl chloride	BDL	0.0100	mg/kg wet							
Benzene	BDL	0.00500	mg/kg wet							
Benzene	BDL	0.00500	mg/kg wet							
Bromobenzene	BDL	0.00500	mg/kg wet							
Bromochloromethane	BDL	0.00500	mg/kg wet							
Bromodichloromethane	BDL	0.00500	mg/kg wet							
Bromoform	BDL	0.00500	mg/kg wet							
Bromomethane	BDL	0.00500	mg/kg wet							
Carbon Disulfide	BDL	0.0200	mg/kg wet							
Carbon Tetrachloride	BDL	0.00500	mg/kg wet							
Chlorobenzene	BDL	0.00500	mg/kg wet							
Chloroethane	BDL	0.00500	mg/kg wet							
Chloroform	BDL	0.00500	mg/kg wet							
Chloromethane	BDL	0.00500	mg/kg wet							

Volatile Organic Compounds by EPA Method 8260A/B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1525265 - VOC PREP										
Blank (1525265-BLK1)				Prepared & Analyzed: 06/19/15						
cis-1,2-Dichloroethene	BDL	0.00500	mg/kg wet							
cis-1,3-Dichloropropene	BDL	0.00500	mg/kg wet							
Dibromochloromethane	BDL	0.00500	mg/kg wet							
Dibromomethane	BDL	0.00500	mg/kg wet							
Dichlorodifluoromethane	BDL	0.00500	mg/kg wet							
Ethylbenzene	BDL	0.00500	mg/kg wet							
Ethylbenzene	BDL	0.00500	mg/kg wet							
Hexachlorobutadiene	BDL	0.00500	mg/kg wet							
Iodomethane	BDL	0.0100	mg/kg wet							
Isopropylbenzene	BDL	0.00500	mg/kg wet							
Methylene Chloride	BDL	0.00500	mg/kg wet							
Methyl tert-Butyl Ether	BDL	0.0100	mg/kg wet							
Methyl tert-Butyl Ether	BDL	0.0100	mg/kg wet							
m,p-Xylene	BDL	0.0100	mg/kg wet							
m,p-Xylene	BDL	0.0100	mg/kg wet							
Naphthalene	BDL	0.00500	mg/kg wet							
n-Butylbenzene	BDL	0.00500	mg/kg wet							
n-Propylbenzene	BDL	0.00500	mg/kg wet							
o-Xylene	BDL	0.00500	mg/kg wet							
o-Xylene	BDL	0.00500	mg/kg wet							
sec-Butylbenzene	BDL	0.00500	mg/kg wet							
Styrene	BDL	0.00500	mg/kg wet							
tert_Butylbenzene	BDL	0.00500	mg/kg wet							
Tetrachloroethene	BDL	0.00500	mg/kg wet							
Toluene	BDL	0.00500	mg/kg wet							
Toluene	BDL	0.00500	mg/kg wet							
trans-1,2-Dichloroethene	BDL	0.00500	mg/kg wet							
trans-1,3-Dichloropropene	BDL	0.00500	mg/kg wet							
Trichloroethene	BDL	0.00500	mg/kg wet							
Trichlorofluoromethane	BDL	0.00500	mg/kg wet							
Vinyl Chloride	BDL	0.00500	mg/kg wet							
Vinyl acetate	BDL	0.0100	mg/kg wet							
Surrogate: 4-Bromofluorobenzene	*49.0*		*ug/L*	*50.00*		*98.0*	*62-129*			
Surrogate: 4-Bromofluorobenzene	*49.0*		*ug/L*	*50.00*		*98.0*	*62-129*			
Surrogate: Dibromofluoromethane	*44.6*		*ug/L*	*50.00*		*89.1*	*71-129*			
Surrogate: Dibromofluoromethane	*44.6*		*ug/L*	*50.00*		*89.1*	*71-129*			
Surrogate: Toluene-d8	*50.4*		*ug/L*	*50.00*		*101*	*74-124*			
Surrogate: Toluene-d8	*50.4*		*ug/L*	*50.00*		*101*	*74-124*			
Surrogate: 1,2-Dichloroethane-d4	*45.7*		*ug/L*	*50.00*		*91.4*	*70-127*			
Surrogate: 1,2-Dichloroethane-d4	*45.7*		*ug/L*	*50.00*		*91.4*	*70-127*			

CLIENT: Hull & Associates - Toledo Office **Lab Order:** 15F0709
Project: COT235 Champion Spark Plug

Volatile Organic Compounds by EPA Method 8260A/B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1525265 - VOC PREP										
LCS (1525265-BS1)				Prepared & Analyzed: 06/19/15						
1,1,1,2-Tetrachloroethane	0.0200	0.00500	mg/kg wet	0.02000		100	84.1-115			
1,1,1-Trichloroethane	0.0193	0.00500	mg/kg wet	0.02000		96.6	80-124			
1,1,2,2-Tetrachloroethane	0.0200	0.00500	mg/kg wet	0.02000		100	79.7-120			
1,1,2-Trichloroethane	0.0202	0.00500	mg/kg wet	0.02000		101	84.9-116			
1,1-Dichloroethane	0.0188	0.00500	mg/kg wet	0.02000		93.8	79.4-125			
1,1-Dichloroethene	0.0202	0.00500	mg/kg wet	0.02000		101	74-127			
1,1-Dichloropropene	0.0203	0.00500	mg/kg wet	0.02000		102	82.1-122			
1,2,3-Trichlorobenzene	0.0213	0.00500	mg/kg wet	0.02000		107	82.9-117			
1,2,3-Trichloropropane	0.0202	0.00500	mg/kg wet	0.02000		101	80.5-117			
1,2,4-Trichlorobenzene	0.0222	0.00500	mg/kg wet	0.02000		111	81.2-120			
1,2,4-Trimethylbenzene	0.0208	0.00500	mg/kg wet	0.02000		104	84.5-117			
1,2-Dibromo-3-chloropropane	0.0201	0.0100	mg/kg wet	0.02000		101	78.3-114			
1,2-Dibromoethane	0.0203	0.00500	mg/kg wet	0.02000		102	84.6-115			
1,2-Dichlorobenzene	0.0208	0.00500	mg/kg wet	0.02000		104	85.8-114			
1,2-Dichloroethane	0.0193	0.00500	mg/kg wet	0.02000		96.5	81.8-120			
1,2-Dichloropropane	0.0194	0.00500	mg/kg wet	0.02000		97.0	82.7-117			
1,3,5-Trimethylbenzene	0.0209	0.00500	mg/kg wet	0.02000		105	82.7-119			
1,3-Dichlorobenzene	0.0212	0.00500	mg/kg wet	0.02000		106	84.9-116			
1,3-Dichloropropane	0.0203	0.00500	mg/kg wet	0.02000		101	85-115			
1,4-Dichlorobenzene	0.0214	0.00500	mg/kg wet	0.02000		107	84.7-116			
2,2-Dichloropropane	0.0193	0.00500	mg/kg wet	0.02000		96.5	80.6-126			
2-Butanone	0.0370	0.0200	mg/kg wet	0.04000		92.5	54.1-152			
2-Chlorotoluene	0.0212	0.00500	mg/kg wet	0.02000		106	83.5-119			
2-Hexanone	0.0400	0.0200	mg/kg wet	0.04000		100	63.8-138			
4-Chlorotoluene	0.0220	0.00500	mg/kg wet	0.02000		110	84-119			
4-Isopropyltoluene	0.0212	0.00500	mg/kg wet	0.02000		106	82.1-119			
4-Methyl-2-pentanone	0.0402	0.0200	mg/kg wet	0.04000		100	77.9-124			
Acetone	0.0454	0.0500	mg/kg wet	0.04000		114	47.4-167			
Acetonitrile	0.0205	0.0400	mg/kg wet	0.02000		103	59.5-141			
Acrolein	0.0379	0.0500	mg/kg wet	0.04000		94.8	64.9-133			
Acrylonitrile	0.0204	0.0200	mg/kg wet	0.02000		102	71.6-124			
Allyl chloride	0.0195	0.0100	mg/kg wet	0.02000		97.4	71.6-127			
Benzene	0.0200	0.00500	mg/kg wet	0.02000		99.9	83.9-117			
Benzene	0.0200	0.00500	mg/kg wet	0.02000		99.9	83.9-117			
Bromobenzene	0.0211	0.00500	mg/kg wet	0.02000		106	84.4-117			
Bromochloromethane	0.0203	0.00500	mg/kg wet	0.02000		102	85.7-120			
Bromodichloromethane	0.0195	0.00500	mg/kg wet	0.02000		97.4	82.6-117			
Bromoform	0.0211	0.00500	mg/kg wet	0.02000		105	78.3-117			
Bromomethane	0.0166	0.00500	mg/kg wet	0.02000		83.2	58.3-155			
Carbon Disulfide	0.0194	0.0200	mg/kg wet	0.02000		96.8	78.1-122			
Carbon Tetrachloride	0.0206	0.00500	mg/kg wet	0.02000		103	74.6-128			
Chlorobenzene	0.0208	0.00500	mg/kg wet	0.02000		104	86.3-115			
Chloroethane	0.0194	0.00500	mg/kg wet	0.02000		96.9	57.9-140			
Chloroform	0.0181	0.00500	mg/kg wet	0.02000		90.5	79.1-123			
Chloromethane	0.0203	0.00500	mg/kg wet	0.02000		102	66.5-130			

Volatile Organic Compounds by EPA Method 8260A/B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1525265 - VOC PREP										
LCS (1525265-BS1)				Prepared & Analyzed: 06/19/15						
cis-1,2-Dichloroethene	0.0188	0.00500	mg/kg wet	0.02000		94.2	79.6-122			
cis-1,3-Dichloropropene	0.0201	0.00500	mg/kg wet	0.02000		101	85.2-116			
Dibromochloromethane	0.0201	0.00500	mg/kg wet	0.02000		100	79.7-119			
Dibromomethane	0.0194	0.00500	mg/kg wet	0.02000		97.0	85.2-116			
Dichlorodifluoromethane	0.0211	0.00500	mg/kg wet	0.02000		106	69.1-141			
Ethylbenzene	0.0207	0.00500	mg/kg wet	0.02000		103	82.6-118			
Ethylbenzene	0.0207	0.00500	mg/kg wet	0.02000		103	82.6-118			
Hexachlorobutadiene	0.0214	0.00500	mg/kg wet	0.02000		107	76.4-123			
Iodomethane	0.0200	0.0100	mg/kg wet	0.02000		99.8	66.9-137			
Isopropylbenzene	0.0207	0.00500	mg/kg wet	0.02000		103	82.1-118			
Methylene Chloride	0.0150	0.00500	mg/kg wet	0.02000		75.0	62.1-129			
Methyl tert-Butyl Ether	0.0180	0.0100	mg/kg wet	0.02000		89.8	77-124			
Methyl tert-Butyl Ether	0.0180	0.0100	mg/kg wet	0.02000		89.8	77-124			
m,p-Xylene	0.0421	0.0100	mg/kg wet	0.04000		105	82-120			
m,p-Xylene	0.0421	0.0100	mg/kg wet	0.04000		105	82-120			
Naphthalene	0.0206	0.00500	mg/kg wet	0.02000		103	78.9-119			
n-Butylbenzene	0.0216	0.00500	mg/kg wet	0.02000		108	80-123			
n-Propylbenzene	0.0214	0.00500	mg/kg wet	0.02000		107	81.4-120			
o-Xylene	0.0212	0.00500	mg/kg wet	0.02000		106	85.2-117			
o-Xylene	0.0212	0.00500	mg/kg wet	0.02000		106	85.2-117			
sec-Butylbenzene	0.0206	0.00500	mg/kg wet	0.02000		103	81.7-118			
Styrene	0.0210	0.00500	mg/kg wet	0.02000		105	85.7-116			
tert_Butylbenzene	0.0202	0.00500	mg/kg wet	0.02000		101	82.2-116			
Tetrachloroethene	0.0210	0.00500	mg/kg wet	0.02000		105	79.1-126			
Toluene	0.0210	0.00500	mg/kg wet	0.02000		105	82.7-119			
Toluene	0.0210	0.00500	mg/kg wet	0.02000		105	82.7-119			
trans-1,2-Dichloroethene	0.0183	0.00500	mg/kg wet	0.02000		91.4	79.3-124			
trans-1,3-Dichloropropene	0.0206	0.00500	mg/kg wet	0.02000		103	85.5-118			
Trichloroethene	0.0216	0.00500	mg/kg wet	0.02000		108	83.1-122			
Trichlorofluoromethane	0.0208	0.00500	mg/kg wet	0.02000		104	74.3-141			
Vinyl Chloride	0.0192	0.00500	mg/kg wet	0.02000		96.0	71.1-129			
Vinyl acetate	0.0194	0.0100	mg/kg wet	0.02000		97.0	61.7-158			
Surrogate: 4-Bromofluorobenzene	*48.9*		*ug/L*	*50.00*		*97.8*	*62-129*			
Surrogate: 4-Bromofluorobenzene	*48.9*		*ug/L*	*50.00*		*97.8*	*62-129*			
Surrogate: Dibromofluoromethane	*44.1*		*ug/L*	*50.00*		*88.2*	*71-129*			
Surrogate: Dibromofluoromethane	*44.1*		*ug/L*	*50.00*		*88.2*	*71-129*			
Surrogate: Toluene-d8	*50.2*		*ug/L*	*50.00*		*100*	*74-124*			
Surrogate: Toluene-d8	*50.2*		*ug/L*	*50.00*		*100*	*74-124*			
Surrogate: 1,2-Dichloroethane-d4	*44.7*		*ug/L*	*50.00*		*89.4*	*70-127*			
Surrogate: 1,2-Dichloroethane-d4	*44.7*		*ug/L*	*50.00*		*89.4*	*70-127*			

Volatile Organic Compounds by EPA Method 8260A/B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1526079 - VOC PREP										
Blank (1526079-BLK1)				Prepared & Analyzed: 06/20/15						
Benzene	BDL	0.00500	mg/kg wet							
Ethylbenzene	BDL	0.00500	mg/kg wet							
Methyl tert-Butyl Ether	BDL	0.0100	mg/kg wet							
m,p-Xylene	BDL	0.0100	mg/kg wet							
o-Xylene	BDL	0.00500	mg/kg wet							
Toluene	BDL	0.00500	mg/kg wet							
Surrogate: 4-Bromofluorobenzene	*48.3*		*ug/L*	*50.00*		*96.5*	*62-129*			
Surrogate: Dibromofluoromethane	*45.9*		*ug/L*	*50.00*		*91.8*	*71-129*			
Surrogate: Toluene-d8	*49.5*		*ug/L*	*50.00*		*99.0*	*74-124*			
Surrogate: 1,2-Dichloroethane-d4	*47.4*		*ug/L*	*50.00*		*94.8*	*70-127*			
LCS (1526079-BS1)				Prepared & Analyzed: 06/20/15						
Benzene	0.0204	0.00500	mg/kg wet	0.02000		102	83.9-117			
Ethylbenzene	0.0211	0.00500	mg/kg wet	0.02000		106	82.6-118			
Methyl tert-Butyl Ether	0.0185	0.0100	mg/kg wet	0.02000		92.4	77-124			
m,p-Xylene	0.0428	0.0100	mg/kg wet	0.04000		107	82-120			
o-Xylene	0.0211	0.00500	mg/kg wet	0.02000		106	85.2-117			
Toluene	0.0205	0.00500	mg/kg wet	0.02000		103	82.7-119			
Surrogate: 4-Bromofluorobenzene	*48.5*		*ug/L*	*50.00*		*97.0*	*62-129*			
Surrogate: Dibromofluoromethane	*46.9*		*ug/L*	*50.00*		*93.8*	*71-129*			
Surrogate: Toluene-d8	*49.0*		*ug/L*	*50.00*		*98.0*	*74-124*			
Surrogate: 1,2-Dichloroethane-d4	*45.4*		*ug/L*	*50.00*		*90.9*	*70-127*			
Matrix Spike (1526079-MS1)	**Source: 15F0709-03**			Prepared & Analyzed: 06/20/15						
Benzene	0.0436	0.0122	mg/kg dry	0.04870	ND	89.5	60.7-122			
Ethylbenzene	0.0411	0.0122	mg/kg dry	0.04870	ND	84.3	40.3-129			
Methyl tert-Butyl Ether	0.0414	0.0244	mg/kg dry	0.04870	ND	85.0	59.8-132			
m,p-Xylene	0.0822	0.0244	mg/kg dry	0.09741	ND	84.4	42-130			
o-Xylene	0.0419	0.0122	mg/kg dry	0.04870	ND	85.9	41.7-135			
Toluene	0.0418	0.0122	mg/kg dry	0.04870	ND	85.8	49.9-125			
Surrogate: 4-Bromofluorobenzene	*46.0*		*ug/L*	*50.00*		*92.0*	*62-129*			
Surrogate: Dibromofluoromethane	*47.4*		*ug/L*	*50.00*		*94.8*	*71-129*			
Surrogate: Toluene-d8	*48.3*		*ug/L*	*50.00*		*96.5*	*74-124*			
Surrogate: 1,2-Dichloroethane-d4	*46.2*		*ug/L*	*50.00*		*92.4*	*70-127*			

Volatile Organic Compounds by EPA Method 8260A/B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1526079 - VOC PREP										
Matrix Spike Dup (1526079-MSD1)		**Source: 15F0709-03**		Prepared & Analyzed: 06/20/15						
Benzene	0.0437	0.0121	mg/kg dry	0.04835	ND	90.4	60.7-122	0.215	19.7	
Ethylbenzene	0.0430	0.0121	mg/kg dry	0.04835	ND	89.0	40.3-129	4.69	22.6	
Methyl tert-Butyl Ether	0.0417	0.0242	mg/kg dry	0.04835	ND	86.2	59.8-132	0.672	27.1	
m,p-Xylene	0.0864	0.0242	mg/kg dry	0.09670	ND	89.3	42-130	4.94	24.6	
o-Xylene	0.0434	0.0121	mg/kg dry	0.04835	ND	89.8	41.7-135	3.65	21.7	
Toluene	0.0423	0.0121	mg/kg dry	0.04835	ND	87.5	49.9-125	1.23	20.4	
Surrogate: 4-Bromofluorobenzene	*45.7*		*ug/L*	*50.00*		*91.4*	*62-129*			
Surrogate: Dibromofluoromethane	*48.0*		*ug/L*	*50.00*		*95.9*	*71-129*			
Surrogate: Toluene-d8	*48.6*		*ug/L*	*50.00*		*97.3*	*74-124*			
Surrogate: 1,2-Dichloroethane-d4	*45.5*		*ug/L*	*50.00*		*91.1*	*70-127*			
Batch 1526083 - VOC PREP										
Blank (1526083-BLK1)				Prepared & Analyzed: 06/19/15						
n-Hexane	BDL	0.00500	mg/kg wet							
Surrogate: 4-Bromofluorobenzene	*49.3*		*ug/L*	*50.00*		*98.6*	*62-129*			
Surrogate: Dibromofluoromethane	*50.7*		*ug/L*	*50.00*		*101*	*71-129*			
Surrogate: Toluene-d8	*52.9*		*ug/L*	*50.00*		*106*	*74-124*			
Surrogate: 1,2-Dichloroethane-d4	*53.1*		*ug/L*	*50.00*		*106*	*70-127*			
LCS (1526083-BS1)				Prepared & Analyzed: 06/19/15						
n-Hexane	0.0160	0.00500	mg/kg wet	0.02000		80.2	67.2-144			
Surrogate: 4-Bromofluorobenzene	*49.6*		*ug/L*	*50.00*		*99.2*	*62-129*			
Surrogate: Dibromofluoromethane	*50.6*		*ug/L*	*50.00*		*101*	*71-129*			
Surrogate: Toluene-d8	*51.9*		*ug/L*	*50.00*		*104*	*74-124*			
Surrogate: 1,2-Dichloroethane-d4	*53.6*		*ug/L*	*50.00*		*107*	*70-127*			

Notes and Definitions

S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
R-06	The sample was diluted due to the presence of high levels of target analytes, resulting in elevated reporting limits.
R-01	The sample was diluted due to matrix interference, resulting in elevated reporting limits.
R	RPD outside of accepted recovery limits.
C	Sample Result Confirmed
BDL	Analyte is below detection limits
	Sample preservation was met unless otherwise noted.

Soil

15F0709

PAGE 1 OF 1

NO. 1030

HULL

CHAIN OF CUSTODY RECORD

Dublin, OH ☐ 6397 Emerald Pkwy Suite 200 Dublin, OH 43016 P: (614) 793-8777

Indianapolis, IN ☐ 8445 Keystone Crossing Suite 135 Indianapolis, IN 46240 P: (800) 241-7173

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Bedford, OH ☐ 4 Hemisphere Way Bedford, OH 44146 P: (440) 232-9945

Toledo, OH ☒ 3401 Glendale Ave. Suite 300 Toledo, OH 43614 P: (419) 385-2018

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Pittsburgh, PA ☐ Campbells Run Business Center 300 Business Center Dr., Suite 320 Pittsburgh, PA 15205 P: (412) 446-0315

REPORT TO: MATT BEIL

Client: CITY OF TOLEDO

Site: Former Champion Property 900 Upton, Toledo OH10

Project #: COT235 Phase:

Samplers: J. CARLSON

Purchase Order # PM will EMAIL

SAMPLE MATRIX
AA-AMBIENT AIR
C-ASBESTOS
D-SEDIMENT
G-GROUNDWATER
IA-INDOOR AIR
L-LEACHATE
P-PRODUCT
S-SOIL
SG-SOIL GAS
SS-SUBSLAB VAPOR
W-WATER
X-CONCRETE

PRESERVATIVES
A-Cool only, <4 deg. C
B-HNO_3 pH<2
C-H_2SO_4 pH<2
D-NaOH pH>12
E-ZnAcetate + NaOH, pH>9
F-$Na_2S_2O_3$ (0.008%)
G-HCL pH <2
H-EDTA
I-5ml 1:1 HCL
J-none
K-Stored in dark
L-NH4Cl
M-Methanol
S-Sodium

METALS
N - Not filtered
F45u- filtered with 0.45 micron
F5u- filtered with 5 micron

ANALYSES / PRESERVATIVES

PROJECT NO. : SAMPLE LOCATION : SAMPLE MATRIX & ID	NO. OF CONT.	SAMPLE TYPE (discrete/composite)	COLLECTION DATE/TIME	METALS	VOCs 8260	BTEX/MTBE 8260	PAHs 8270	TPH-GRO 8015	TPH-DRO 8015	RCRA Metals			COMMENTS
COT235 : HSB-1 : SO40060	1	G	6-8-15 /1200	N		X		X					
COT235 : HSB 2 : SO60080	1	G	6-8-15 /1100	N		X		X					
COT235 : HSB 3 : SO40050	1	G	6-9-15 /0940	N		X		X					
COT235 : HSB 4 : SO40060	1	G	6-9-15 /1040	N		X		X					
COT235 : HSB 5 : SO00020	6	G	6-9-15 /1250	N	X		X	X	X	X			
COT235 : HSB 6 : SO00020	6	G	6-9-15 /1210	N	X		X	X		X			
COT235 : HSB 7 : SO00020	6	G	6-9-15 /1105	N	X		X	X	X	X			
COT235 : HSB 8 : SO80100	6	G	6-8-15/1020	N	X		X	X		X			
COT235 : HSB 9 : SO60080	6	G	6-8-15 /1325	N	X		X	X	X	X			
COT235 : HSB 10 : SO00020	6	G	6-8-15 /1510	N	X		X	X		X			
COT235 : HSB 11 : SO00020	6	G	6-9-15 /1625	N	X		X	X	X	X			
COT235 : HSB 12 : SO00020	6	G	6-8-15/1605	N	X		X	X		X			

RELINQUISHED BY:	DATE: 6-10-15	RECEIVED BY:	DATE: 6-10-15
	TIME: 1730	FedEx/thgun	TIME: 1700
RELINQUISHED BY:	DATE:	RECEIVED BY:	DATE:
	TIME:		TIME:
RELINQUISHED BY:	DATE:	RECEIVED BY:	DATE: 6-11-15
	TIME:		TIME: 1115

Deliver To: PACE Analytical

Method of Delivery: FedEx

Airbill Number: on File 8055 5578 7726

Regulatory Program: VAP OHD

Required Limits:

COOLER TEMPERATURE AS RECEIVED: 5 °C ICE

DISTRIBUTION: WHITE -LAB USE (MUST BE RETURNED WITH REPORT); YELLOW -LAB USE; PINK -RETAINED BY HULL

NOTES:

TURN AROUND TIME: STANDARD DAYS

Soil

HULL

CHAIN OF CUSTODY RECORD

Dublin, OH ☐ 6397 Emerald Pkwy Suite 200 Dublin, OH 43016 P: (614) 793-8777

Indianapolis, IN ☐ 8445 Keystone Crossing Suite 135 Indianapolis, IN 46240 P: (800) 241-7173

Mason, OH ☐ 4770 Duke Dr. Suite 300 Mason, OH 45040 P: (513) 459-9677

Bedford, OH ☐ 4 Hemisphere Way Bedford, OH 44146 P: (440) 232-9945

Toledo, OH ☒ 3401 Glendale Ave. Suite 300 Toledo, OH 43614 P: (419) 385-2018

St. Clairsville, OH ☐ 146 W. Main St. 2nd Floor St. Clairsville, OH 43950 P: (800) 241-7173

Pittsburgh, PA ☐ Campbells Run Business Center 300 Business Center Dr., Suite 320 Pittsburgh, PA 15205 P: (412) 446-0315

REPORT TO: MATT BEIL

Client: City of Toledo

Site: Former Champion Property 900 Upton Ave Toledo, OH 10

Project #: COT235 Phase:

Samplers: J. CARLSON

Purchase Order #

SAMPLE MATRIX: AA-AMBIENT AIR; C-ASBESTOS; D-SEDIMENT; G-GROUNDWATER; IA-INDOOR AIR; L-LEACHATE; P-PRODUCT; S-SOIL; SG-SOIL GAS; SS-SUBSLAB VAPOR; W-WATER; X-CONCRETE

PRESERVATIVES: A-Cool only, <4 deg. C; B-HNO_3 pH<2; C-H_2SO_4 pH<2; D-NaOH pH>12; E-ZnAcetate + NaOH, pH>9; F-$Na_2S_2O_3$ (0.008%); G-HCL pH <2; H-EDTA; I-5ml 1:1 HCL; J-none; K-Stored in dark; L-NH4CI; M-Methanol; S-Sodium

METALS: N - Not filtered; F45u- filtered with 0.45 micron; F5u- filtered with 5 micron

ANALYSES / PRESERVATIVES

PROJECT NO.	SAMPLE LOCATION	SAMPLE MATRIX & ID	NO. OF CONT.	SAMPLE TYPE (discrete, composite)	COLLECTION DATE/TIME	METALS	VOCs 8260	BTEX/MTBE 8260	PAHs 8270	TPH-GRO 8015	TPH-DRO 8015	RCRA Metals			COMMENTS
COT235	HSB 13	S100120	6	d	6-9-15 / 1525	N	X		X	X	X	X			
COT235	HSB 14	S040060	6	d	6-9-15 / 1445	N	X		X	X		X			BOTTLES HAVE - HSB 15
COT235	HSB 16	S020040	6	d	6-9-15 / 1330	N	X		X	X		X			
COT235	HSB 17	S080100	6	d	6-8-15 / 1420	N	X		X	X		X			Note DATE
COT235	HSB 18	S040060	6	d	6-9-15 / 1555	N	X		X	X	X	X			
COT235	TRIP	—	3	—	— / —	—	X								TRIP BLANK
COT235	E. BLANK	W060915	10	—	6-9-15 / 1650	N	X	X	X	X	X	X			Equipment Blank
					/										
					/										
					/										
			40	S	/										
					/										

RELINQUISHED BY: DATE: 6-10-15 TIME: 1720

RECEIVED BY: Shipper/FEDEX DATE: 6-10-15 TIME: 1720

RELINQUISHED BY: DATE: TIME:

RECEIVED BY: DATE: TIME:

RELINQUISHED BY: DATE: TIME:

RECEIVED BY: DATE: 6-11-15 TIME: 1115

Deliver To: PACE Analytical

Method of Delivery: FedEx

Airbill Number: On File

Regulatory Program: VAP OH10

Required Limits:

COOLER TEMPERATURE AS RECEIVED °C

DISTRIBUTION: WHITE -LAB USE (MUST BE RETURNED WITH REPORT); YELLOW -LAB USE; PINK -RETAINED BY HULL

NOTES:

TURN AROUND TIME: STANDARD DAYS

Pace Analytical Services, Inc.
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4860 Blazer Parkway
Dublin, OH 43017
(614)486-5421

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

June 24, 2015

Jason Lykins
Pace Analytical Services, Inc.
25 Holiday Drive
Englewood, OH 45322

RE: Project: 15F0709
Pace Project No.: 50121072

Dear Jason Lykins:
Enclosed are the analytical results for sample(s) received by the laboratory on June 12, 2015. 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,

Mick Mayse
mick.mayse@pacelabs.com
Project Manager

Enclosures

cc: Ms. Alicia Barnes, Pace Englewood
Ms. Christina Schneider, Pace Englewood

REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 15F0709
Pace Project No.: 50121072

Indiana Certification IDs

7726 Moller Road, Indianapolis, IN 46268
Illinois Certification #: 200074
Indiana Certification #: C-49-06
Kansas Certification #:E-10177/ E-10247
Kentucky UST Certification #: 0042
Kentucky WW Certification #:98019
Louisiana/NELAP Certification #: 04076
Ohio VAP Certification #: CL-0065
Oklahoma Certification #: 2014-148
Pennsylvania Certification #: 68-05340
Texas Certification #: T104704355-15-8
West Virginia Certification #: 330
Wisconsin Certification #: 999788130
USDA Soil Permit #: P330-10-00128

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 15F0709
Pace Project No.: 50121072

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50121072001	**15F0709-05**	Solid	06/09/15 12:50	06/12/15 16:31
50121072002	**15F0709-06**	Solid	06/09/15 12:10	06/12/15 16:31
50121072003	**15F0709-07**	Solid	06/09/15 11:05	06/12/15 16:31
50121072004	**15F0709-08**	Solid	06/08/15 10:20	06/12/15 16:31
50121072005	**15F0709-09**	Solid	06/08/15 13:25	06/12/15 16:31
50121072006	**15F0709-10**	Solid	06/08/15 15:10	06/12/15 16:31
50121072007	**15F0709-11**	Solid	06/09/15 16:25	06/12/15 16:31
50121072008	**15F0709-12**	Solid	06/08/15 16:05	06/12/15 16:31
50121072009	**15F0709-13**	Solid	06/09/15 15:25	06/12/15 16:31
50121072010	**15F0709-14**	Solid	06/09/15 14:45	06/12/15 16:31
50121072011	**15F0709-15**	Solid	06/09/15 13:30	06/12/15 16:31
50121072012	**15F0709-16**	Solid	06/08/15 14:20	06/12/15 16:31
50121072013	**15F0709-17**	Solid	06/09/15 15:55	06/12/15 16:31
50121072014	**15F0709-19**	Water	06/09/15 16:50	06/12/15 16:31

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SAMPLE ANALYTE COUNT

Project: 15F0709
Pace Project No.: 50121072

Lab ID	Sample ID	Method	Analysts	Analytes Reported
50121072001	**15F0709-05**	EPA 8015 Mod Ext	KAV	4
		EPA 8270 by SIM	JCM	19
		ASTM D2974-87	PM1	1
50121072002	**15F0709-06**	EPA 8270 by SIM	TBP	19
		ASTM D2974-87	PM1	1
50121072003	**15F0709-07**	EPA 8015 Mod Ext	KAV	4
		EPA 8270 by SIM	TBP	19
		ASTM D2974-87	PM1	1
50121072004	**15F0709-08**	EPA 8270 by SIM	TBP	19
		ASTM D2974-87	PM1	1
50121072005	**15F0709-09**	EPA 8015 Mod Ext	KAV	4
		EPA 8270 by SIM	JCM	19
		ASTM D2974-87	PM1	1
50121072006	**15F0709-10**	EPA 8270 by SIM	JCM	19
		ASTM D2974-87	PM1	1
50121072007	**15F0709-11**	EPA 8015 Mod Ext	KAV	4
		EPA 8270 by SIM	JCM	19
		ASTM D2974-87	PM1	1
50121072008	**15F0709-12**	EPA 8270 by SIM	JCM	19
		ASTM D2974-87	PM1	1
50121072009	**15F0709-13**	EPA 8015 Mod Ext	KAV	4
		EPA 8270 by SIM	TBP	19
		ASTM D2974-87	PM1	1
50121072010	**15F0709-14**	EPA 8270 by SIM	JCM	19
		ASTM D2974-87	PM1	1
50121072011	**15F0709-15**	EPA 8270 by SIM	TBP	19
		ASTM D2974-87	PM1	1
50121072012	**15F0709-16**	EPA 8270 by SIM	TBP	19
		ASTM D2974-87	PM1	1
50121072013	**15F0709-17**	EPA 8015 Mod Ext	KAV	4
		EPA 8270 by SIM	JCM, TBP	19
		ASTM D2974-87	PM1	1
50121072014	**15F0709-19**	EPA 8015 Mod Ext	KAV	4
		EPA 8270 by SIM LVE	TBP	19

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: 15F0709
Pace Project No.: 50121072

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50121072001	**15F0709-05**					
EPA 8270 by SIM	Fluoranthene	0.042	mg/kg	0.030	06/20/15 05:15	
EPA 8270 by SIM	Phenanthrene	0.032	mg/kg	0.030	06/20/15 05:15	
EPA 8270 by SIM	Pyrene	0.032	mg/kg	0.030	06/20/15 05:15	
ASTM D2974-87	Percent Moisture	16.6	%	0.10	06/19/15 11:52	
50121072002	**15F0709-06**					
ASTM D2974-87	Percent Moisture	18.1	%	0.10	06/19/15 11:52	
50121072003	**15F0709-07**					
EPA 8270 by SIM	Fluoranthene	0.013	mg/kg	0.0061	06/23/15 13:22	
EPA 8270 by SIM	Phenanthrene	0.0081	mg/kg	0.0061	06/23/15 13:22	
EPA 8270 by SIM	Pyrene	0.010	mg/kg	0.0061	06/23/15 13:22	
ASTM D2974-87	Percent Moisture	19.2	%	0.10	06/19/15 11:52	
50121072004	**15F0709-08**					
ASTM D2974-87	Percent Moisture	22.9	%	0.10	06/19/15 11:52	
50121072005	**15F0709-09**					
EPA 8270 by SIM	Fluorene	0.010	mg/kg	0.0062	06/20/15 06:21	
EPA 8270 by SIM	2-Methylnaphthalene	0.80	mg/kg	0.0062	06/20/15 06:21	
EPA 8270 by SIM	Naphthalene	0.29	mg/kg	0.0062	06/20/15 06:21	
EPA 8270 by SIM	Phenanthrene	0.019	mg/kg	0.0062	06/20/15 06:21	
EPA 8270 by SIM	Pyrene	0.0091	mg/kg	0.0062	06/20/15 06:21	
ASTM D2974-87	Percent Moisture	19.2	%	0.10	06/19/15 11:52	
50121072006	**15F0709-10**					
ASTM D2974-87	Percent Moisture	15.4	%	0.10	06/19/15 11:52	
50121072007	**15F0709-11**					
EPA 8270 by SIM	Benzo(a)anthracene	0.013	mg/kg	0.0062	06/20/15 06:53	
EPA 8270 by SIM	Benzo(a)pyrene	0.014	mg/kg	0.0062	06/20/15 06:53	
EPA 8270 by SIM	Benzo(b)fluoranthene	0.016	mg/kg	0.0062	06/20/15 06:53	
EPA 8270 by SIM	Benzo(g,h,i)perylene	0.012	mg/kg	0.0062	06/20/15 06:53	
EPA 8270 by SIM	Benzo(k)fluoranthene	0.014	mg/kg	0.0062	06/20/15 06:53	
EPA 8270 by SIM	Chrysene	0.015	mg/kg	0.0062	06/20/15 06:53	
EPA 8270 by SIM	Fluoranthene	0.027	mg/kg	0.0062	06/20/15 06:53	
EPA 8270 by SIM	Indeno(1,2,3-cd)pyrene	0.010	mg/kg	0.0062	06/20/15 06:53	
EPA 8270 by SIM	2-Methylnaphthalene	0.0092	mg/kg	0.0062	06/20/15 06:53	
EPA 8270 by SIM	Naphthalene	0.0088	mg/kg	0.0062	06/20/15 06:53	
EPA 8270 by SIM	Phenanthrene	0.018	mg/kg	0.0062	06/20/15 06:53	
EPA 8270 by SIM	Pyrene	0.022	mg/kg	0.0062	06/20/15 06:53	
ASTM D2974-87	Percent Moisture	19.4	%	0.10	06/19/15 11:53	
50121072008	**15F0709-12**					
EPA 8270 by SIM	Benzo(a)anthracene	0.021	mg/kg	0.0064	06/20/15 07:10	
EPA 8270 by SIM	Benzo(a)pyrene	0.032	mg/kg	0.0064	06/20/15 07:10	
EPA 8270 by SIM	Benzo(b)fluoranthene	0.039	mg/kg	0.0064	06/20/15 07:10	
EPA 8270 by SIM	Benzo(g,h,i)perylene	0.024	mg/kg	0.0064	06/20/15 07:10	
EPA 8270 by SIM	Benzo(k)fluoranthene	0.042	mg/kg	0.0064	06/20/15 07:10	
EPA 8270 by SIM	Chrysene	0.043	mg/kg	0.0064	06/20/15 07:10	

REPORT OF LABORATORY ANALYSIS

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

SUMMARY OF DETECTION

Project: 15F0709
Pace Project No.: 50121072

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50121072008	**15F0709-12**					
EPA 8270 by SIM	Dibenz(a,h)anthracene	0.0088	mg/kg	0.0064	06/20/15 07:10	
EPA 8270 by SIM	Fluoranthene	0.077	mg/kg	0.0064	06/20/15 07:10	
EPA 8270 by SIM	Indeno(1,2,3-cd)pyrene	0.021	mg/kg	0.0064	06/20/15 07:10	
EPA 8270 by SIM	2-Methylnaphthalene	0.027	mg/kg	0.0064	06/20/15 07:10	
EPA 8270 by SIM	Naphthalene	0.0072	mg/kg	0.0064	06/20/15 07:10	
EPA 8270 by SIM	Phenanthrene	0.043	mg/kg	0.0064	06/20/15 07:10	
EPA 8270 by SIM	Pyrene	0.071	mg/kg	0.0064	06/20/15 07:10	
ASTM D2974-87	Percent Moisture	22.2	%	0.10	06/19/15 11:53	
50121072009	**15F0709-13**					
EPA 8270 by SIM	Fluoranthene	0.0065	mg/kg	0.0063	06/23/15 15:34	
EPA 8270 by SIM	Phenanthrene	0.0072	mg/kg	0.0063	06/23/15 15:34	
ASTM D2974-87	Percent Moisture	21.4	%	0.10	06/19/15 12:42	
50121072010	**15F0709-14**					
EPA 8270 by SIM	Benzo(a)anthracene	0.016	mg/kg	0.0059	06/20/15 07:43	
EPA 8270 by SIM	Chrysene	0.075	mg/kg	0.0059	06/20/15 07:43	
EPA 8270 by SIM	Fluoranthene	0.024	mg/kg	0.0059	06/20/15 07:43	
EPA 8270 by SIM	2-Methylnaphthalene	0.014	mg/kg	0.0059	06/20/15 07:43	
EPA 8270 by SIM	Naphthalene	0.0087	mg/kg	0.0059	06/20/15 07:43	
EPA 8270 by SIM	Phenanthrene	0.016	mg/kg	0.0059	06/20/15 07:43	
EPA 8270 by SIM	Pyrene	0.031	mg/kg	0.0059	06/20/15 07:43	
ASTM D2974-87	Percent Moisture	17.0	%	0.10	06/19/15 12:42	
50121072011	**15F0709-15**					
EPA 8270 by SIM	Benzo(a)anthracene	0.20	mg/kg	0.055	06/22/15 12:36	
EPA 8270 by SIM	Benzo(a)pyrene	0.19	mg/kg	0.055	06/22/15 12:36	
EPA 8270 by SIM	Benzo(b)fluoranthene	0.23	mg/kg	0.055	06/22/15 12:36	
EPA 8270 by SIM	Benzo(g,h,i)perylene	0.15	mg/kg	0.055	06/22/15 12:36	
EPA 8270 by SIM	Benzo(k)fluoranthene	0.24	mg/kg	0.055	06/22/15 12:36	
EPA 8270 by SIM	Chrysene	0.32	mg/kg	0.055	06/22/15 12:36	
EPA 8270 by SIM	Dibenz(a,h)anthracene	0.064	mg/kg	0.055	06/22/15 12:36	
EPA 8270 by SIM	Fluoranthene	0.52	mg/kg	0.055	06/22/15 12:36	
EPA 8270 by SIM	Indeno(1,2,3-cd)pyrene	0.14	mg/kg	0.055	06/22/15 12:36	
EPA 8270 by SIM	2-Methylnaphthalene	0.34	mg/kg	0.055	06/22/15 12:36	
EPA 8270 by SIM	Naphthalene	0.38	mg/kg	0.055	06/22/15 12:36	1d
EPA 8270 by SIM	Phenanthrene	0.27	mg/kg	0.055	06/22/15 12:36	
EPA 8270 by SIM	Pyrene	0.42	mg/kg	0.055	06/22/15 12:36	
ASTM D2974-87	Percent Moisture	9.3	%	0.10	06/19/15 12:42	
50121072012	**15F0709-16**					
ASTM D2974-87	Percent Moisture	21.1	%	0.10	06/19/15 12:42	
50121072013	**15F0709-17**					
EPA 8270 by SIM	Acenaphthene	0.0085	mg/kg	0.0062	06/20/15 08:20	
EPA 8270 by SIM	Fluoranthene	0.0072	mg/kg	0.0062	06/20/15 08:20	
EPA 8270 by SIM	Fluorene	0.013	mg/kg	0.0062	06/20/15 08:20	
EPA 8270 by SIM	2-Methylnaphthalene	2.9	mg/kg	0.062	06/22/15 13:26	
EPA 8270 by SIM	Naphthalene	3.4	mg/kg	0.062	06/22/15 13:26	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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SUMMARY OF DETECTION

Project: 15F0709
Pace Project No.: 50121072

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50121072013	**15F0709-17**					
EPA 8270 by SIM	Phenanthrene	0.021	mg/kg	0.0062	06/20/15 08:20	
EPA 8270 by SIM	Pyrene	0.0074	mg/kg	0.0062	06/20/15 08:20	
ASTM D2974-87	Percent Moisture	20.3	%	0.10	06/19/15 12:42	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 15F0709
Pace Project No.: 50121072

Sample: 15F0709-05 **Lab ID: 50121072001** Collected: 06/09/15 12:50 Received: 06/12/15 16:31 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

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	24.0	1	06/15/15 13:40	06/15/15 20:08		
TPH (C10-C20)	ND	mg/kg	12.0	1	06/15/15 13:40	06/15/15 20:08		
TPH (C20-C34)	ND	mg/kg	12.0	1	06/15/15 13:40	06/15/15 20:08		
Surrogates								
n-Pentacosane (S)	90	%.	30-153	1	06/15/15 13:40	06/15/15 20:08	629-99-2	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546							
Acenaphthene	ND	mg/kg	0.030	5	06/18/15 14:20	06/20/15 05:15	83-32-9	
Acenaphthylene	ND	mg/kg	0.030	5	06/18/15 14:20	06/20/15 05:15	208-96-8	
Anthracene	ND	mg/kg	0.030	5	06/18/15 14:20	06/20/15 05:15	120-12-7	
Benzo(a)anthracene	ND	mg/kg	0.030	5	06/18/15 14:20	06/20/15 05:15	56-55-3	
Benzo(a)pyrene	ND	mg/kg	0.030	5	06/18/15 14:20	06/20/15 05:15	50-32-8	
Benzo(b)fluoranthene	ND	mg/kg	0.030	5	06/18/15 14:20	06/20/15 05:15	205-99-2	
Benzo(g,h,i)perylene	ND	mg/kg	0.030	5	06/18/15 14:20	06/20/15 05:15	191-24-2	
Benzo(k)fluoranthene	ND	mg/kg	0.030	5	06/18/15 14:20	06/20/15 05:15	207-08-9	
Chrysene	ND	mg/kg	0.030	5	06/18/15 14:20	06/20/15 05:15	218-01-9	
Dibenz(a,h)anthracene	ND	mg/kg	0.030	5	06/18/15 14:20	06/20/15 05:15	53-70-3	
Fluoranthene	**0.042**	mg/kg	0.030	5	06/18/15 14:20	06/20/15 05:15	206-44-0	
Fluorene	ND	mg/kg	0.030	5	06/18/15 14:20	06/20/15 05:15	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.030	5	06/18/15 14:20	06/20/15 05:15	193-39-5	
2-Methylnaphthalene	ND	mg/kg	0.030	5	06/18/15 14:20	06/20/15 05:15	91-57-6	
Naphthalene	ND	mg/kg	0.030	5	06/18/15 14:20	06/20/15 05:15	91-20-3	1d
Phenanthrene	**0.032**	mg/kg	0.030	5	06/18/15 14:20	06/20/15 05:15	85-01-8	
Pyrene	**0.032**	mg/kg	0.030	5	06/18/15 14:20	06/20/15 05:15	129-00-0	
Surrogates								
2-Fluorobiphenyl (S)	40	%.	38-110	5	06/18/15 14:20	06/20/15 05:15	321-60-8	
p-Terphenyl-d14 (S)	50	%.	32-111	5	06/18/15 14:20	06/20/15 05:15	1718-51-0	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**16.6**	%	0.10	1		06/19/15 11:52		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 15F0709
Pace Project No.: 50121072

Sample: 15F0709-06 **Lab ID: 50121072002** Collected: 06/09/15 12:10 Received: 06/12/15 16:31 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546							
Acenaphthene	ND	mg/kg	0.0061	1	06/22/15 14:45	06/23/15 13:05	83-32-9	
Acenaphthylene	ND	mg/kg	0.0061	1	06/22/15 14:45	06/23/15 13:05	208-96-8	
Anthracene	ND	mg/kg	0.0061	1	06/22/15 14:45	06/23/15 13:05	120-12-7	
Benzo(a)anthracene	ND	mg/kg	0.0061	1	06/22/15 14:45	06/23/15 13:05	56-55-3	
Benzo(a)pyrene	ND	mg/kg	0.0061	1	06/22/15 14:45	06/23/15 13:05	50-32-8	
Benzo(b)fluoranthene	ND	mg/kg	0.0061	1	06/22/15 14:45	06/23/15 13:05	205-99-2	
Benzo(g,h,i)perylene	ND	mg/kg	0.0061	1	06/22/15 14:45	06/23/15 13:05	191-24-2	
Benzo(k)fluoranthene	ND	mg/kg	0.0061	1	06/22/15 14:45	06/23/15 13:05	207-08-9	
Chrysene	ND	mg/kg	0.0061	1	06/22/15 14:45	06/23/15 13:05	218-01-9	
Dibenz(a,h)anthracene	ND	mg/kg	0.0061	1	06/22/15 14:45	06/23/15 13:05	53-70-3	
Fluoranthene	ND	mg/kg	0.0061	1	06/22/15 14:45	06/23/15 13:05	206-44-0	
Fluorene	ND	mg/kg	0.0061	1	06/22/15 14:45	06/23/15 13:05	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.0061	1	06/22/15 14:45	06/23/15 13:05	193-39-5	
2-Methylnaphthalene	ND	mg/kg	0.0061	1	06/22/15 14:45	06/23/15 13:05	91-57-6	
Naphthalene	ND	mg/kg	0.0061	1	06/22/15 14:45	06/23/15 13:05	91-20-3	
Phenanthrene	ND	mg/kg	0.0061	1	06/22/15 14:45	06/23/15 13:05	85-01-8	
Pyrene	ND	mg/kg	0.0061	1	06/22/15 14:45	06/23/15 13:05	129-00-0	
Surrogates								
2-Fluorobiphenyl (S)	41	%.	38-110	1	06/22/15 14:45	06/23/15 13:05	321-60-8	
p-Terphenyl-d14 (S)	52	%.	32-111	1	06/22/15 14:45	06/23/15 13:05	1718-51-0	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**18.1**	%	0.10	1		06/19/15 11:52		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 15F0709
Pace Project No.: 50121072

Sample: 15F0709-07 **Lab ID: 50121072003** Collected: 06/09/15 11:05 Received: 06/12/15 16:31 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

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	24.4	1	06/15/15 13:40	06/15/15 19:47		
TPH (C10-C20)	ND	mg/kg	12.2	1	06/15/15 13:40	06/15/15 19:47		
TPH (C20-C34)	ND	mg/kg	12.2	1	06/15/15 13:40	06/15/15 19:47		
Surrogates								
n-Pentacosane (S)	57	%.	30-153	1	06/15/15 13:40	06/15/15 19:47	629-99-2	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546							
Acenaphthene	ND	mg/kg	0.0061	1	06/22/15 14:45	06/23/15 13:22	83-32-9	
Acenaphthylene	ND	mg/kg	0.0061	1	06/22/15 14:45	06/23/15 13:22	208-96-8	
Anthracene	ND	mg/kg	0.0061	1	06/22/15 14:45	06/23/15 13:22	120-12-7	
Benzo(a)anthracene	ND	mg/kg	0.0061	1	06/22/15 14:45	06/23/15 13:22	56-55-3	
Benzo(a)pyrene	ND	mg/kg	0.0061	1	06/22/15 14:45	06/23/15 13:22	50-32-8	
Benzo(b)fluoranthene	ND	mg/kg	0.0061	1	06/22/15 14:45	06/23/15 13:22	205-99-2	
Benzo(g,h,i)perylene	ND	mg/kg	0.0061	1	06/22/15 14:45	06/23/15 13:22	191-24-2	
Benzo(k)fluoranthene	ND	mg/kg	0.0061	1	06/22/15 14:45	06/23/15 13:22	207-08-9	
Chrysene	ND	mg/kg	0.0061	1	06/22/15 14:45	06/23/15 13:22	218-01-9	
Dibenz(a,h)anthracene	ND	mg/kg	0.0061	1	06/22/15 14:45	06/23/15 13:22	53-70-3	
Fluoranthene	**0.013**	mg/kg	0.0061	1	06/22/15 14:45	06/23/15 13:22	206-44-0	
Fluorene	ND	mg/kg	0.0061	1	06/22/15 14:45	06/23/15 13:22	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.0061	1	06/22/15 14:45	06/23/15 13:22	193-39-5	
2-Methylnaphthalene	ND	mg/kg	0.0061	1	06/22/15 14:45	06/23/15 13:22	91-57-6	
Naphthalene	ND	mg/kg	0.0061	1	06/22/15 14:45	06/23/15 13:22	91-20-3	
Phenanthrene	**0.0081**	mg/kg	0.0061	1	06/22/15 14:45	06/23/15 13:22	85-01-8	
Pyrene	**0.010**	mg/kg	0.0061	1	06/22/15 14:45	06/23/15 13:22	129-00-0	
Surrogates								
2-Fluorobiphenyl (S)	51	%.	38-110	1	06/22/15 14:45	06/23/15 13:22	321-60-8	
p-Terphenyl-d14 (S)	42	%.	32-111	1	06/22/15 14:45	06/23/15 13:22	1718-51-0	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**19.2**	%	0.10	1		06/19/15 11:52		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 15F0709
Pace Project No.: 50121072

Sample: 15F0709-08 **Lab ID: 50121072004** Collected: 06/08/15 10:20 Received: 06/12/15 16:31 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546							
Acenaphthene	ND	mg/kg	0.0064	1	06/22/15 14:45	06/23/15 12:15	83-32-9	
Acenaphthylene	ND	mg/kg	0.0064	1	06/22/15 14:45	06/23/15 12:15	208-96-8	
Anthracene	ND	mg/kg	0.0064	1	06/22/15 14:45	06/23/15 12:15	120-12-7	
Benzo(a)anthracene	ND	mg/kg	0.0064	1	06/22/15 14:45	06/23/15 12:15	56-55-3	
Benzo(a)pyrene	ND	mg/kg	0.0064	1	06/22/15 14:45	06/23/15 12:15	50-32-8	
Benzo(b)fluoranthene	ND	mg/kg	0.0064	1	06/22/15 14:45	06/23/15 12:15	205-99-2	
Benzo(g,h,i)perylene	ND	mg/kg	0.0064	1	06/22/15 14:45	06/23/15 12:15	191-24-2	
Benzo(k)fluoranthene	ND	mg/kg	0.0064	1	06/22/15 14:45	06/23/15 12:15	207-08-9	
Chrysene	ND	mg/kg	0.0064	1	06/22/15 14:45	06/23/15 12:15	218-01-9	
Dibenz(a,h)anthracene	ND	mg/kg	0.0064	1	06/22/15 14:45	06/23/15 12:15	53-70-3	
Fluoranthene	ND	mg/kg	0.0064	1	06/22/15 14:45	06/23/15 12:15	206-44-0	
Fluorene	ND	mg/kg	0.0064	1	06/22/15 14:45	06/23/15 12:15	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.0064	1	06/22/15 14:45	06/23/15 12:15	193-39-5	
2-Methylnaphthalene	ND	mg/kg	0.0064	1	06/22/15 14:45	06/23/15 12:15	91-57-6	
Naphthalene	ND	mg/kg	0.0064	1	06/22/15 14:45	06/23/15 12:15	91-20-3	
Phenanthrene	ND	mg/kg	0.0064	1	06/22/15 14:45	06/23/15 12:15	85-01-8	
Pyrene	ND	mg/kg	0.0064	1	06/22/15 14:45	06/23/15 12:15	129-00-0	
Surrogates								
2-Fluorobiphenyl (S)	55	%.	38-110	1	06/22/15 14:45	06/23/15 12:15	321-60-8	
p-Terphenyl-d14 (S)	61	%.	32-111	1	06/22/15 14:45	06/23/15 12:15	1718-51-0	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**22.9**	%	0.10	1		06/19/15 11:52		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 15F0709
Pace Project No.: 50121072

Sample: 15F0709-09 **Lab ID: 50121072005** Collected: 06/08/15 13:25 Received: 06/12/15 16:31 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

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	24.6	1	06/15/15 13:40	06/15/15 20:16		
TPH (C10-C20)	ND	mg/kg	12.3	1	06/15/15 13:40	06/15/15 20:16		
TPH (C20-C34)	ND	mg/kg	12.3	1	06/15/15 13:40	06/15/15 20:16		
Surrogates								
n-Pentacosane (S)	34	%.	30-153	1	06/15/15 13:40	06/15/15 20:16	629-99-2	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546							
Acenaphthene	ND	mg/kg	0.0062	1	06/18/15 10:24	06/20/15 06:21	83-32-9	
Acenaphthylene	ND	mg/kg	0.0062	1	06/18/15 10:24	06/20/15 06:21	208-96-8	
Anthracene	ND	mg/kg	0.0062	1	06/18/15 10:24	06/20/15 06:21	120-12-7	
Benzo(a)anthracene	ND	mg/kg	0.0062	1	06/18/15 10:24	06/20/15 06:21	56-55-3	
Benzo(a)pyrene	ND	mg/kg	0.0062	1	06/18/15 10:24	06/20/15 06:21	50-32-8	
Benzo(b)fluoranthene	ND	mg/kg	0.0062	1	06/18/15 10:24	06/20/15 06:21	205-99-2	
Benzo(g,h,i)perylene	ND	mg/kg	0.0062	1	06/18/15 10:24	06/20/15 06:21	191-24-2	
Benzo(k)fluoranthene	ND	mg/kg	0.0062	1	06/18/15 10:24	06/20/15 06:21	207-08-9	
Chrysene	ND	mg/kg	0.0062	1	06/18/15 10:24	06/20/15 06:21	218-01-9	
Dibenz(a,h)anthracene	ND	mg/kg	0.0062	1	06/18/15 10:24	06/20/15 06:21	53-70-3	
Fluoranthene	ND	mg/kg	0.0062	1	06/18/15 10:24	06/20/15 06:21	206-44-0	
Fluorene	**0.010**	mg/kg	0.0062	1	06/18/15 10:24	06/20/15 06:21	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.0062	1	06/18/15 10:24	06/20/15 06:21	193-39-5	
2-Methylnaphthalene	**0.80**	mg/kg	0.0062	1	06/18/15 10:24	06/20/15 06:21	91-57-6	
Naphthalene	**0.29**	mg/kg	0.0062	1	06/18/15 10:24	06/20/15 06:21	91-20-3	
Phenanthrene	**0.019**	mg/kg	0.0062	1	06/18/15 10:24	06/20/15 06:21	85-01-8	
Pyrene	**0.0091**	mg/kg	0.0062	1	06/18/15 10:24	06/20/15 06:21	129-00-0	
Surrogates								
2-Fluorobiphenyl (S)	42	%.	38-110	1	06/18/15 10:24	06/20/15 06:21	321-60-8	
p-Terphenyl-d14 (S)	55	%.	32-111	1	06/18/15 10:24	06/20/15 06:21	1718-51-0	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**19.2**	%	0.10	1		06/19/15 11:52		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 15F0709
Pace Project No.: 50121072

Sample: 15F0709-10 **Lab ID: 50121072006** Collected: 06/08/15 15:10 Received: 06/12/15 16:31 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546							
Acenaphthene	ND	mg/kg	0.0059	1	06/18/15 10:24	06/20/15 06:37	83-32-9	
Acenaphthylene	ND	mg/kg	0.0059	1	06/18/15 10:24	06/20/15 06:37	208-96-8	
Anthracene	ND	mg/kg	0.0059	1	06/18/15 10:24	06/20/15 06:37	120-12-7	
Benzo(a)anthracene	ND	mg/kg	0.0059	1	06/18/15 10:24	06/20/15 06:37	56-55-3	
Benzo(a)pyrene	ND	mg/kg	0.0059	1	06/18/15 10:24	06/20/15 06:37	50-32-8	
Benzo(b)fluoranthene	ND	mg/kg	0.0059	1	06/18/15 10:24	06/20/15 06:37	205-99-2	
Benzo(g,h,i)perylene	ND	mg/kg	0.0059	1	06/18/15 10:24	06/20/15 06:37	191-24-2	
Benzo(k)fluoranthene	ND	mg/kg	0.0059	1	06/18/15 10:24	06/20/15 06:37	207-08-9	
Chrysene	ND	mg/kg	0.0059	1	06/18/15 10:24	06/20/15 06:37	218-01-9	
Dibenz(a,h)anthracene	ND	mg/kg	0.0059	1	06/18/15 10:24	06/20/15 06:37	53-70-3	
Fluoranthene	ND	mg/kg	0.0059	1	06/18/15 10:24	06/20/15 06:37	206-44-0	
Fluorene	ND	mg/kg	0.0059	1	06/18/15 10:24	06/20/15 06:37	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.0059	1	06/18/15 10:24	06/20/15 06:37	193-39-5	
2-Methylnaphthalene	ND	mg/kg	0.0059	1	06/18/15 10:24	06/20/15 06:37	91-57-6	
Naphthalene	ND	mg/kg	0.0059	1	06/18/15 10:24	06/20/15 06:37	91-20-3	
Phenanthrene	ND	mg/kg	0.0059	1	06/18/15 10:24	06/20/15 06:37	85-01-8	
Pyrene	ND	mg/kg	0.0059	1	06/18/15 10:24	06/20/15 06:37	129-00-0	
Surrogates								
2-Fluorobiphenyl (S)	41	%.	38-110	1	06/18/15 10:24	06/20/15 06:37	321-60-8	
p-Terphenyl-d14 (S)	57	%.	32-111	1	06/18/15 10:24	06/20/15 06:37	1718-51-0	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**15.4**	%	0.10	1		06/19/15 11:52		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 15F0709
Pace Project No.: 50121072

Sample: 15F0709-11 **Lab ID: 50121072007** Collected: 06/09/15 16:25 Received: 06/12/15 16:31 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

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	24.7	1	06/15/15 13:40	06/15/15 20:23		
TPH (C10-C20)	ND	mg/kg	12.4	1	06/15/15 13:40	06/15/15 20:23		
TPH (C20-C34)	ND	mg/kg	12.4	1	06/15/15 13:40	06/15/15 20:23		
Surrogates								
n-Pentacosane (S)	74	%.	30-153	1	06/15/15 13:40	06/15/15 20:23	629-99-2	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546							
Acenaphthene	ND	mg/kg	0.0062	1	06/18/15 10:24	06/20/15 06:53	83-32-9	
Acenaphthylene	ND	mg/kg	0.0062	1	06/18/15 10:24	06/20/15 06:53	208-96-8	
Anthracene	ND	mg/kg	0.0062	1	06/18/15 10:24	06/20/15 06:53	120-12-7	
Benzo(a)anthracene	**0.013**	mg/kg	0.0062	1	06/18/15 10:24	06/20/15 06:53	56-55-3	
Benzo(a)pyrene	**0.014**	mg/kg	0.0062	1	06/18/15 10:24	06/20/15 06:53	50-32-8	
Benzo(b)fluoranthene	**0.016**	mg/kg	0.0062	1	06/18/15 10:24	06/20/15 06:53	205-99-2	
Benzo(g,h,i)perylene	**0.012**	mg/kg	0.0062	1	06/18/15 10:24	06/20/15 06:53	191-24-2	
Benzo(k)fluoranthene	**0.014**	mg/kg	0.0062	1	06/18/15 10:24	06/20/15 06:53	207-08-9	
Chrysene	**0.015**	mg/kg	0.0062	1	06/18/15 10:24	06/20/15 06:53	218-01-9	
Dibenz(a,h)anthracene	ND	mg/kg	0.0062	1	06/18/15 10:24	06/20/15 06:53	53-70-3	
Fluoranthene	**0.027**	mg/kg	0.0062	1	06/18/15 10:24	06/20/15 06:53	206-44-0	
Fluorene	ND	mg/kg	0.0062	1	06/18/15 10:24	06/20/15 06:53	86-73-7	
Indeno(1,2,3-cd)pyrene	**0.010**	mg/kg	0.0062	1	06/18/15 10:24	06/20/15 06:53	193-39-5	
2-Methylnaphthalene	**0.0092**	mg/kg	0.0062	1	06/18/15 10:24	06/20/15 06:53	91-57-6	
Naphthalene	**0.0088**	mg/kg	0.0062	1	06/18/15 10:24	06/20/15 06:53	91-20-3	
Phenanthrene	**0.018**	mg/kg	0.0062	1	06/18/15 10:24	06/20/15 06:53	85-01-8	
Pyrene	**0.022**	mg/kg	0.0062	1	06/18/15 10:24	06/20/15 06:53	129-00-0	
Surrogates								
2-Fluorobiphenyl (S)	37	%.	38-110	1	06/18/15 10:24	06/20/15 06:53	321-60-8	2d
p-Terphenyl-d14 (S)	52	%.	32-111	1	06/18/15 10:24	06/20/15 06:53	1718-51-0	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**19.4**	%	0.10	1		06/19/15 11:53		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 15F0709
Pace Project No.: 50121072

Sample: 15F0709-12 **Lab ID: 50121072008** Collected: 06/08/15 16:05 Received: 06/12/15 16:31 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546							
Acenaphthene	ND	mg/kg	0.0064	1	06/18/15 10:24	06/20/15 07:10	83-32-9	
Acenaphthylene	ND	mg/kg	0.0064	1	06/18/15 10:24	06/20/15 07:10	208-96-8	
Anthracene	ND	mg/kg	0.0064	1	06/18/15 10:24	06/20/15 07:10	120-12-7	
Benzo(a)anthracene	**0.021**	mg/kg	0.0064	1	06/18/15 10:24	06/20/15 07:10	56-55-3	
Benzo(a)pyrene	**0.032**	mg/kg	0.0064	1	06/18/15 10:24	06/20/15 07:10	50-32-8	
Benzo(b)fluoranthene	**0.039**	mg/kg	0.0064	1	06/18/15 10:24	06/20/15 07:10	205-99-2	
Benzo(g,h,i)perylene	**0.024**	mg/kg	0.0064	1	06/18/15 10:24	06/20/15 07:10	191-24-2	
Benzo(k)fluoranthene	**0.042**	mg/kg	0.0064	1	06/18/15 10:24	06/20/15 07:10	207-08-9	
Chrysene	**0.043**	mg/kg	0.0064	1	06/18/15 10:24	06/20/15 07:10	218-01-9	
Dibenz(a,h)anthracene	**0.0088**	mg/kg	0.0064	1	06/18/15 10:24	06/20/15 07:10	53-70-3	
Fluoranthene	**0.077**	mg/kg	0.0064	1	06/18/15 10:24	06/20/15 07:10	206-44-0	
Fluorene	ND	mg/kg	0.0064	1	06/18/15 10:24	06/20/15 07:10	86-73-7	
Indeno(1,2,3-cd)pyrene	**0.021**	mg/kg	0.0064	1	06/18/15 10:24	06/20/15 07:10	193-39-5	
2-Methylnaphthalene	**0.027**	mg/kg	0.0064	1	06/18/15 10:24	06/20/15 07:10	91-57-6	
Naphthalene	**0.0072**	mg/kg	0.0064	1	06/18/15 10:24	06/20/15 07:10	91-20-3	
Phenanthrene	**0.043**	mg/kg	0.0064	1	06/18/15 10:24	06/20/15 07:10	85-01-8	
Pyrene	**0.071**	mg/kg	0.0064	1	06/18/15 10:24	06/20/15 07:10	129-00-0	
Surrogates								
2-Fluorobiphenyl (S)	38	%.	38-110	1	06/18/15 10:24	06/20/15 07:10	321-60-8	
p-Terphenyl-d14 (S)	46	%.	32-111	1	06/18/15 10:24	06/20/15 07:10	1718-51-0	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**22.2**	%	0.10	1		06/19/15 11:53		

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ANALYTICAL RESULTS

Project: 15F0709
Pace Project No.: 50121072

Sample: 15F0709-13 **Lab ID: 50121072009** Collected: 06/09/15 15:25 Received: 06/12/15 16:31 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

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	25.4	1	06/15/15 13:40	06/15/15 20:30		
TPH (C10-C20)	ND	mg/kg	12.7	1	06/15/15 13:40	06/15/15 20:30		
TPH (C20-C34)	ND	mg/kg	12.7	1	06/15/15 13:40	06/15/15 20:30		
Surrogates								
n-Pentacosane (S)	72	%.	30-153	1	06/15/15 13:40	06/15/15 20:30	629-99-2	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546							
Acenaphthene	ND	mg/kg	0.0063	1	06/22/15 12:32	06/23/15 15:34	83-32-9	
Acenaphthylene	ND	mg/kg	0.0063	1	06/22/15 12:32	06/23/15 15:34	208-96-8	
Anthracene	ND	mg/kg	0.0063	1	06/22/15 12:32	06/23/15 15:34	120-12-7	
Benzo(a)anthracene	ND	mg/kg	0.0063	1	06/22/15 12:32	06/23/15 15:34	56-55-3	
Benzo(a)pyrene	ND	mg/kg	0.0063	1	06/22/15 12:32	06/23/15 15:34	50-32-8	
Benzo(b)fluoranthene	ND	mg/kg	0.0063	1	06/22/15 12:32	06/23/15 15:34	205-99-2	
Benzo(g,h,i)perylene	ND	mg/kg	0.0063	1	06/22/15 12:32	06/23/15 15:34	191-24-2	
Benzo(k)fluoranthene	ND	mg/kg	0.0063	1	06/22/15 12:32	06/23/15 15:34	207-08-9	
Chrysene	ND	mg/kg	0.0063	1	06/22/15 12:32	06/23/15 15:34	218-01-9	
Dibenz(a,h)anthracene	ND	mg/kg	0.0063	1	06/22/15 12:32	06/23/15 15:34	53-70-3	
Fluoranthene	**0.0065**	mg/kg	0.0063	1	06/22/15 12:32	06/23/15 15:34	206-44-0	
Fluorene	ND	mg/kg	0.0063	1	06/22/15 12:32	06/23/15 15:34	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.0063	1	06/22/15 12:32	06/23/15 15:34	193-39-5	
2-Methylnaphthalene	ND	mg/kg	0.0063	1	06/22/15 12:32	06/23/15 15:34	91-57-6	
Naphthalene	ND	mg/kg	0.0063	1	06/22/15 12:32	06/23/15 15:34	91-20-3	
Phenanthrene	**0.0072**	mg/kg	0.0063	1	06/22/15 12:32	06/23/15 15:34	85-01-8	
Pyrene	ND	mg/kg	0.0063	1	06/22/15 12:32	06/23/15 15:34	129-00-0	
Surrogates								
2-Fluorobiphenyl (S)	49	%.	38-110	1	06/22/15 12:32	06/23/15 15:34	321-60-8	
p-Terphenyl-d14 (S)	46	%.	32-111	1	06/22/15 12:32	06/23/15 15:34	1718-51-0	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**21.4**	%	0.10	1		06/19/15 12:42		

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ANALYTICAL RESULTS

Project: 15F0709
Pace Project No.: 50121072

Sample: 15F0709-14 **Lab ID: 50121072010** Collected: 06/09/15 14:45 Received: 06/12/15 16:31 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546							
Acenaphthene	ND	mg/kg	0.0059	1	06/18/15 10:24	06/20/15 07:43	83-32-9	
Acenaphthylene	ND	mg/kg	0.0059	1	06/18/15 10:24	06/20/15 07:43	208-96-8	
Anthracene	ND	mg/kg	0.0059	1	06/18/15 10:24	06/20/15 07:43	120-12-7	
Benzo(a)anthracene	**0.016**	mg/kg	0.0059	1	06/18/15 10:24	06/20/15 07:43	56-55-3	
Benzo(a)pyrene	ND	mg/kg	0.0059	1	06/18/15 10:24	06/20/15 07:43	50-32-8	
Benzo(b)fluoranthene	ND	mg/kg	0.0059	1	06/18/15 10:24	06/20/15 07:43	205-99-2	
Benzo(g,h,i)perylene	ND	mg/kg	0.0059	1	06/18/15 10:24	06/20/15 07:43	191-24-2	
Benzo(k)fluoranthene	ND	mg/kg	0.0059	1	06/18/15 10:24	06/20/15 07:43	207-08-9	
Chrysene	**0.075**	mg/kg	0.0059	1	06/18/15 10:24	06/20/15 07:43	218-01-9	
Dibenz(a,h)anthracene	ND	mg/kg	0.0059	1	06/18/15 10:24	06/20/15 07:43	53-70-3	
Fluoranthene	**0.024**	mg/kg	0.0059	1	06/18/15 10:24	06/20/15 07:43	206-44-0	
Fluorene	ND	mg/kg	0.0059	1	06/18/15 10:24	06/20/15 07:43	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.0059	1	06/18/15 10:24	06/20/15 07:43	193-39-5	
2-Methylnaphthalene	**0.014**	mg/kg	0.0059	1	06/18/15 10:24	06/20/15 07:43	91-57-6	
Naphthalene	**0.0087**	mg/kg	0.0059	1	06/18/15 10:24	06/20/15 07:43	91-20-3	
Phenanthrene	**0.016**	mg/kg	0.0059	1	06/18/15 10:24	06/20/15 07:43	85-01-8	
Pyrene	**0.031**	mg/kg	0.0059	1	06/18/15 10:24	06/20/15 07:43	129-00-0	
Surrogates								
2-Fluorobiphenyl (S)	40	%.	38-110	1	06/18/15 10:24	06/20/15 07:43	321-60-8	
p-Terphenyl-d14 (S)	53	%.	32-111	1	06/18/15 10:24	06/20/15 07:43	1718-51-0	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**17.0**	%	0.10	1		06/19/15 12:42		

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ANALYTICAL RESULTS

Project: 15F0709
Pace Project No.: 50121072

Sample: 15F0709-15 **Lab ID: 50121072011** Collected: 06/09/15 13:30 Received: 06/12/15 16:31 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546							
Acenaphthene	ND	mg/kg	0.055	10	06/18/15 10:24	06/22/15 12:36	83-32-9	
Acenaphthylene	ND	mg/kg	0.055	10	06/18/15 10:24	06/22/15 12:36	208-96-8	
Anthracene	ND	mg/kg	0.055	10	06/18/15 10:24	06/22/15 12:36	120-12-7	
Benzo(a)anthracene	**0.20**	mg/kg	0.055	10	06/18/15 10:24	06/22/15 12:36	56-55-3	
Benzo(a)pyrene	**0.19**	mg/kg	0.055	10	06/18/15 10:24	06/22/15 12:36	50-32-8	
Benzo(b)fluoranthene	**0.23**	mg/kg	0.055	10	06/18/15 10:24	06/22/15 12:36	205-99-2	
Benzo(g,h,i)perylene	**0.15**	mg/kg	0.055	10	06/18/15 10:24	06/22/15 12:36	191-24-2	
Benzo(k)fluoranthene	**0.24**	mg/kg	0.055	10	06/18/15 10:24	06/22/15 12:36	207-08-9	
Chrysene	**0.32**	mg/kg	0.055	10	06/18/15 10:24	06/22/15 12:36	218-01-9	
Dibenz(a,h)anthracene	**0.064**	mg/kg	0.055	10	06/18/15 10:24	06/22/15 12:36	53-70-3	
Fluoranthene	**0.52**	mg/kg	0.055	10	06/18/15 10:24	06/22/15 12:36	206-44-0	
Fluorene	ND	mg/kg	0.055	10	06/18/15 10:24	06/22/15 12:36	86-73-7	
Indeno(1,2,3-cd)pyrene	**0.14**	mg/kg	0.055	10	06/18/15 10:24	06/22/15 12:36	193-39-5	
2-Methylnaphthalene	**0.34**	mg/kg	0.055	10	06/18/15 10:24	06/22/15 12:36	91-57-6	
Naphthalene	**0.38**	mg/kg	0.055	10	06/18/15 10:24	06/22/15 12:36	91-20-3	1d
Phenanthrene	**0.27**	mg/kg	0.055	10	06/18/15 10:24	06/22/15 12:36	85-01-8	
Pyrene	**0.42**	mg/kg	0.055	10	06/18/15 10:24	06/22/15 12:36	129-00-0	
Surrogates								
2-Fluorobiphenyl (S)	57	%.	38-110	10	06/18/15 10:24	06/22/15 12:36	321-60-8	
p-Terphenyl-d14 (S)	78	%.	32-111	10	06/18/15 10:24	06/22/15 12:36	1718-51-0	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**9.3**	%	0.10	1		06/19/15 12:42		

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ANALYTICAL RESULTS

Project: 15F0709
Pace Project No.: 50121072

Sample: 15F0709-16 **Lab ID: 50121072012** Collected: 06/08/15 14:20 Received: 06/12/15 16:31 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546							
Acenaphthene	ND	mg/kg	0.0063	1	06/22/15 12:32	06/23/15 15:51	83-32-9	
Acenaphthylene	ND	mg/kg	0.0063	1	06/22/15 12:32	06/23/15 15:51	208-96-8	
Anthracene	ND	mg/kg	0.0063	1	06/22/15 12:32	06/23/15 15:51	120-12-7	
Benzo(a)anthracene	ND	mg/kg	0.0063	1	06/22/15 12:32	06/23/15 15:51	56-55-3	
Benzo(a)pyrene	ND	mg/kg	0.0063	1	06/22/15 12:32	06/23/15 15:51	50-32-8	
Benzo(b)fluoranthene	ND	mg/kg	0.0063	1	06/22/15 12:32	06/23/15 15:51	205-99-2	
Benzo(g,h,i)perylene	ND	mg/kg	0.0063	1	06/22/15 12:32	06/23/15 15:51	191-24-2	
Benzo(k)fluoranthene	ND	mg/kg	0.0063	1	06/22/15 12:32	06/23/15 15:51	207-08-9	
Chrysene	ND	mg/kg	0.0063	1	06/22/15 12:32	06/23/15 15:51	218-01-9	
Dibenz(a,h)anthracene	ND	mg/kg	0.0063	1	06/22/15 12:32	06/23/15 15:51	53-70-3	
Fluoranthene	ND	mg/kg	0.0063	1	06/22/15 12:32	06/23/15 15:51	206-44-0	
Fluorene	ND	mg/kg	0.0063	1	06/22/15 12:32	06/23/15 15:51	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.0063	1	06/22/15 12:32	06/23/15 15:51	193-39-5	
2-Methylnaphthalene	ND	mg/kg	0.0063	1	06/22/15 12:32	06/23/15 15:51	91-57-6	
Naphthalene	ND	mg/kg	0.0063	1	06/22/15 12:32	06/23/15 15:51	91-20-3	
Phenanthrene	ND	mg/kg	0.0063	1	06/22/15 12:32	06/23/15 15:51	85-01-8	
Pyrene	ND	mg/kg	0.0063	1	06/22/15 12:32	06/23/15 15:51	129-00-0	
Surrogates								
2-Fluorobiphenyl (S)	46	%.	38-110	1	06/22/15 12:32	06/23/15 15:51	321-60-8	
p-Terphenyl-d14 (S)	46	%.	32-111	1	06/22/15 12:32	06/23/15 15:51	1718-51-0	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**21.1**	%	0.10	1		06/19/15 12:42		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 15F0709
Pace Project No.: 50121072

Sample: 15F0709-17 **Lab ID: 50121072013** Collected: 06/09/15 15:55 Received: 06/12/15 16:31 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

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	25.0	1	06/15/15 13:40	06/15/15 20:37		
TPH (C10-C20)	ND	mg/kg	12.5	1	06/15/15 13:40	06/15/15 20:37		
TPH (C20-C34)	ND	mg/kg	12.5	1	06/15/15 13:40	06/15/15 20:37		
Surrogates								
n-Pentacosane (S)	77	%.	30-153	1	06/15/15 13:40	06/15/15 20:37	629-99-2	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546							
Acenaphthene	**0.0085**	mg/kg	0.0062	1	06/19/15 10:33	06/20/15 08:20	83-32-9	
Acenaphthylene	ND	mg/kg	0.0062	1	06/19/15 10:33	06/20/15 08:20	208-96-8	
Anthracene	ND	mg/kg	0.0062	1	06/19/15 10:33	06/20/15 08:20	120-12-7	
Benzo(a)anthracene	ND	mg/kg	0.0062	1	06/19/15 10:33	06/20/15 08:20	56-55-3	
Benzo(a)pyrene	ND	mg/kg	0.0062	1	06/19/15 10:33	06/20/15 08:20	50-32-8	
Benzo(b)fluoranthene	ND	mg/kg	0.0062	1	06/19/15 10:33	06/20/15 08:20	205-99-2	
Benzo(g,h,i)perylene	ND	mg/kg	0.0062	1	06/19/15 10:33	06/20/15 08:20	191-24-2	
Benzo(k)fluoranthene	ND	mg/kg	0.0062	1	06/19/15 10:33	06/20/15 08:20	207-08-9	
Chrysene	ND	mg/kg	0.0062	1	06/19/15 10:33	06/20/15 08:20	218-01-9	
Dibenz(a,h)anthracene	ND	mg/kg	0.0062	1	06/19/15 10:33	06/20/15 08:20	53-70-3	
Fluoranthene	**0.0072**	mg/kg	0.0062	1	06/19/15 10:33	06/20/15 08:20	206-44-0	
Fluorene	**0.013**	mg/kg	0.0062	1	06/19/15 10:33	06/20/15 08:20	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.0062	1	06/19/15 10:33	06/20/15 08:20	193-39-5	
2-Methylnaphthalene	**2.9**	mg/kg	0.062	10	06/19/15 10:33	06/22/15 13:26	91-57-6	
Naphthalene	**3.4**	mg/kg	0.062	10	06/19/15 10:33	06/22/15 13:26	91-20-3	
Phenanthrene	**0.021**	mg/kg	0.0062	1	06/19/15 10:33	06/20/15 08:20	85-01-8	
Pyrene	**0.0074**	mg/kg	0.0062	1	06/19/15 10:33	06/20/15 08:20	129-00-0	
Surrogates								
2-Fluorobiphenyl (S)	49	%.	38-110	1	06/19/15 10:33	06/20/15 08:20	321-60-8	
p-Terphenyl-d14 (S)	37	%.	32-111	1	06/19/15 10:33	06/20/15 08:20	1718-51-0	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**20.3**	%	0.10	1		06/19/15 12:42		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 15F0709
Pace Project No.: 50121072

Sample: 15F0709-19 **Lab ID: 50121072014** Collected: 06/09/15 16:50 Received: 06/12/15 16:31 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 TPH Ohio	Analytical Method: EPA 8015 Mod Ext Preparation Method: EPA 3510							
Total Petroleum Hydrocarbons	ND	mg/L	0.80	1	06/15/15 10:24	06/15/15 22:12		
TPH (C10-C20)	ND	mg/L	0.40	1	06/15/15 10:24	06/15/15 22:12		
TPH (C20-C34)	ND	mg/L	0.40	1	06/15/15 10:24	06/15/15 22:12		
Surrogates								
n-Pentacosane (S)	62	%.	20-109	1	06/15/15 10:24	06/15/15 22:12	629-99-2	
8270 MSSV PAHLV	Analytical Method: EPA 8270 by SIM LVE Preparation Method: EPA 3510							
Acenaphthene	ND	ug/L	1.0	1	06/15/15 14:15	06/16/15 12:13	83-32-9	
Acenaphthylene	ND	ug/L	1.0	1	06/15/15 14:15	06/16/15 12:13	208-96-8	
Anthracene	ND	ug/L	0.10	1	06/15/15 14:15	06/16/15 12:13	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.10	1	06/15/15 14:15	06/16/15 12:13	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.10	1	06/15/15 14:15	06/16/15 12:13	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.10	1	06/15/15 14:15	06/16/15 12:13	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.10	1	06/15/15 14:15	06/16/15 12:13	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.10	1	06/15/15 14:15	06/16/15 12:13	207-08-9	
Chrysene	ND	ug/L	0.50	1	06/15/15 14:15	06/16/15 12:13	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.10	1	06/15/15 14:15	06/16/15 12:13	53-70-3	
Fluoranthene	ND	ug/L	1.0	1	06/15/15 14:15	06/16/15 12:13	206-44-0	
Fluorene	ND	ug/L	1.0	1	06/15/15 14:15	06/16/15 12:13	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.10	1	06/15/15 14:15	06/16/15 12:13	193-39-5	
2-Methylnaphthalene	ND	ug/L	1.0	1	06/15/15 14:15	06/16/15 12:13	91-57-6	
Naphthalene	ND	ug/L	1.0	1	06/15/15 14:15	06/16/15 12:13	91-20-3	
Phenanthrene	ND	ug/L	1.0	1	06/15/15 14:15	06/16/15 12:13	85-01-8	
Pyrene	ND	ug/L	1.0	1	06/15/15 14:15	06/16/15 12:13	129-00-0	
Surrogates								
2-Fluorobiphenyl (S)	55	%.	21-114	1	06/15/15 14:15	06/16/15 12:13	321-60-8	
p-Terphenyl-d14 (S)	52	%.	25-131	1	06/15/15 14:15	06/16/15 12:13	1718-51-0	

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QUALITY CONTROL DATA

Project: 15F0709
Pace Project No.: 50121072

QC Batch: OEXT/39677 Analysis Method: EPA 8015 Mod Ext
QC Batch Method: EPA 3546 Analysis Description: EPA 8015 TPH Ohio
Associated Lab Samples: 50121072001, 50121072003, 50121072005, 50121072007, 50121072009, 50121072013

METHOD BLANK: 1317906 Matrix: Solid
Associated Lab Samples: 50121072001, 50121072003, 50121072005, 50121072007, 50121072009, 50121072013

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/kg	ND	19.9	06/15/15 18:41	
TPH (C10-C20)	mg/kg	ND	10	06/15/15 18:41	
TPH (C20-C34)	mg/kg	ND	10	06/15/15 18:41	
n-Pentacosane (S)	%.	82	30-153	06/15/15 18:41	

LABORATORY CONTROL SAMPLE: 1317907

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/kg	82.8	75.5	91	43-88	L3
n-Pentacosane (S)	%.			86	30-153	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1317908 1317909

Parameter	Units	50121090001 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	222	223	216	161	93	68	10-136	29	20	R1
n-Pentacosane (S)	%.						97	67	30-153			

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QUALITY CONTROL DATA

Project: 15F0709
Pace Project No.: 50121072

QC Batch: OEXT/39682
QC Batch Method: EPA 3510
Analysis Method: EPA 8015 Mod Ext
Analysis Description: EPA 8015 TPH Ohio
Associated Lab Samples: 50121072014

METHOD BLANK: 1317950
Matrix: Water
Associated Lab Samples: 50121072014

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	0.80	06/15/15 21:57	
TPH (C10-C20)	mg/L	ND	0.40	06/15/15 21:57	
TPH (C20-C34)	mg/L	ND	0.40	06/15/15 21:57	
n-Pentacosane (S)	%.	49	20-109	06/15/15 21:57	

LABORATORY CONTROL SAMPLE: 1317951

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	2.5	2.1	86	39-100	
n-Pentacosane (S)	%.			61	20-109	

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QUALITY CONTROL DATA

Project: 15F0709
Pace Project No.: 50121072

QC Batch: OEXT/39685
QC Batch Method: EPA 3510
Analysis Method: EPA 8270 by SIM LVE
Analysis Description: 8270 Water PAH LV by SIM MSSV
Associated Lab Samples: 50121072014

METHOD BLANK: 1318085 Matrix: Water
Associated Lab Samples: 50121072014

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
2-Methylnaphthalene	ug/L	ND	1.0	06/16/15 09:46	
Acenaphthene	ug/L	ND	1.0	06/16/15 09:46	
Acenaphthylene	ug/L	ND	1.0	06/16/15 09:46	
Anthracene	ug/L	ND	0.10	06/16/15 09:46	
Benzo(a)anthracene	ug/L	ND	0.10	06/16/15 09:46	
Benzo(a)pyrene	ug/L	ND	0.10	06/16/15 09:46	
Benzo(b)fluoranthene	ug/L	ND	0.10	06/16/15 09:46	
Benzo(g,h,i)perylene	ug/L	ND	0.10	06/16/15 09:46	
Benzo(k)fluoranthene	ug/L	ND	0.10	06/16/15 09:46	
Chrysene	ug/L	ND	0.50	06/16/15 09:46	
Dibenz(a,h)anthracene	ug/L	ND	0.10	06/16/15 09:46	
Fluoranthene	ug/L	ND	1.0	06/16/15 09:46	
Fluorene	ug/L	ND	1.0	06/16/15 09:46	
Indeno(1,2,3-cd)pyrene	ug/L	ND	0.10	06/16/15 09:46	
Naphthalene	ug/L	ND	1.0	06/16/15 09:46	
Phenanthrene	ug/L	ND	1.0	06/16/15 09:46	
Pyrene	ug/L	ND	1.0	06/16/15 09:46	
2-Fluorobiphenyl (S)	%.	60	21-114	06/16/15 09:46	
p-Terphenyl-d14 (S)	%.	73	25-131	06/16/15 09:46	

LABORATORY CONTROL SAMPLE: 1318086

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2-Methylnaphthalene	ug/L	10	5.5	55	29-110	
Acenaphthene	ug/L	10	6.5	65	39-117	
Acenaphthylene	ug/L	10	6.8	68	40-120	
Anthracene	ug/L	10	7.0	70	48-126	
Benzo(a)anthracene	ug/L	10	7.7	77	51-134	
Benzo(a)pyrene	ug/L	10	6.0	60	48-141	
Benzo(b)fluoranthene	ug/L	10	6.7	67	49-139	
Benzo(g,h,i)perylene	ug/L	10	4.5	45	44-134	
Benzo(k)fluoranthene	ug/L	10	6.4	64	48-140	
Chrysene	ug/L	10	6.9	69	53-136	
Dibenz(a,h)anthracene	ug/L	10	4.4	44	44-132	
Fluoranthene	ug/L	10	8.9	89	50-135	
Fluorene	ug/L	10	7.1	71	44-124	
Indeno(1,2,3-cd)pyrene	ug/L	10	4.6	46	45-132	
Naphthalene	ug/L	10	5.9	59	30-112	
Phenanthrene	ug/L	10	8.4	84	47-128	
Pyrene	ug/L	10	9.1	91	50-134	

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QUALITY CONTROL DATA

Project: 15F0709
Pace Project No.: 50121072

LABORATORY CONTROL SAMPLE: 1318086

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2-Fluorobiphenyl (S)	%.			63	21-114	
p-Terphenyl-d14 (S)	%.			74	25-131	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1318087 1318088

Parameter	Units	50120787009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
2-Methylnaphthalene	ug/L	ND	10	10	4.9	4.6	49	46	16-116	7	20	
Acenaphthene	ug/L	ND	10	10	5.7	5.2	57	52	28-116	10	20	
Acenaphthylene	ug/L	ND	10	10	5.8	5.4	58	54	34-115	9	20	
Anthracene	ug/L	ND	10	10	6.0	5.6	60	56	39-121	7	20	
Benzo(a)anthracene	ug/L	ND	10	10	5.9	5.7	59	57	31-127	3	20	
Benzo(a)pyrene	ug/L	ND	10	10	3.6	3.8	36	38	10-121	7	20	
Benzo(b)fluoranthene	ug/L	ND	10	10	4.2	3.8	42	38	10-119	9	20	
Benzo(g,h,i)perylene	ug/L	ND	10	10	2.6	2.9	26	29	10-108	14	20	
Benzo(k)fluoranthene	ug/L	ND	10	10	3.8	4.4	38	44	10-118	14	20	
Chrysene	ug/L	ND	10	10	5.8	5.6	58	56	32-127	5	20	
Dibenz(a,h)anthracene	ug/L	ND	10	10	2.6	3.0	26	30	10-104	15	20	
Fluoranthene	ug/L	ND	10	10	7.6	6.9	76	69	38-131	10	20	
Fluorene	ug/L	ND	10	10	6.3	5.6	63	56	33-121	10	20	
Indeno(1,2,3-cd)pyrene	ug/L	ND	10	10	2.7	3.0	27	30	10-108	10	20	
Naphthalene	ug/L	ND	10	10	5.2	4.9	52	49	16-119	6	20	
Phenanthrene	ug/L	ND	10	10	7.3	6.6	73	66	32-130	10	20	
Pyrene	ug/L	ND	10	10	7.6	6.9	76	69	39-131	10	20	
2-Fluorobiphenyl (S)	%.						50	44	21-114			
p-Terphenyl-d14 (S)	%.						72	53	25-131			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1318089 1318090

Parameter	Units	50120789005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
2-Methylnaphthalene	ug/L	ND	11.1	11.1	4.2	4.4	37	39	16-116	6	20	
Acenaphthene	ug/L	ND	11.1	11.1	4.6	5.1	42	46	28-116	11	20	
Acenaphthylene	ug/L	ND	11.1	11.1	4.8	5.3	43	48	34-115	10	20	
Anthracene	ug/L	ND	11.1	11.1	5.0	5.6	45	51	39-121	12	20	
Benzo(a)anthracene	ug/L	ND	11.1	11.1	5.0	5.0	45	45	31-127	0	20	
Benzo(a)pyrene	ug/L	ND	11.1	11.1	3.6	3.7	33	33	10-121	1	20	
Benzo(b)fluoranthene	ug/L	ND	11.1	11.1	3.7	3.9	33	35	10-119	5	20	
Benzo(g,h,i)perylene	ug/L	ND	11.1	11.1	2.5	2.6	23	23	10-108	1	20	
Benzo(k)fluoranthene	ug/L	ND	11.1	11.1	3.7	3.7	34	33	10-118	2	20	
Chrysene	ug/L	ND	11.1	11.1	4.6	4.7	41	42	32-127	3	20	
Dibenz(a,h)anthracene	ug/L	ND	11.1	11.1	2.6	2.6	23	23	10-104	1	20	
Fluoranthene	ug/L	ND	11.1	11.1	6.3	6.9	57	62	38-131	9	20	
Fluorene	ug/L	ND	11.1	11.1	5.2	5.8	47	52	33-121	11	20	

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QUALITY CONTROL DATA

Project: 15F0709
Pace Project No.: 50121072

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1318089 1318090

Parameter	Units	50120789005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Indeno(1,2,3-cd)pyrene	ug/L	ND	11.1	11.1	2.7	2.7	24	25	10-108	0	20	
Naphthalene	ug/L	ND	11.1	11.1	4.1	4.2	37	38	16-119	2	20	
Phenanthrene	ug/L	ND	11.1	11.1	5.8	6.6	52	58	32-130	12	20	
Pyrene	ug/L	ND	11.1	11.1	6.4	6.9	57	62	39-131	8	20	
2-Fluorobiphenyl (S)	%.						34	35	21-114			
p-Terphenyl-d14 (S)	%.						39	44	25-131			

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QUALITY CONTROL DATA

Project: 15F0709
Pace Project No.: 50121072

QC Batch: OEXT/39725
QC Batch Method: EPA 3546
Analysis Method: EPA 8270 by SIM
Analysis Description: 8270 MSSV PAH by SIM
Associated Lab Samples: 50121072001

METHOD BLANK: 1320351
Matrix: Solid
Associated Lab Samples: 50121072001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
2-Methylnaphthalene	mg/kg	ND	0.0050	06/19/15 23:15	
Acenaphthene	mg/kg	ND	0.0050	06/19/15 23:15	
Acenaphthylene	mg/kg	ND	0.0050	06/19/15 23:15	
Anthracene	mg/kg	ND	0.0050	06/19/15 23:15	
Benzo(a)anthracene	mg/kg	ND	0.0050	06/19/15 23:15	
Benzo(a)pyrene	mg/kg	ND	0.0050	06/19/15 23:15	
Benzo(b)fluoranthene	mg/kg	ND	0.0050	06/19/15 23:15	
Benzo(g,h,i)perylene	mg/kg	ND	0.0050	06/19/15 23:15	
Benzo(k)fluoranthene	mg/kg	ND	0.0050	06/19/15 23:15	
Chrysene	mg/kg	ND	0.0050	06/19/15 23:15	
Dibenz(a,h)anthracene	mg/kg	ND	0.0050	06/19/15 23:15	
Fluoranthene	mg/kg	ND	0.0050	06/19/15 23:15	
Fluorene	mg/kg	ND	0.0050	06/19/15 23:15	
Indeno(1,2,3-cd)pyrene	mg/kg	ND	0.0050	06/19/15 23:15	
Naphthalene	mg/kg	ND	0.0050	06/19/15 23:15	
Phenanthrene	mg/kg	ND	0.0050	06/19/15 23:15	
Pyrene	mg/kg	ND	0.0050	06/19/15 23:15	
2-Fluorobiphenyl (S)	%.	48	38-110	06/19/15 23:15	
p-Terphenyl-d14 (S)	%.	75	32-111	06/19/15 23:15	

LABORATORY CONTROL SAMPLE: 1320352

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2-Methylnaphthalene	mg/kg	.33	0.20	60	39-104	
Acenaphthene	mg/kg	.33	0.17	53	43-108	
Acenaphthylene	mg/kg	.33	0.17	53	44-110	
Anthracene	mg/kg	.33	0.19	59	44-112	
Benzo(a)anthracene	mg/kg	.33	0.22	66	43-124	
Benzo(a)pyrene	mg/kg	.33	0.23	71	44-124	
Benzo(b)fluoranthene	mg/kg	.33	0.22	67	44-123	
Benzo(g,h,i)perylene	mg/kg	.33	0.23	70	44-118	
Benzo(k)fluoranthene	mg/kg	.33	0.26	80	42-122	
Chrysene	mg/kg	.33	0.24	72	44-124	
Dibenz(a,h)anthracene	mg/kg	.33	0.23	71	44-119	
Fluoranthene	mg/kg	.33	0.20	61	45-119	
Fluorene	mg/kg	.33	0.18	54	44-113	
Indeno(1,2,3-cd)pyrene	mg/kg	.33	0.23	70	44-119	
Naphthalene	mg/kg	.33	0.18	56	42-103	
Phenanthrene	mg/kg	.33	0.18	55	44-113	
Pyrene	mg/kg	.33	0.22	68	45-123	

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QUALITY CONTROL DATA

Project: 15F0709
Pace Project No.: 50121072

LABORATORY CONTROL SAMPLE: 1320352

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2-Fluorobiphenyl (S)	%.			51	38-110	
p-Terphenyl-d14 (S)	%.			69	32-111	

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QUALITY CONTROL DATA

Project: 15F0709
Pace Project No.: 50121072

QC Batch: OEXT/39726 Analysis Method: EPA 8270 by SIM
QC Batch Method: EPA 3546 Analysis Description: 8270 MSSV PAH by SIM
Associated Lab Samples: 50121072005, 50121072006, 50121072007, 50121072008, 50121072010, 50121072011

METHOD BLANK: 1320355 Matrix: Solid
Associated Lab Samples: 50121072005, 50121072006, 50121072007, 50121072008, 50121072010, 50121072011

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
2-Methylnaphthalene	mg/kg	ND	0.0050	06/18/15 12:59	
Acenaphthene	mg/kg	ND	0.0050	06/18/15 12:59	
Acenaphthylene	mg/kg	ND	0.0050	06/18/15 12:59	
Anthracene	mg/kg	ND	0.0050	06/18/15 12:59	
Benzo(a)anthracene	mg/kg	ND	0.0050	06/18/15 12:59	
Benzo(a)pyrene	mg/kg	ND	0.0050	06/18/15 12:59	
Benzo(b)fluoranthene	mg/kg	ND	0.0050	06/18/15 12:59	
Benzo(g,h,i)perylene	mg/kg	ND	0.0050	06/18/15 12:59	
Benzo(k)fluoranthene	mg/kg	ND	0.0050	06/18/15 12:59	
Chrysene	mg/kg	ND	0.0050	06/18/15 12:59	
Dibenz(a,h)anthracene	mg/kg	ND	0.0050	06/18/15 12:59	
Fluoranthene	mg/kg	ND	0.0050	06/18/15 12:59	
Fluorene	mg/kg	ND	0.0050	06/18/15 12:59	
Indeno(1,2,3-cd)pyrene	mg/kg	ND	0.0050	06/18/15 12:59	
Naphthalene	mg/kg	ND	0.0050	06/18/15 12:59	
Phenanthrene	mg/kg	ND	0.0050	06/18/15 12:59	
Pyrene	mg/kg	ND	0.0050	06/18/15 12:59	
2-Fluorobiphenyl (S)	%.	71	38-110	06/18/15 12:59	
p-Terphenyl-d14 (S)	%.	90	32-111	06/18/15 12:59	

LABORATORY CONTROL SAMPLE: 1320356

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2-Methylnaphthalene	mg/kg	.33	0.24	73	39-104	
Acenaphthene	mg/kg	.33	0.21	63	43-108	
Acenaphthylene	mg/kg	.33	0.21	64	44-110	
Anthracene	mg/kg	.33	0.23	69	44-112	
Benzo(a)anthracene	mg/kg	.33	0.24	73	43-124	
Benzo(a)pyrene	mg/kg	.33	0.26	78	44-124	
Benzo(b)fluoranthene	mg/kg	.33	0.24	74	44-123	
Benzo(g,h,i)perylene	mg/kg	.33	0.26	78	44-118	
Benzo(k)fluoranthene	mg/kg	.33	0.28	85	42-122	
Chrysene	mg/kg	.33	0.26	78	44-124	
Dibenz(a,h)anthracene	mg/kg	.33	0.26	78	44-119	
Fluoranthene	mg/kg	.33	0.22	65	45-119	
Fluorene	mg/kg	.33	0.20	61	44-113	
Indeno(1,2,3-cd)pyrene	mg/kg	.33	0.25	77	44-119	
Naphthalene	mg/kg	.33	0.20	62	42-103	
Phenanthrene	mg/kg	.33	0.22	66	44-113	
Pyrene	mg/kg	.33	0.22	67	45-123	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 15F0709
Pace Project No.: 50121072

LABORATORY CONTROL SAMPLE: 1320356

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2-Fluorobiphenyl (S)	%.			61	38-110	
p-Terphenyl-d14 (S)	%.			69	32-111	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1320357 1320358

Parameter	Units	50120998004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
2-Methylnaphthalene	mg/kg	ND	.39	.39	0.27	0.29	62	68	10-131	8	20	
Acenaphthene	mg/kg	ND	.39	.39	0.20	0.21	52	53	25-117	2	20	
Acenaphthylene	mg/kg	ND	.39	.39	0.23	0.24	53	56	27-123	5	20	
Anthracene	mg/kg	42.8 ug/kg	.39	.39	0.27	0.27	57	58	20-123	1	20	
Benzo(a)anthracene	mg/kg	138 ug/kg	.39	.39	0.36	0.36	57	59	23-124	1	20	
Benzo(a)pyrene	mg/kg	130 ug/kg	.39	.39	0.36	0.38	58	65	23-120	7	20	
Benzo(b)fluoranthene	mg/kg	140 ug/kg	.39	.39	0.36	0.37	55	60	24-117	5	20	
Benzo(g,h,i)perylene	mg/kg	103 ug/kg	.39	.39	0.40	0.32	76	57	12-122	22	20	R1
Benzo(k)fluoranthene	mg/kg	156 ug/kg	.39	.39	0.43	0.43	69	71	14-123	1	20	
Chrysene	mg/kg	160 ug/kg	.39	.39	0.44	0.42	73	67	22-124	6	20	
Dibenz(a,h)anthracene	mg/kg	41.1 ug/kg	.39	.39	0.32	0.26	72	57	26-113	21	20	R1
Fluoranthene	mg/kg	261 ug/kg	.39	.39	0.47	0.44	54	46	21-125	7	20	
Fluorene	mg/kg	ND	.39	.39	0.18	0.21	44	53	19-127	16	20	
Indeno(1,2,3-cd)pyrene	mg/kg	97.5 ug/kg	.39	.39	0.39	0.33	75	59	15-121	18	20	
Naphthalene	mg/kg	35.0 ug/kg	.39	.39	0.26	0.32	58	74	15-125	20	20	1d
Phenanthrene	mg/kg	119 ug/kg	.39	.39	0.29	0.32	45	53	10-139	10	20	
Pyrene	mg/kg	239 ug/kg	.39	.39	0.45	0.45	54	55	17-132	0	20	
2-Fluorobiphenyl (S)	%.						45	51	38-110			
p-Terphenyl-d14 (S)	%.						67	61	32-111			

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QUALITY CONTROL DATA

Project: 15F0709
Pace Project No.: 50121072

QC Batch: OEXT/39741
QC Batch Method: EPA 3546
Analysis Method: EPA 8270 by SIM
Analysis Description: 8270 MSSV PAH by SIM
Associated Lab Samples: 50121072013

METHOD BLANK: 1321299
Matrix: Solid
Associated Lab Samples: 50121072013

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
2-Methylnaphthalene	mg/kg	ND	0.0050	06/20/15 07:44	
Acenaphthene	mg/kg	ND	0.0050	06/20/15 07:44	
Acenaphthylene	mg/kg	ND	0.0050	06/20/15 07:44	
Anthracene	mg/kg	ND	0.0050	06/20/15 07:44	
Benzo(a)anthracene	mg/kg	ND	0.0050	06/20/15 07:44	
Benzo(a)pyrene	mg/kg	ND	0.0050	06/20/15 07:44	
Benzo(b)fluoranthene	mg/kg	ND	0.0050	06/20/15 07:44	
Benzo(g,h,i)perylene	mg/kg	ND	0.0050	06/20/15 07:44	
Benzo(k)fluoranthene	mg/kg	ND	0.0050	06/20/15 07:44	
Chrysene	mg/kg	ND	0.0050	06/20/15 07:44	
Dibenz(a,h)anthracene	mg/kg	ND	0.0050	06/20/15 07:44	
Fluoranthene	mg/kg	ND	0.0050	06/20/15 07:44	
Fluorene	mg/kg	ND	0.0050	06/20/15 07:44	
Indeno(1,2,3-cd)pyrene	mg/kg	ND	0.0050	06/20/15 07:44	
Naphthalene	mg/kg	ND	0.0050	06/20/15 07:44	
Phenanthrene	mg/kg	ND	0.0050	06/20/15 07:44	
Pyrene	mg/kg	ND	0.0050	06/20/15 07:44	
2-Fluorobiphenyl (S)	%.	79	38-110	06/20/15 07:44	
p-Terphenyl-d14 (S)	%.	87	32-111	06/20/15 07:44	

LABORATORY CONTROL SAMPLE: 1321300

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2-Methylnaphthalene	mg/kg	.33	0.23	69	39-104	
Acenaphthene	mg/kg	.33	0.28	83	43-108	
Acenaphthylene	mg/kg	.33	0.28	83	44-110	
Anthracene	mg/kg	.33	0.26	78	44-112	
Benzo(a)anthracene	mg/kg	.33	0.31	94	43-124	
Benzo(a)pyrene	mg/kg	.33	0.31	94	44-124	
Benzo(b)fluoranthene	mg/kg	.33	0.33	98	44-123	
Benzo(g,h,i)perylene	mg/kg	.33	0.27	81	44-118	
Benzo(k)fluoranthene	mg/kg	.33	0.30	90	42-122	
Chrysene	mg/kg	.33	0.31	92	44-124	
Dibenz(a,h)anthracene	mg/kg	.33	0.29	86	44-119	
Fluoranthene	mg/kg	.33	0.31	92	45-119	
Fluorene	mg/kg	.33	0.30	89	44-113	
Indeno(1,2,3-cd)pyrene	mg/kg	.33	0.28	85	44-119	
Naphthalene	mg/kg	.33	0.23	68	42-103	
Phenanthrene	mg/kg	.33	0.29	87	44-113	
Pyrene	mg/kg	.33	0.32	97	45-123	

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QUALITY CONTROL DATA

Project: 15F0709
Pace Project No.: 50121072

LABORATORY CONTROL SAMPLE: 1321300

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2-Fluorobiphenyl (S)	%.			68	38-110	
p-Terphenyl-d14 (S)	%.			78	32-111	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1321301 1321302

Parameter	Units	50121073001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
2-Methylnaphthalene	mg/kg	0.020	.38	.38	0.30	0.31	73	78	10-131	4	20	
Acenaphthene	mg/kg	<0.0029	.38	.38	0.33	0.33	86	88	25-117	1	20	
Acenaphthylene	mg/kg	0.011	.38	.38	0.34	0.34	87	86	27-123	2	20	
Anthracene	mg/kg	0.011	.38	.38	0.30	0.30	75	77	20-123	2	20	
Benzo(a)anthracene	mg/kg	0.025	.38	.38	0.35	0.35	85	86	23-124	1	20	
Benzo(a)pyrene	mg/kg	0.027	.38	.38	0.33	0.33	81	80	23-120	2	20	
Benzo(b)fluoranthene	mg/kg	0.033	.38	.38	0.35	0.35	83	85	24-117	1	20	
Benzo(g,h,i)perylene	mg/kg	0.019	.38	.38	0.28	0.27	68	67	12-122	2	20	
Benzo(k)fluoranthene	mg/kg	0.032	.38	.38	0.34	0.33	80	79	14-123	3	20	
Chrysene	mg/kg	0.035	.38	.38	0.35	0.35	83	85	22-124	1	20	
Dibenz(a,h)anthracene	mg/kg	0.0084	.38	.38	0.30	0.30	76	78	26-113	1	20	
Fluoranthene	mg/kg	0.051	.38	.38	0.35	0.36	79	81	21-125	1	20	
Fluorene	mg/kg	<0.0029	.38	.38	0.34	0.34	89	91	19-127	1	20	
Indeno(1,2,3-cd)pyrene	mg/kg	0.018	.38	.38	0.29	0.29	72	73	15-121	1	20	
Naphthalene	mg/kg	0.014	.38	.38	0.30	0.30	74	75	15-125	0	20	
Phenanthrene	mg/kg	0.046	.38	.38	0.36	0.36	82	83	10-139	0	20	
Pyrene	mg/kg	0.048	.38	.38	0.38	0.38	86	89	17-132	2	20	
2-Fluorobiphenyl (S)	%.						75	74	38-110			
p-Terphenyl-d14 (S)	%.						75	77	32-111			

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QUALITY CONTROL DATA

Project: 15F0709
Pace Project No.: 50121072

QC Batch: OEXT/39757 Analysis Method: EPA 8270 by SIM
QC Batch Method: EPA 3546 Analysis Description: 8270 MSSV PAH by SIM
Associated Lab Samples: 50121072002, 50121072003, 50121072004

METHOD BLANK: 1322730 Matrix: Solid
Associated Lab Samples: 50121072002, 50121072003, 50121072004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
2-Methylnaphthalene	mg/kg	ND	0.0050	06/23/15 08:39	
Acenaphthene	mg/kg	ND	0.0050	06/23/15 08:39	
Acenaphthylene	mg/kg	ND	0.0050	06/23/15 08:39	
Anthracene	mg/kg	ND	0.0050	06/23/15 08:39	
Benzo(a)anthracene	mg/kg	ND	0.0050	06/23/15 08:39	
Benzo(a)pyrene	mg/kg	ND	0.0050	06/23/15 08:39	
Benzo(b)fluoranthene	mg/kg	ND	0.0050	06/23/15 08:39	
Benzo(g,h,i)perylene	mg/kg	ND	0.0050	06/23/15 08:39	
Benzo(k)fluoranthene	mg/kg	ND	0.0050	06/23/15 08:39	
Chrysene	mg/kg	ND	0.0050	06/23/15 08:39	
Dibenz(a,h)anthracene	mg/kg	ND	0.0050	06/23/15 08:39	
Fluoranthene	mg/kg	ND	0.0050	06/23/15 08:39	
Fluorene	mg/kg	ND	0.0050	06/23/15 08:39	
Indeno(1,2,3-cd)pyrene	mg/kg	ND	0.0050	06/23/15 08:39	
Naphthalene	mg/kg	ND	0.0050	06/23/15 08:39	
Phenanthrene	mg/kg	ND	0.0050	06/23/15 08:39	
Pyrene	mg/kg	ND	0.0050	06/23/15 08:39	
2-Fluorobiphenyl (S)	%.	59	38-110	06/23/15 08:39	
p-Terphenyl-d14 (S)	%.	82	32-111	06/23/15 08:39	

LABORATORY CONTROL SAMPLE: 1322731

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2-Methylnaphthalene	mg/kg	.33	0.20	59	39-104	
Acenaphthene	mg/kg	.33	0.21	64	43-108	
Acenaphthylene	mg/kg	.33	0.21	64	44-110	
Anthracene	mg/kg	.33	0.25	74	44-112	
Benzo(a)anthracene	mg/kg	.33	0.22	66	43-124	
Benzo(a)pyrene	mg/kg	.33	0.25	75	44-124	
Benzo(b)fluoranthene	mg/kg	.33	0.23	69	44-123	
Benzo(g,h,i)perylene	mg/kg	.33	0.24	73	44-118	
Benzo(k)fluoranthene	mg/kg	.33	0.28	84	42-122	
Chrysene	mg/kg	.33	0.26	79	44-124	
Dibenz(a,h)anthracene	mg/kg	.33	0.25	74	44-119	
Fluoranthene	mg/kg	.33	0.36	108	45-119	
Fluorene	mg/kg	.33	0.22	66	44-113	
Indeno(1,2,3-cd)pyrene	mg/kg	.33	0.24	73	44-119	
Naphthalene	mg/kg	.33	0.19	57	42-103	
Phenanthrene	mg/kg	.33	0.22	67	44-113	
Pyrene	mg/kg	.33	0.31	94	45-123	

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QUALITY CONTROL DATA

Project: 15F0709
Pace Project No.: 50121072

LABORATORY CONTROL SAMPLE: 1322731

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2-Fluorobiphenyl (S)	%.			64	38-110	
p-Terphenyl-d14 (S)	%.			87	32-111	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1323543 1323544

Parameter	Units	50120607002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
2-Methylnaphthalene	mg/kg	ND	.79	.81	0.47	0.55	59	69	10-131	16	20	
Acenaphthene	mg/kg	ND	.79	.81	0.51	0.56	64	70	25-117	9	20	
Acenaphthylene	mg/kg	ND	.79	.81	0.53	0.56	66	70	27-123	6	20	
Anthracene	mg/kg	ND	.79	.81	0.53	0.52	66	64	20-123	3	20	
Benzo(a)anthracene	mg/kg	ND	.79	.81	0.42	0.45	52	55	23-124	6	20	
Benzo(a)pyrene	mg/kg	ND	.79	.81	0.44	0.48	54	60	23-120	10	20	
Benzo(b)fluoranthene	mg/kg	ND	.79	.81	0.39	0.44	48	54	24-117	12	20	
Benzo(g,h,i)perylene	mg/kg	ND	.79	.81	0.60	0.47	75	58	12-122	24	20	R1
Benzo(k)fluoranthene	mg/kg	ND	.79	.81	0.49	0.55	61	68	14-123	12	20	
Chrysene	mg/kg	ND	.79	.81	0.48	0.51	59	63	22-124	7	20	
Dibenz(a,h)anthracene	mg/kg	ND	.79	.81	0.57	0.50	71	62	26-113	14	20	
Fluoranthene	mg/kg	23.4 ug/kg	.79	.81	0.50	0.49	59	58	21-125	2	20	
Fluorene	mg/kg	ND	.79	.81	0.52	0.56	65	69	19-127	6	20	
Indeno(1,2,3-cd)pyrene	mg/kg	ND	.79	.81	0.55	0.48	69	59	15-121	15	20	
Naphthalene	mg/kg	ND	.79	.81	0.46	0.51	58	64	15-125	11	20	
Phenanthrene	mg/kg	24.4 ug/kg	.79	.81	0.52	0.51	62	61	10-139	2	20	
Pyrene	mg/kg	17.5 ug/kg	.79	.81	0.47	0.50	57	60	17-132	5	20	
2-Fluorobiphenyl (S)	%.						65	69	38-110			
p-Terphenyl-d14 (S)	%.						61	60	32-111			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1323556 1323557

Parameter	Units	50121252008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
2-Methylnaphthalene	mg/kg	ND	.39	.39	0.29	0.26	73	66	10-131	12	20	
Acenaphthene	mg/kg	ND	.39	.39	0.23	0.17	57	44	25-117	27	20	R1
Acenaphthylene	mg/kg	ND	.39	.39	0.20	0.18	51	45	27-123	15	20	
Anthracene	mg/kg	ND	.39	.39	0.19	0.19	48	49	20-123	1	20	
Benzo(a)anthracene	mg/kg	ND	.39	.39	0.23	0.22	57	57	23-124	2	20	
Benzo(a)pyrene	mg/kg	ND	.39	.39	0.24	0.23	60	58	23-120	5	20	
Benzo(b)fluoranthene	mg/kg	ND	.39	.39	0.24	0.21	60	54	24-117	12	20	
Benzo(g,h,i)perylene	mg/kg	ND	.39	.39	0.21	0.22	52	56	12-122	6	20	
Benzo(k)fluoranthene	mg/kg	ND	.39	.39	0.30	0.27	74	69	14-123	9	20	
Chrysene	mg/kg	ND	.39	.39	0.25	0.24	63	62	22-124	3	20	
Dibenz(a,h)anthracene	mg/kg	ND	.39	.39	0.23	0.23	57	58	26-113	0	20	
Fluoranthene	mg/kg	ND	.39	.39	0.22	0.19	56	50	21-125	14	20	
Fluorene	mg/kg	ND	.39	.39	0.21	0.21	52	53	19-127	0	20	

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QUALITY CONTROL DATA

Project: 15F0709
Pace Project No.: 50121072

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1323556 1323557

Parameter	Units	50121252008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Indeno(1,2,3-cd)pyrene	mg/kg	ND	.39	.39	0.21	0.22	54	57	15-121	4	20	
Naphthalene	mg/kg	ND	.39	.39	0.22	0.19	54	47	15-125	14	20	
Phenanthrene	mg/kg	ND	.39	.39	0.21	0.19	53	48	10-139	12	20	
Pyrene	mg/kg	ND	.39	.39	0.21	0.28	52	70	17-132	29	20	R1
2-Fluorobiphenyl (S)	%.						47	45	38-110			
p-Terphenyl-d14 (S)	%.						58	65	32-111			

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QUALITY CONTROL DATA

Project: 15F0709
Pace Project No.: 50121072

QC Batch: OEXT/39758 Analysis Method: EPA 8270 by SIM
QC Batch Method: EPA 3546 Analysis Description: 8270 MSSV PAH by SIM
Associated Lab Samples: 50121072009, 50121072012

METHOD BLANK: 1322750 Matrix: Solid
Associated Lab Samples: 50121072009, 50121072012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
2-Methylnaphthalene	mg/kg	ND	0.0050	06/23/15 13:38	
Acenaphthene	mg/kg	ND	0.0050	06/23/15 13:38	
Acenaphthylene	mg/kg	ND	0.0050	06/23/15 13:38	
Anthracene	mg/kg	ND	0.0050	06/23/15 13:38	
Benzo(a)anthracene	mg/kg	ND	0.0050	06/23/15 13:38	
Benzo(a)pyrene	mg/kg	ND	0.0050	06/23/15 13:38	
Benzo(b)fluoranthene	mg/kg	ND	0.0050	06/23/15 13:38	
Benzo(g,h,i)perylene	mg/kg	ND	0.0050	06/23/15 13:38	
Benzo(k)fluoranthene	mg/kg	ND	0.0050	06/23/15 13:38	
Chrysene	mg/kg	ND	0.0050	06/23/15 13:38	
Dibenz(a,h)anthracene	mg/kg	ND	0.0050	06/23/15 13:38	
Fluoranthene	mg/kg	ND	0.0050	06/23/15 13:38	
Fluorene	mg/kg	ND	0.0050	06/23/15 13:38	
Indeno(1,2,3-cd)pyrene	mg/kg	ND	0.0050	06/23/15 13:38	
Naphthalene	mg/kg	ND	0.0050	06/23/15 13:38	
Phenanthrene	mg/kg	ND	0.0050	06/23/15 13:38	
Pyrene	mg/kg	ND	0.0050	06/23/15 13:38	
2-Fluorobiphenyl (S)	%.	62	38-110	06/23/15 13:38	
p-Terphenyl-d14 (S)	%.	80	32-111	06/23/15 13:38	

LABORATORY CONTROL SAMPLE: 1322751

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2-Methylnaphthalene	mg/kg	.33	0.21	63	39-104	
Acenaphthene	mg/kg	.33	0.22	67	43-108	
Acenaphthylene	mg/kg	.33	0.22	66	44-110	
Anthracene	mg/kg	.33	0.23	70	44-112	
Benzo(a)anthracene	mg/kg	.33	0.24	71	43-124	
Benzo(a)pyrene	mg/kg	.33	0.26	78	44-124	
Benzo(b)fluoranthene	mg/kg	.33	0.25	74	44-123	
Benzo(g,h,i)perylene	mg/kg	.33	0.25	76	44-118	
Benzo(k)fluoranthene	mg/kg	.33	0.29	87	42-122	
Chrysene	mg/kg	.33	0.27	80	44-124	
Dibenz(a,h)anthracene	mg/kg	.33	0.26	78	44-119	
Fluoranthene	mg/kg	.33	0.33	99	45-119	
Fluorene	mg/kg	.33	0.23	69	44-113	
Indeno(1,2,3-cd)pyrene	mg/kg	.33	0.25	76	44-119	
Naphthalene	mg/kg	.33	0.20	60	42-103	
Phenanthrene	mg/kg	.33	0.24	71	44-113	
Pyrene	mg/kg	.33	0.31	92	45-123	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
Not NELAP Accredited
4860 Blazer Parkway
Dublin, OH 43017
(614)486-5421

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

QUALITY CONTROL DATA

Project: 15F0709
Pace Project No.: 50121072

LABORATORY CONTROL SAMPLE: 1322751

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2-Fluorobiphenyl (S)	%.			66	38-110	
p-Terphenyl-d14 (S)	%.			93	32-111	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1322752 1322753

Parameter	Units	50121590002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
2-Methylnaphthalene	mg/kg	0.99	.4	.4	1.0	1.1	3	19	10-131	6	20	M0
Acenaphthene	mg/kg	0.0064	.4	.4	0.25	0.24	62	59	25-117	4	20	
Acenaphthylene	mg/kg	ND	.4	.4	0.25	0.24	62	60	27-123	5	20	
Anthracene	mg/kg	ND	.4	.4	0.27	0.25	65	62	20-123	5	20	
Benzo(a)anthracene	mg/kg	ND	.4	.4	0.27	0.25	66	60	23-124	9	20	
Benzo(a)pyrene	mg/kg	ND	.4	.4	0.27	0.26	68	64	23-120	7	20	
Benzo(b)fluoranthene	mg/kg	ND	.4	.4	0.27	0.24	66	60	24-117	10	20	
Benzo(g,h,i)perylene	mg/kg	ND	.4	.4	0.27	0.24	66	60	12-122	10	20	
Benzo(k)fluoranthene	mg/kg	ND	.4	.4	0.30	0.28	74	70	14-123	5	20	
Chrysene	mg/kg	ND	.4	.4	0.29	0.27	71	67	22-124	5	20	
Dibenz(a,h)anthracene	mg/kg	ND	.4	.4	0.27	0.25	67	62	26-113	7	20	
Fluoranthene	mg/kg	0.015	.4	.4	0.30	0.23	72	54	21-125	26	20	R1
Fluorene	mg/kg	0.013	.4	.4	0.27	0.30	63	71	19-127	11	20	
Indeno(1,2,3-cd)pyrene	mg/kg	ND	.4	.4	0.27	0.24	67	61	15-121	10	20	
Naphthalene	mg/kg	0.54	.4	.4	0.71	0.69	42	37	15-125	3	20	
Phenanthrene	mg/kg	0.030	.4	.4	0.30	0.29	67	64	10-139	4	20	
Pyrene	mg/kg	0.012	.4	.4	0.27	0.26	64	63	17-132	1	20	
2-Fluorobiphenyl (S)	%.						61	60	38-110			
p-Terphenyl-d14 (S)	%.						68	65	32-111			

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: 15F0709
Pace Project No.: 50121072

QC Batch: PMST/10777 Analysis Method: ASTM D2974-87
QC Batch Method: ASTM D2974-87 Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 50121072001, 50121072002, 50121072003, 50121072004, 50121072005, 50121072006, 50121072007, 50121072008

SAMPLE DUPLICATE: 1321652

Parameter	Units	50121018001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	18.4	18.3	0	5	

SAMPLE DUPLICATE: 1321653

Parameter	Units	50121072006 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	15.4	14.3	8	5	R1

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 15F0709
Pace Project No.: 50121072

QC Batch: PMST/10778 Analysis Method: ASTM D2974-87
QC Batch Method: ASTM D2974-87 Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 50121072009, 50121072010, 50121072011, 50121072012, 50121072013

SAMPLE DUPLICATE: 1321258

Parameter	Units	50121072009 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	21.4	21.3	0	5	

SAMPLE DUPLICATE: 1321259

Parameter	Units	50121073003 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	7.7	10.6	32	5	R1

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 15F0709
Pace Project No.: 50121072

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

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.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

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.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

1d	Due to the extract's physical characteristics, the analysis was performed at dilution.
2d	Surrogate recovery outside laboratory control limits due to matrix interferences; confirmed by similar results from analysis of an in-hold re-extract sample on 06/23/15 15:18 on 50MSS3.
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.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 15F0709
Pace Project No.: 50121072

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50121072001	**15F0709-05**	EPA 3546	OEXT/39677	EPA 8015 Mod Ext	GCSV/15699
50121072003	**15F0709-07**	EPA 3546	OEXT/39677	EPA 8015 Mod Ext	GCSV/15699
50121072005	**15F0709-09**	EPA 3546	OEXT/39677	EPA 8015 Mod Ext	GCSV/15699
50121072007	**15F0709-11**	EPA 3546	OEXT/39677	EPA 8015 Mod Ext	GCSV/15699
50121072009	**15F0709-13**	EPA 3546	OEXT/39677	EPA 8015 Mod Ext	GCSV/15699
50121072013	**15F0709-17**	EPA 3546	OEXT/39677	EPA 8015 Mod Ext	GCSV/15699
50121072014	**15F0709-19**	EPA 3510	OEXT/39682	EPA 8015 Mod Ext	GCSV/15697
50121072014	**15F0709-19**	EPA 3510	OEXT/39685	EPA 8270 by SIM LVE	MSSV/18231
50121072001	**15F0709-05**	EPA 3546	OEXT/39725	EPA 8270 by SIM	MSSV/18277
50121072002	**15F0709-06**	EPA 3546	OEXT/39757	EPA 8270 by SIM	MSSV/18294
50121072003	**15F0709-07**	EPA 3546	OEXT/39757	EPA 8270 by SIM	MSSV/18294
50121072004	**15F0709-08**	EPA 3546	OEXT/39757	EPA 8270 by SIM	MSSV/18294
50121072005	**15F0709-09**	EPA 3546	OEXT/39726	EPA 8270 by SIM	MSSV/18257
50121072006	**15F0709-10**	EPA 3546	OEXT/39726	EPA 8270 by SIM	MSSV/18257
50121072007	**15F0709-11**	EPA 3546	OEXT/39726	EPA 8270 by SIM	MSSV/18257
50121072008	**15F0709-12**	EPA 3546	OEXT/39726	EPA 8270 by SIM	MSSV/18257
50121072009	**15F0709-13**	EPA 3546	OEXT/39758	EPA 8270 by SIM	MSSV/18295
50121072010	**15F0709-14**	EPA 3546	OEXT/39726	EPA 8270 by SIM	MSSV/18257
50121072011	**15F0709-15**	EPA 3546	OEXT/39726	EPA 8270 by SIM	MSSV/18257
50121072012	**15F0709-16**	EPA 3546	OEXT/39758	EPA 8270 by SIM	MSSV/18295
50121072013	**15F0709-17**	EPA 3546	OEXT/39741	EPA 8270 by SIM	MSSV/18280
50121072001	**15F0709-05**	ASTM D2974-87	PMST/10777		
50121072002	**15F0709-06**	ASTM D2974-87	PMST/10777		
50121072003	**15F0709-07**	ASTM D2974-87	PMST/10777		
50121072004	**15F0709-08**	ASTM D2974-87	PMST/10777		
50121072005	**15F0709-09**	ASTM D2974-87	PMST/10777		
50121072006	**15F0709-10**	ASTM D2974-87	PMST/10777		
50121072007	**15F0709-11**	ASTM D2974-87	PMST/10777		
50121072008	**15F0709-12**	ASTM D2974-87	PMST/10777		
50121072009	**15F0709-13**	ASTM D2974-87	PMST/10778		
50121072010	**15F0709-14**	ASTM D2974-87	PMST/10778		
50121072011	**15F0709-15**	ASTM D2974-87	PMST/10778		
50121072012	**15F0709-16**	ASTM D2974-87	PMST/10778		
50121072013	**15F0709-17**	ASTM D2974-87	PMST/10778		

(1)

SUBCONTRACT ORDER

Pace Analytical Services

15F0709

VOA 50121072

SENDING LABORATORY:

Pace Analytical Services
25 Holiday Drive
Englewood, OH 45322
Phone: 937.832.8242
Fax: 937.832.2868
Project Manager: Jason Lykins

RECEIVING LABORATORY:

Pace Analytical Services, Inc. Indianapolis Office
7726 Moller Road
Indianapolis, IN 46268
Phone :(317) 875-5894
Fax: -

Analysis	Due	Expires	Laboratory ID	Comments
Sample ID: 15F0709-05	**Soil**	**Sampled:06/09/15 12:50**	-001	VAP
TPH C10-34	06/25/15 16:00	06/23/15 12:50		
PAH_FULL_8270	06/25/15 16:00	06/23/15 12:50		
Containers Supplied:				
Sample ID: 15F0709-06	**Soil**	**Sampled:06/09/15 12:10**	002	VAP
PAH_FULL_8270	06/25/15 16:00	06/23/15 12:10		
Containers Supplied:				
Sample ID: 15F0709-07	**Soil**	**Sampled:06/09/15 11:05**	003	VAP
PAH_FULL_8270	06/25/15 16:00	06/23/15 11:05		
TPH C10-34	06/25/15 16:00	06/23/15 11:05		
Containers Supplied:				
Sample ID: 15F0709-08	**Soil**	**Sampled:06/08/15 10:20**	004	VAP
PAH_FULL_8270	06/25/15 16:00	06/22/15 10:20		
Containers Supplied:				
Sample ID: 15F0709-09	**Soil**	**Sampled:06/08/15 13:25**	005	VAP
PAH_FULL_8270	06/25/15 16:00	06/22/15 13:25		
TPH C10-34	06/25/15 16:00	06/22/15 13:25		
Containers Supplied:				

6/12/15

Released By	Date	Received By	Date
P. Whitaker	6-12-15		6/12/15 1:30
	6/12/15 4:31	Marcia Bennett/Pace	6/12/15 16:31

Released By / Date / Received By / Date

5.5°C

(2)

SUBCONTRACT ORDER

Pace Analytical Services

15F0709

Analysis	Due	Expires	Laboratory ID	Comments
Sample ID: 15F0709-10	**Soil**	**Sampled:06/08/15 15:10**	006	**VAP**
PAH_FULL_8270	06/25/15 16:00	06/22/15 15:10		
Containers Supplied:				
Sample ID: 15F0709-11	**Soil**	**Sampled:06/09/15 16:25**	007	**VAP**
TPH C10-34	06/25/15 16:00	06/23/15 16:25		
PAH_FULL_8270	06/25/15 16:00	06/23/15 16:25		
Containers Supplied:				
Sample ID: 15F0709-12	**Soil**	**Sampled:06/08/15 16:05**	008	**VAP**
PAH_FULL_8270	06/25/15 16:00	06/22/15 16:05		
Containers Supplied:				
Sample ID: 15F0709-13	**Soil**	**Sampled:06/09/15 15:25**	009	**VAP**
PAH_FULL_8270	06/25/15 16:00	06/23/15 15:25		
TPH C10-34	06/25/15 16:00	06/23/15 15:25		
Containers Supplied:				
Sample ID: 15F0709-14	**Soil**	**Sampled:06/09/15 14:45**	010	**VAP**
PAH_FULL_8270	06/25/15 16:00	06/23/15 14:45		
Containers Supplied:				
Sample ID: 15F0709-15	**Soil**	**Sampled:06/09/15 13:30**	011	**VAP**
PAH_FULL_8270	06/25/15 16:00	06/23/15 13:30		
Containers Supplied:				
Sample ID: 15F0709-16	**Soil**	**Sampled:06/08/15 14:20**	012	**VAP**
PAH_FULL_8270	06/25/15 16:00	06/22/15 14:20		
Containers Supplied:				

P Whittaker 6-12-15 — Released By / Date

Received By — 6/12/15 1:30 — Date

Released By — 6/12/15 4:31 — Date

Marcia Bennett/Pace — 6/12/15 16:31 — Received By / Date

5.5°C

(3)

SUBCONTRACT ORDER

Pace Analytical Services

15F0709

Analysis	Due	Expires	Laboratory ID	Comments
Sample ID: 15F0709-17	**Soil**	**Sampled:06/09/15 15:55**	013	**VAP**
PAH_FULL_8270	06/25/15 16:00	06/23/15 15:55		
TPH C10-34	06/25/15 16:00	06/23/15 15:55		
Containers Supplied:				
Sample ID: 15F0709-19	**Groundw**	**Sampled:06/09/15 16:50**	014	**VAP**
TPH C10-34	06/25/15 16:00	06/16/15 16:50		
PAH_FULL_8270	06/25/15 16:00	06/16/15 16:50		
Containers Supplied:				

P. Whitaker 6-12-15 — 6/12/15 1:20
Released By / Date — Received By / Date

6/12/15 4:31 — Marcia Bennett/Pace 6/12/15 16:31
Released By / Date — Received By / Date

5.5°C

Sample Condition Upon Receipt

Face Analytical

Client Name: Pace Englewood Project # 5012072

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

Tracking #: _____

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 Box

Thermometer 1 2 3 4 5 6 A B C D E F Type of Ice: (Wet) Blue None ☑ Samples on ice, cooling process has begun

Cooler Temperature (Corrected, If applicable) 5.5°C Ice Visible in Sample Containers: ☐ yes ☑ no

Temp should be above freezing to 6°C

Date and Initials of person examining contents: MB 6/12/15

				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. Groundwater Hold time 6/16/15 MB
Rush Turn Around Time Requested:	☐Yes	☐No	☑N/A	6.
Containers Intact:	☑Yes	☐No	☐N/A	7.
Sample Labels match COC: -Includes date/time/ID/Analysis	☑Yes	☐No	☐N/A	8.
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	
Project Manager Review:				MM
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: _____

Project Manager Review: _____ **Date:** 6/12/15

Sample Container Count

CLIENT: Pace Englewood

COC PAGE ___ of ___ (1)(2)(3)

COC ID# _____

Project # 56121072

Sample Line Item	DG9H	AG1U	WGFU	AG0U	R	4/6	BP2N	BP2U	BP2S	BP3N	BP3U	BP3S	AG3S	AG1H	BP3C	BP1U	SP5T	_____	pH <2	pH>12	Comments
1			1																		05
2			1																		06
3			1																		07
4			1																		08
5			1																		09
6			1																		10
7			1																		11
8			1																		12
9			1																		13
10			1																		14
11			1																		15
12			1																		16

Container Codes

DG9H	40mL HCL amber voa vial	AG0U	100mL unpreserved amber glass	BP1N	1 liter HNO3 plastic	DG9P	40mL TSP amber vial
AG1U	1liter unpreserved amber glass	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 glass	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	SP5T	120mL Coliform Na Thiosulfate
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 glass	BP2Z	500mL NaOH, Zn Ac	U	Summa Can
BP3N	250mL HNO3 plastic	AG3U	250mL unpreserved amber glass	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 glass	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: Pace Englewood

COC PAGE ___ of ___ (1),(2),(3)

COC ID# _____

Project # 50121072

Sample Line Item	DG9H	AG1U	WGFU	AG0U	R 4/6	BP2N	BP2U	BP2S	BP3N	BP3U	BP3S	~~AG3S~~ AG3U	AG1H	BP3C	BP1U	SP5T	_____	pH <2	pH>12	Comments
1 13			1																	17
2 14		2										1								19
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				
11																				
12																				

Container Codes

DG9H	40mL HCL amber voa vial	AG0U	100mL unpreserved amber glass	BP1N	1 liter HNO3 plastic	DG9P	40mL TSP amber vial
AG1U	1liter unpreserved amber glass	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 glass	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	SP5T	120mL Coliform Na Thiosulfate
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 glass	BP2Z	500mL NaOH, Zn Ac	U	Summa Can
BP3N	250mL HNO3 plastic	AG3U	250mL unpreserved amber glass	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 glass	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

Jason Lykins

From:	Matt Beil
Sent:	Wednesday, July 08, 2015 4:02 PM
To:	Jason Lykins
Cc:	James Carlson
Subject:	RE: COT235 Champion Spark Plug
Follow Up Flag:	Follow up
Flag Status:	Flagged
Categories:	Red Category

Jason,

The sample logged in as COT235:HSB-15:S040060 should be the HSB-14 sample -- COT235:HSB-14:S040060.

From: Jason Lykins [mailto:jasonl@belmontlabs.com]
Sent: Tuesday, July 07, 2015 10:18 AM
To: Matt Beil
Subject: RE: COT235 Champion Spark Plug
Importance: High

Matt, the metals data that was ran over the weekend was just reviewed late yesterday.

I'm ready to generate the final report and EDD now. I will need to have the Pace Indy lab generate the EDD for their PAH and TPH C10-34 report.

I need one thing clarified. On page 2 of the attached COC, we did not receive sample jars labeled for COT235:HSB-14:S040060. We did receive sample jars labeled for COT235:HSB-15:S040060 (which was not on the COC). We logged the sample in as COT235:HSB-15:S040060. Please let me know if this needs to be changed.
Thank you,

Jason Lykins
Client Services Manager
Pace Analytical Services, Inc.
25 Holiday Drive | Englewood, Ohio 45322
Tel 937.832.8242 | Fax 937.832.2868 | Cel 937.974.8290 | Email jasonl@belmontlabs.com

From: Matt Beil [mailto:mbeil@hullinc.com]
Sent: Tuesday, June 30, 2015 9:20 AM
To: Jason Lykins
Subject: COT235 Champion Spark Plug

Jason,

Do you know when this data is due?

J Matthew Beil, CPG
Project Manager

HULL | Toledo, Ohio

ALTERNATIVE ENERGY | BROWNFIELDS | ENVIRONMENTAL | SHALE OIL & GAS | WASTE MANAGEMENT
p: 419.385.2018 | f: 419.385.5487 | c: 419.283.3664
web | directions to offices

Sample Receipt Summary

15F0709

Client:	Hull & Associates - Toledo Office	Project Manager:	Jason Lykins
Project:	COT235 Champion Spark Plug	Project Number:	COT235 Champion Spark Plug

Report To:
Matt Beil
3401 Glendale Avenue
Toledo OH 43614
Phone: (419) 385-2018
Fax: (419) 385-5487

WO Due Date:	6/25/2015 5:00:00PM
TAT (Days):	10
Received By:	Scott Pander
Received:	6/11/2015 11:15:00AM
Logged In By:	Peggy Whitaker
Logged In:	6/11/2015 2:32:00PM

Receipt Temp (C):	**5.0**
Custody Seals	True
Container Intact	True
COC/Labels agree	True
Received on ice	True
VOC vials had zero head space	True
Approved Container	True
Sufficient volume received	True
Received within HT	True
Shipped By:	**Fed Ex**
Number of Containers	**8**

Samples Received:

Laboratory ID:	Field ID:	Date/Time Sampled:	Matrix:
15F0709-19	COT235:E. Blank:W060915	6/9/2015 4:50:00PM	Groundwater
15F0709-02	COT235:HSB-2:S060080	6/8/2015 11:00:00AM	Soil
15F0709-03	COT235:HSB-3:S040050	6/9/2015 9:40:00AM	Soil
15F0709-04	COT235:HSB-4:S040060	6/9/2015 10:40:00AM	Soil
15F0709-05	COT235:HSB-5:S000020	6/9/2015 12:50:00PM	Soil
15F0709-06	COT235:HSB-6:S000020	6/9/2015 12:10:00PM	Soil
15F0709-07	COT235:HSB-7:S000020	6/9/2015 11:05:00AM	Soil
15F0709-08	COT235:HSB-8:S080100	6/8/2015 10:20:00AM	Soil
15F0709-11	COT235:HSB-11:S000020	6/9/2015 4:25:00PM	Soil
15F0709-10	COT235:HSB-10:S000020	6/8/2015 3:10:00PM	Soil
15F0709-09	COT235:HSB-9:S060080	6/8/2015 1:25:00PM	Soil
15F0709-12	COT235:HSB-12:S000020	6/8/2015 4:05:00PM	Soil

15F0709-13	COT235:HSB-13:S100120	6/9/2015 3:25:00PM	Soil
15F0709-14	COT235:HSB-14:S040060	6/9/2015 2:45:00PM	Soil
15F0709-15	COT235:HSB-16:S020040	6/9/2015 1:30:00PM	Soil
15F0709-16	COT235:HSB-17:S080100	6/8/2015 2:20:00PM	Soil
15F0709-17	COT235:HSB-18:S040060	6/9/2015 3:55:00PM	Soil
15F0709-18	COT235:Trip	6/8/2015 10:20:00AM	Water
15F0709-01	COT235:HSB-1:S040060	6/8/2015 12:00:00PM	Soil

Sample Notes:

Monday, July 6, 2015
Analytical Results

Matt Beil
Hull & Associates - Toledo Office
3401 Glendale Avenue
Toledo, OH 43614
TEL: (419) 385-2018
FAX (419) 385-5487

RE: COT235 Champion Spark Plug

Work Order: 15F0878

PACE Analytical received 9 sample(s) on 6/13/2015 for the analyses presented in the following report.

PACE Analytical attests that all analytical methods were performed using acceptable methods, and that the QA/QC procedures stipulated in these methods were followed. USEPA's RCRA Program regards a statement of quality assurance as a legal means of assuring that acceptable and uniform laboratory methods and QA/QC practices were followed by the laboratory.

If you have any questions regarding the test results, please feel free to call me at (937) 832-8242.

Respectfully submitted,

Jason Lykins
Project Manager

Certifications:

NELAP/NELAC - #04130	VAP - #CL0032
Ohio EPA Drinking water - #836	Ohio EPA Drinking water (Micro) - #872

CLIENT: Hull & Associates - Toledo Office
Project: COT235 Champion Spark Plug
Lab Order: 15F0878

Work Order Sample Summary

The results of analyses performed on the following samples submitted to Belmont Labs are found in this report.

Field Sample ID	Lab ID	Matrix	Method Reference	Subcontract Lab
COT235:HTMW-1:G061115	15F0878-01	Groundwater	SW 6010B	
			SW 7470A	
			SW 8260B	
			SW 8270C	Pace Analytical Services, Inc. In
COT235:HTMW-2:G061115	15F0878-02	Groundwater	SW 6010B	
			SW 7470A	
			SW 8260B	
			SW 8270C	Pace Analytical Services, Inc. In
COT235:HTMW-3:G061115	15F0878-03	Groundwater	SW 6010B	
			SW 7470A	
			SW 8260B	
			SW 8270C	Pace Analytical Services, Inc. In
COT235:HTMW-4:G061215	15F0878-04	Groundwater	SW 6010B	
			SW 7470A	
			SW 8260B	
			SW 8270C	Pace Analytical Services, Inc. In
COT235:HTMW-5:G061215	15F0878-05	Groundwater	SW 6010B	
			SW 7470A	
			SW 8260B	
			SW 8270C	Pace Analytical Services, Inc. In
COT235:HTMW-6:G061215	15F0878-06	Groundwater	SW 6010B	
			SW 7470A	
			SW 8260B	
			SW 8270C	Pace Analytical Services, Inc. In
COT235:HTMW-1:G061115A	15F0878-07	Groundwater	SW 6010B	
			SW 7470A	
			SW 8260B	
			SW 8270C	Pace Analytical Services, Inc. In

CLIENT: Hull & Associates - Toledo Office
Project: COT235 Champion Spark Plug
Lab Order: 15F0878

Work Order Sample Summary

The results of analyses performed on the following samples submitted to Belmont Labs are found in this report.

Field Sample ID	Lab ID	Matrix	Method Reference	Subcontract Lab
COT235:E. Blank 2:W061215	15F0878-08	Groundwater	SW 6010B	
			SW 7470A	
			SW 8260B	
			SW 8270C	Pace Analytical Services, Inc. In
COT235:TRIP -2: -	15F0878-09	Water	SW 8260B	

CLIENT: Hull & Associates - Toledo Office
Project: COT235 Champion Spark Plug
Lab Order: 15F0878

Lab ID: 15F0878-01
Client Sample ID: COT235:HTMW-1:G061115
Collection Date: 6/11/2015 12:30:00PM
Matrix: Groundwater

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Prepared	Date Analyzed
ICP_Ag		**SW 6010B**					**Analyst: RJE**	
Silver	BDL	0.00200		mg/L	1	1527039	6/29/2015 1:15:00PM	7/5/2015 7:41:05AM
ICP_As		**SW 6010B**					**Analyst: RJE**	
Arsenic	**0.00986**	0.00500		mg/L	1	1527039	6/29/2015 1:15:00PM	7/5/2015 7:41:05AM
ICP_Ba		**SW 6010B**					**Analyst: RJE**	
Barium	**0.107**	0.00500		mg/L	1	1527039	6/29/2015 1:15:00PM	7/5/2015 7:41:05AM
ICP_Cd		**SW 6010B**					**Analyst: RJE**	
Cadmium	BDL	0.00200		mg/L	1	1527039	6/29/2015 1:15:00PM	7/5/2015 7:41:05AM
ICP_Cr		**SW 6010B**					**Analyst: RJE**	
Chromium	BDL	0.00500		mg/L	1	1527039	6/29/2015 1:15:00PM	7/5/2015 7:41:05AM
ICP_Pb		**SW 6010B**					**Analyst: RJE**	
Lead	BDL	0.00500		mg/L	1	1527039	6/29/2015 1:15:00PM	7/5/2015 7:41:05AM
ICP_Se		**SW 6010B**					**Analyst: RJE**	
Selenium	BDL	0.0100		mg/L	1	1527039	6/29/2015 1:15:00PM	7/5/2015 7:41:05AM
HG		**SW 7470A**					**Analyst: CW**	
Mercury	BDL	0.000200		mg/L	1	1525083	6/16/2015 9:45:00AM	6/17/2015 9:40:00AM
VOC 8260		**SW 8260B**					**Analyst: EAH**	
1,1,1,2-Tetrachloroethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:12:00PM
1,1,1-Trichloroethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:12:00PM
1,1,2,2-Tetrachloroethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:12:00PM
1,1,2-Trichloroethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:12:00PM
1,1-Dichloroethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:12:00PM
1,1-Dichloroethene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:12:00PM
1,1-Dichloropropene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:12:00PM
1,2,3-Trichlorobenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:12:00PM
1,2,3-Trichloropropane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:12:00PM
1,2,4-Trichlorobenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:12:00PM
1,2,4-Trimethylbenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:12:00PM
1,2-Dibromo-3-chloropropane	BDL	10.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:12:00PM
1,2-Dibromoethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:12:00PM
1,2-Dichlorobenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:12:00PM
1,2-Dichloroethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:12:00PM
1,2-Dichloropropane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:12:00PM
1,3,5-Trimethylbenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:12:00PM

CLIENT: Hull & Associates - Toledo Office
Project: COT235 Champion Spark Plug
Lab Order: 15F0878

Lab ID: 15F0878-01
Client Sample ID: COT235:HTMW-1:G061115
Collection Date: 6/11/2015 12:30:00PM
Matrix: Groundwater

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Prepared	Date Analyzed
1,3-Dichlorobenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:12:00PM
1,3-Dichloropropane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:12:00PM
1,4-Dichlorobenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:12:00PM
2,2-Dichloropropane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:12:00PM
2-Butanone	BDL	20.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:12:00PM
2-Chlorotoluene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:12:00PM
2-Hexanone	BDL	20.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:12:00PM
4-Chlorotoluene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:12:00PM
4-Isopropyltoluene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:12:00PM
4-Methyl-2-pentanone	BDL	20.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:12:00PM
Acetone	BDL	20.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:12:00PM
Acetonitrile	BDL	40.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:12:00PM
Acrolein	BDL	20.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:12:00PM
Acrylonitrile	BDL	20.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:12:00PM
Allyl chloride	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:12:00PM
Benzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:12:00PM
Bromobenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:12:00PM
Bromochloromethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:12:00PM
Bromodichloromethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:12:00PM
Bromoform	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:12:00PM
Bromomethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:12:00PM
Carbon Disulfide	BDL	20.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:12:00PM
Carbon Tetrachloride	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:12:00PM
Chlorobenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:12:00PM
Chloroethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:12:00PM
Chloroform	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:12:00PM
Chloromethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:12:00PM
cis-1,2-Dichloroethene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:12:00PM
cis-1,3-Dichloropropene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:12:00PM
Dibromochloromethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:12:00PM
Dibromomethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:12:00PM
Dichlorodifluoromethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:12:00PM
Ethylbenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:12:00PM
Hexachlorobutadiene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:12:00PM
Iodomethane	BDL	10.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:12:00PM
Isopropylbenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:12:00PM
Methylene Chloride	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:12:00PM
Methyl tert-Butyl Ether	BDL	10.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:12:00PM
m,p-Xylene	BDL	10.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:12:00PM
Naphthalene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:12:00PM
n-Butylbenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:12:00PM
n-Hexane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:12:00PM
n-Propylbenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:12:00PM
o-Xylene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:12:00PM

CLIENT: Hull & Associates - Toledo Office
Project: COT235 Champion Spark Plug
Lab Order: 15F0878

Lab ID: 15F0878-01
Client Sample ID: COT235:HTMW-1:G061115
Collection Date: 6/11/2015 12:30:00PM
Matrix: Groundwater

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Prepared	Date Analyzed
sec-Butylbenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:12:00PM
Styrene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:12:00PM
tert_Butylbenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:12:00PM
Tetrachloroethene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:12:00PM
Toluene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:12:00PM
trans-1,2-Dichloroethene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:12:00PM
trans-1,3-Dichloropropene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:12:00PM
Trichloroethene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:12:00PM
Trichlorofluoromethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:12:00PM
Vinyl Chloride	BDL	1.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:12:00PM
Vinyl acetate	BDL	10.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:12:00PM
Surrogate: 4-Bromofluorobenzene	*94.5 %*			*85-115*		*1525190*	6/15/2015 2:00:00PM	6/15/2015 3:12:00PM
Surrogate: Dibromofluoromethane	*93.2 %*			*85-115*		*1525190*	6/15/2015 2:00:00PM	6/15/2015 3:12:00PM
Surrogate: Toluene-d8	*93.1 %*			*85-115*		*1525190*	6/15/2015 2:00:00PM	6/15/2015 3:12:00PM
Surrogate: 1,2-Dichloroethane-d4	*94.3 %*			*85-115*		*1525190*	6/15/2015 2:00:00PM	6/15/2015 3:12:00PM

CLIENT: Hull & Associates - Toledo Office
Project: COT235 Champion Spark Plug
Lab Order: 15F0878

Lab ID: 15F0878-02
Client Sample ID: COT235:HTMW-2:G061115
Collection Date: 6/11/2015 4:25:00PM
Matrix: Groundwater

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Prepared	Date Analyzed
ICP_Ag		**SW 6010B**					**Analyst: RJE**	
Silver	BDL	0.00200		mg/L	1	1527039	6/29/2015 1:15:00PM	7/5/2015 8:02:33AM
ICP_As		**SW 6010B**					**Analyst: RJE**	
Arsenic	**0.0323**	0.00500		mg/L	1	1527039	6/29/2015 1:15:00PM	7/5/2015 8:02:33AM
ICP_Ba		**SW 6010B**					**Analyst: RJE**	
Barium	**0.234**	0.00500		mg/L	1	1527039	6/29/2015 1:15:00PM	7/5/2015 8:02:33AM
ICP_Cd		**SW 6010B**					**Analyst: RJE**	
Cadmium	BDL	0.00200		mg/L	1	1527039	6/29/2015 1:15:00PM	7/5/2015 8:02:33AM
ICP_Cr		**SW 6010B**					**Analyst: RJE**	
Chromium	**0.0170**	0.00500		mg/L	1	1527039	6/29/2015 1:15:00PM	7/5/2015 8:02:33AM
ICP_Pb		**SW 6010B**					**Analyst: RJE**	
Lead	**0.00769**	0.00500		mg/L	1	1527039	6/29/2015 1:15:00PM	7/5/2015 8:02:33AM
ICP_Se		**SW 6010B**					**Analyst: RJE**	
Selenium	BDL	0.0100		mg/L	1	1527039	6/29/2015 1:15:00PM	7/5/2015 8:02:33AM
HG		**SW 7470A**					**Analyst: CW**	
Mercury	BDL	0.000200		mg/L	1	1525083	6/16/2015 9:45:00AM	6/17/2015 9:40:00AM
VOC 8260		**SW 8260B**					**Analyst: EAH**	
1,1,1,2-Tetrachloroethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:53:00PM
1,1,1-Trichloroethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:53:00PM
1,1,2,2-Tetrachloroethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:53:00PM
1,1,2-Trichloroethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:53:00PM
1,1-Dichloroethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:53:00PM
1,1-Dichloroethene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:53:00PM
1,1-Dichloropropene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:53:00PM
1,2,3-Trichlorobenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:53:00PM
1,2,3-Trichloropropane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:53:00PM
1,2,4-Trichlorobenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:53:00PM
1,2,4-Trimethylbenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:53:00PM
1,2-Dibromo-3-chloropropane	BDL	10.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:53:00PM
1,2-Dibromoethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:53:00PM
1,2-Dichlorobenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:53:00PM
1,2-Dichloroethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:53:00PM
1,2-Dichloropropane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:53:00PM
1,3,5-Trimethylbenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:53:00PM

CLIENT: Hull & Associates - Toledo Office
Project: COT235 Champion Spark Plug
Lab Order: 15F0878

Lab ID: 15F0878-02
Client Sample ID: COT235:HTMW-2:G061115
Collection Date: 6/11/2015 4:25:00PM
Matrix: Groundwater

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Prepared	Date Analyzed
1,3-Dichlorobenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:53:00PM
1,3-Dichloropropane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:53:00PM
1,4-Dichlorobenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:53:00PM
2,2-Dichloropropane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:53:00PM
2-Butanone	BDL	20.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:53:00PM
2-Chlorotoluene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:53:00PM
2-Hexanone	BDL	20.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:53:00PM
4-Chlorotoluene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:53:00PM
4-Isopropyltoluene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:53:00PM
4-Methyl-2-pentanone	BDL	20.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:53:00PM
Acetone	BDL	20.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:53:00PM
Acetonitrile	BDL	40.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:53:00PM
Acrolein	BDL	20.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:53:00PM
Acrylonitrile	BDL	20.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:53:00PM
Allyl chloride	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:53:00PM
Benzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:53:00PM
Bromobenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:53:00PM
Bromochloromethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:53:00PM
Bromodichloromethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:53:00PM
Bromoform	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:53:00PM
Bromomethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:53:00PM
Carbon Disulfide	BDL	20.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:53:00PM
Carbon Tetrachloride	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:53:00PM
Chlorobenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:53:00PM
Chloroethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:53:00PM
Chloroform	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:53:00PM
Chloromethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:53:00PM
cis-1,2-Dichloroethene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:53:00PM
cis-1,3-Dichloropropene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:53:00PM
Dibromochloromethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:53:00PM
Dibromomethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:53:00PM
Dichlorodifluoromethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:53:00PM
Ethylbenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:53:00PM
Hexachlorobutadiene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:53:00PM
Iodomethane	BDL	10.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:53:00PM
Isopropylbenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:53:00PM
Methylene Chloride	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:53:00PM
Methyl tert-Butyl Ether	**26.6**	10.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:53:00PM
m,p-Xylene	BDL	10.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:53:00PM
Naphthalene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:53:00PM
n-Butylbenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:53:00PM
n-Hexane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:53:00PM
n-Propylbenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:53:00PM

CLIENT: Hull & Associates - Toledo Office
Project: COT235 Champion Spark Plug
Lab Order: 15F0878

Lab ID: 15F0878-02
Client Sample ID: COT235:HTMW-2:G061115
Collection Date: 6/11/2015 4:25:00PM
Matrix: Groundwater

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Prepared	Date Analyzed
o-Xylene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:53:00PM
sec-Butylbenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:53:00PM
Styrene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:53:00PM
tert_Butylbenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:53:00PM
Tetrachloroethene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:53:00PM
Toluene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:53:00PM
trans-1,2-Dichloroethene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:53:00PM
trans-1,3-Dichloropropene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:53:00PM
Trichloroethene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:53:00PM
Trichlorofluoromethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:53:00PM
Vinyl Chloride	BDL	1.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:53:00PM
Vinyl acetate	BDL	10.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:53:00PM
Surrogate: 4-Bromofluorobenzene	*93.2 %*			*85-115*		*1525190*	6/15/2015 2:00:00PM	6/15/2015 2:53:00PM
Surrogate: Dibromofluoromethane	*93.3 %*			*85-115*		*1525190*	6/15/2015 2:00:00PM	6/15/2015 2:53:00PM
Surrogate: Toluene-d8	*93.6 %*			*85-115*		*1525190*	6/15/2015 2:00:00PM	6/15/2015 2:53:00PM
Surrogate: 1,2-Dichloroethane-d4	*93.7 %*			*85-115*		*1525190*	6/15/2015 2:00:00PM	6/15/2015 2:53:00PM

CLIENT: Hull & Associates - Toledo Office
Project: COT235 Champion Spark Plug
Lab Order: 15F0878

Lab ID: 15F0878-03
Client Sample ID: COT235:HTMW-3:G061115
Collection Date: 6/11/2015 3:10:00PM
Matrix: Groundwater

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Prepared	Date Analyzed
ICP_Ag		**SW 6010B**					**Analyst: RJE**	
Silver	BDL	0.00200		mg/L	1	1527039	6/29/2015 1:15:00PM	7/5/2015 8:14:29AM
ICP_As		**SW 6010B**					**Analyst: RJE**	
Arsenic	**0.00533**	0.00500		mg/L	1	1527039	6/29/2015 1:15:00PM	7/5/2015 8:14:29AM
ICP_Ba		**SW 6010B**					**Analyst: RJE**	
Barium	**0.165**	0.00500		mg/L	1	1527039	6/29/2015 1:15:00PM	7/5/2015 8:14:29AM
ICP_Cd		**SW 6010B**					**Analyst: RJE**	
Cadmium	BDL	0.00200		mg/L	1	1527039	6/29/2015 1:15:00PM	7/5/2015 8:14:29AM
ICP_Cr		**SW 6010B**					**Analyst: RJE**	
Chromium	**0.00586**	0.00500		mg/L	1	1527039	6/29/2015 1:15:00PM	7/5/2015 8:14:29AM
ICP_Pb		**SW 6010B**					**Analyst: RJE**	
Lead	BDL	0.00500		mg/L	1	1527039	6/29/2015 1:15:00PM	7/5/2015 8:14:29AM
ICP_Se		**SW 6010B**					**Analyst: RJE**	
Selenium	BDL	0.0100		mg/L	1	1527039	6/29/2015 1:15:00PM	7/5/2015 8:14:29AM
HG		**SW 7470A**					**Analyst: CW**	
Mercury	BDL	0.000200		mg/L	1	1525083	6/16/2015 9:45:00AM	6/17/2015 9:40:00AM
VOC 8260		**SW 8260B**					**Analyst: EAH**	
1,1,1,2-Tetrachloroethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:32:00PM
1,1,1-Trichloroethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:32:00PM
1,1,2,2-Tetrachloroethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:32:00PM
1,1,2-Trichloroethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:32:00PM
1,1-Dichloroethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:32:00PM
1,1-Dichloroethene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:32:00PM
1,1-Dichloropropene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:32:00PM
1,2,3-Trichlorobenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:32:00PM
1,2,3-Trichloropropane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:32:00PM
1,2,4-Trichlorobenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:32:00PM
1,2,4-Trimethylbenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:32:00PM
1,2-Dibromo-3-chloropropane	BDL	10.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:32:00PM
1,2-Dibromoethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:32:00PM
1,2-Dichlorobenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:32:00PM
1,2-Dichloroethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:32:00PM
1,2-Dichloropropane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:32:00PM
1,3,5-Trimethylbenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:32:00PM
1,3-Dichlorobenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:32:00PM

CLIENT: Hull & Associates - Toledo Office **Lab Order:** 15F0878
Project: COT235 Champion Spark Plug

Lab ID: 15F0878-03 **Collection Date:** 6/11/2015 3:10:00PM
Client Sample ID: COT235:HTMW-3:G061115 **Matrix:** Groundwater

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Prepared	Date Analyzed
1,3-Dichloropropane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:32:00PM
1,4-Dichlorobenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:32:00PM
2,2-Dichloropropane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:32:00PM
2-Butanone	BDL	20.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:32:00PM
2-Chlorotoluene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:32:00PM
2-Hexanone	BDL	20.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:32:00PM
4-Chlorotoluene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:32:00PM
4-Isopropyltoluene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:32:00PM
4-Methyl-2-pentanone	BDL	20.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:32:00PM
Acetone	BDL	20.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:32:00PM
Acetonitrile	BDL	40.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:32:00PM
Acrolein	BDL	20.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:32:00PM
Acrylonitrile	BDL	20.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:32:00PM
Allyl chloride	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:32:00PM
Benzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:32:00PM
Bromobenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:32:00PM
Bromochloromethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:32:00PM
Bromodichloromethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:32:00PM
Bromoform	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:32:00PM
Bromomethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:32:00PM
Carbon Disulfide	BDL	20.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:32:00PM
Carbon Tetrachloride	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:32:00PM
Chlorobenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:32:00PM
Chloroethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:32:00PM
Chloroform	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:32:00PM
Chloromethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:32:00PM
cis-1,2-Dichloroethene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:32:00PM
cis-1,3-Dichloropropene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:32:00PM
Dibromochloromethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:32:00PM
Dibromomethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:32:00PM
Dichlorodifluoromethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:32:00PM
Ethylbenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:32:00PM
Hexachlorobutadiene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:32:00PM
Iodomethane	BDL	10.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:32:00PM
Isopropylbenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:32:00PM
Methylene Chloride	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:32:00PM
Methyl tert-Butyl Ether	**58.0**	10.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:32:00PM
m,p-Xylene	BDL	10.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:32:00PM
Naphthalene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:32:00PM
n-Butylbenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:32:00PM
n-Hexane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:32:00PM
n-Propylbenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:32:00PM
o-Xylene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:32:00PM

CLIENT: Hull & Associates - Toledo Office
Project: COT235 Champion Spark Plug
Lab Order: 15F0878

Lab ID: 15F0878-03
Client Sample ID: COT235:HTMW-3:G061115
Collection Date: 6/11/2015 3:10:00PM
Matrix: Groundwater

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Prepared	Date Analyzed
sec-Butylbenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:32:00PM
Styrene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:32:00PM
tert_Butylbenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:32:00PM
Tetrachloroethene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:32:00PM
Toluene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:32:00PM
trans-1,2-Dichloroethene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:32:00PM
trans-1,3-Dichloropropene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:32:00PM
Trichloroethene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:32:00PM
Trichlorofluoromethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:32:00PM
Vinyl Chloride	BDL	1.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:32:00PM
Vinyl acetate	BDL	10.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:32:00PM
Surrogate: 4-Bromofluorobenzene	*94.2 %*			*85-115*		*1525190*	6/15/2015 2:00:00PM	6/15/2015 3:32:00PM
Surrogate: Dibromofluoromethane	*93.8 %*			*85-115*		*1525190*	6/15/2015 2:00:00PM	6/15/2015 3:32:00PM
Surrogate: Toluene-d8	*93.4 %*			*85-115*		*1525190*	6/15/2015 2:00:00PM	6/15/2015 3:32:00PM
Surrogate: 1,2-Dichloroethane-d4	*94.5 %*			*85-115*		*1525190*	6/15/2015 2:00:00PM	6/15/2015 3:32:00PM

CLIENT: Hull & Associates - Toledo Office **Lab Order:** 15F0878
Project: COT235 Champion Spark Plug

Lab ID: 15F0878-04 **Collection Date:** 6/12/2015 9:00:00AM
Client Sample ID: COT235:HTMW-4:G061215 **Matrix:** Groundwater

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Prepared	Date Analyzed
ICP_Ag		**SW 6010B**					**Analyst: RJE**	
Silver	BDL	0.00200		mg/L	1	1527039	6/29/2015 1:15:00PM	7/5/2015 8:19:32AM
ICP_As		**SW 6010B**					**Analyst: RJE**	
Arsenic	**0.0272**	0.00500		mg/L	1	1527039	6/29/2015 1:15:00PM	7/5/2015 8:19:32AM
ICP_Ba		**SW 6010B**					**Analyst: RJE**	
Barium	**0.257**	0.00500		mg/L	1	1527039	6/29/2015 1:15:00PM	7/5/2015 8:19:32AM
ICP_Cd		**SW 6010B**					**Analyst: RJE**	
Cadmium	BDL	0.00200		mg/L	1	1527039	6/29/2015 1:15:00PM	7/5/2015 8:19:32AM
ICP_Cr		**SW 6010B**					**Analyst: RJE**	
Chromium	**0.0208**	0.00500		mg/L	1	1527039	6/29/2015 1:15:00PM	7/5/2015 8:19:32AM
ICP_Pb		**SW 6010B**					**Analyst: RJE**	
Lead	**0.00940**	0.00500		mg/L	1	1527039	6/29/2015 1:15:00PM	7/5/2015 8:19:32AM
ICP_Se		**SW 6010B**					**Analyst: RJE**	
Selenium	BDL	0.0100		mg/L	1	1527039	6/29/2015 1:15:00PM	7/5/2015 8:19:32AM
HG		**SW 7470A**					**Analyst: CW**	
Mercury	BDL	0.000200		mg/L	1	1525083	6/16/2015 9:45:00AM	6/17/2015 9:40:00AM
VOC 8260		**SW 8260B**					**Analyst: EAH**	
1,1,1,2-Tetrachloroethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:51:00PM
1,1,1-Trichloroethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:51:00PM
1,1,2,2-Tetrachloroethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:51:00PM
1,1,2-Trichloroethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:51:00PM
1,1-Dichloroethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:51:00PM
1,1-Dichloroethene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:51:00PM
1,1-Dichloropropene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:51:00PM
1,2,3-Trichlorobenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:51:00PM
1,2,3-Trichloropropane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:51:00PM
1,2,4-Trichlorobenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:51:00PM
1,2,4-Trimethylbenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:51:00PM
1,2-Dibromo-3-chloropropane	BDL	10.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:51:00PM
1,2-Dibromoethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:51:00PM
1,2-Dichlorobenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:51:00PM
1,2-Dichloroethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:51:00PM
1,2-Dichloropropane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:51:00PM
1,3,5-Trimethylbenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:51:00PM

CLIENT: Hull & Associates - Toledo Office **Lab Order:** 15F0878
Project: COT235 Champion Spark Plug

Lab ID: 15F0878-04 **Collection Date:** 6/12/2015 9:00:00AM
Client Sample ID: COT235:HTMW-4:G061215 **Matrix:** Groundwater

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Prepared	Date Analyzed
1,3-Dichlorobenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:51:00PM
1,3-Dichloropropane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:51:00PM
1,4-Dichlorobenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:51:00PM
2,2-Dichloropropane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:51:00PM
2-Butanone	BDL	20.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:51:00PM
2-Chlorotoluene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:51:00PM
2-Hexanone	BDL	20.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:51:00PM
4-Chlorotoluene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:51:00PM
4-Isopropyltoluene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:51:00PM
4-Methyl-2-pentanone	BDL	20.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:51:00PM
Acetone	BDL	20.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:51:00PM
Acetonitrile	BDL	40.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:51:00PM
Acrolein	BDL	20.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:51:00PM
Acrylonitrile	BDL	20.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:51:00PM
Allyl chloride	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:51:00PM
Benzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:51:00PM
Bromobenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:51:00PM
Bromochloromethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:51:00PM
Bromodichloromethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:51:00PM
Bromoform	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:51:00PM
Bromomethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:51:00PM
Carbon Disulfide	BDL	20.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:51:00PM
Carbon Tetrachloride	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:51:00PM
Chlorobenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:51:00PM
Chloroethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:51:00PM
Chloroform	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:51:00PM
Chloromethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:51:00PM
cis-1,2-Dichloroethene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:51:00PM
cis-1,3-Dichloropropene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:51:00PM
Dibromochloromethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:51:00PM
Dibromomethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:51:00PM
Dichlorodifluoromethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:51:00PM
Ethylbenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:51:00PM
Hexachlorobutadiene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:51:00PM
Iodomethane	BDL	10.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:51:00PM
Isopropylbenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:51:00PM
Methylene Chloride	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:51:00PM
Methyl tert-Butyl Ether	BDL	10.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:51:00PM
m,p-Xylene	**13.3**	10.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:51:00PM
Naphthalene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:51:00PM
n-Butylbenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:51:00PM
n-Hexane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:51:00PM
n-Propylbenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:51:00PM

CLIENT: Hull & Associates - Toledo Office
Project: COT235 Champion Spark Plug
Lab Order: 15F0878

Lab ID: 15F0878-04
Client Sample ID: COT235:HTMW-4:G061215
Collection Date: 6/12/2015 9:00:00AM
Matrix: Groundwater

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Prepared	Date Analyzed
o-Xylene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:51:00PM
sec-Butylbenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:51:00PM
Styrene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:51:00PM
tert_Butylbenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:51:00PM
Tetrachloroethene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:51:00PM
Toluene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:51:00PM
trans-1,2-Dichloroethene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:51:00PM
trans-1,3-Dichloropropene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:51:00PM
Trichloroethene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:51:00PM
Trichlorofluoromethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:51:00PM
Vinyl Chloride	BDL	1.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:51:00PM
Vinyl acetate	BDL	10.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 3:51:00PM
Surrogate: 4-Bromofluorobenzene	*94.2 %*			*85-115*		*1525190*	6/15/2015 2:00:00PM	6/15/2015 3:51:00PM
Surrogate: Dibromofluoromethane	*93.3 %*			*85-115*		*1525190*	6/15/2015 2:00:00PM	6/15/2015 3:51:00PM
Surrogate: Toluene-d8	*93.9 %*			*85-115*		*1525190*	6/15/2015 2:00:00PM	6/15/2015 3:51:00PM
Surrogate: 1,2-Dichloroethane-d4	*94.5 %*			*85-115*		*1525190*	6/15/2015 2:00:00PM	6/15/2015 3:51:00PM

CLIENT: Hull & Associates - Toledo Office
Project: COT235 Champion Spark Plug
Lab Order: 15F0878

Lab ID: 15F0878-05
Client Sample ID: COT235:HTMW-5:G061215
Collection Date: 6/12/2015 9:30:00AM
Matrix: Groundwater

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Prepared	Date Analyzed
ICP_Ag		**SW 6010B**					**Analyst: RJE**	
Silver	BDL	0.00200		mg/L	1	1527039	6/29/2015 1:15:00PM	7/5/2015 8:25:42AM
ICP_As		**SW 6010B**					**Analyst: RJE**	
Arsenic	BDL	0.00500		mg/L	1	1527039	6/29/2015 1:15:00PM	7/5/2015 8:25:42AM
ICP_Ba		**SW 6010B**					**Analyst: RJE**	
Barium	**0.123**	0.00500		mg/L	1	1527039	6/29/2015 1:15:00PM	7/5/2015 8:25:42AM
ICP_Cd		**SW 6010B**					**Analyst: RJE**	
Cadmium	BDL	0.00200		mg/L	1	1527039	6/29/2015 1:15:00PM	7/5/2015 8:25:42AM
ICP_Cr		**SW 6010B**					**Analyst: RJE**	
Chromium	**0.00559**	0.00500		mg/L	1	1527039	6/29/2015 1:15:00PM	7/5/2015 8:25:42AM
ICP_Pb		**SW 6010B**					**Analyst: RJE**	
Lead	BDL	0.00500		mg/L	1	1527039	6/29/2015 1:15:00PM	7/5/2015 8:25:42AM
ICP_Se		**SW 6010B**					**Analyst: RJE**	
Selenium	BDL	0.0100		mg/L	1	1527039	6/29/2015 1:15:00PM	7/5/2015 8:25:42AM
HG		**SW 7470A**					**Analyst: CW**	
Mercury	BDL	0.000200		mg/L	1	1525083	6/16/2015 9:45:00AM	6/17/2015 9:40:00AM
VOC 8260		**SW 8260B**					**Analyst: EAH**	
1,1,1,2-Tetrachloroethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:11:00PM
1,1,1-Trichloroethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:11:00PM
1,1,2,2-Tetrachloroethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:11:00PM
1,1,2-Trichloroethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:11:00PM
1,1-Dichloroethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:11:00PM
1,1-Dichloroethene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:11:00PM
1,1-Dichloropropene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:11:00PM
1,2,3-Trichlorobenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:11:00PM
1,2,3-Trichloropropane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:11:00PM
1,2,4-Trichlorobenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:11:00PM
1,2,4-Trimethylbenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:11:00PM
1,2-Dibromo-3-chloropropane	BDL	10.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:11:00PM
1,2-Dibromoethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:11:00PM
1,2-Dichlorobenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:11:00PM
1,2-Dichloroethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:11:00PM
1,2-Dichloropropane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:11:00PM
1,3,5-Trimethylbenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:11:00PM
1,3-Dichlorobenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:11:00PM

CLIENT: Hull & Associates - Toledo Office **Lab Order:** 15F0878
Project: COT235 Champion Spark Plug

Lab ID: 15F0878-05 **Collection Date:** 6/12/2015 9:30:00AM
Client Sample ID: COT235:HTMW-5:G061215 **Matrix:** Groundwater

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Prepared	Date Analyzed
1,3-Dichloropropane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:11:00PM
1,4-Dichlorobenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:11:00PM
2,2-Dichloropropane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:11:00PM
2-Butanone	BDL	20.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:11:00PM
2-Chlorotoluene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:11:00PM
2-Hexanone	BDL	20.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:11:00PM
4-Chlorotoluene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:11:00PM
4-Isopropyltoluene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:11:00PM
4-Methyl-2-pentanone	BDL	20.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:11:00PM
Acetone	BDL	20.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:11:00PM
Acetonitrile	BDL	40.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:11:00PM
Acrolein	BDL	20.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:11:00PM
Acrylonitrile	BDL	20.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:11:00PM
Allyl chloride	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:11:00PM
Benzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:11:00PM
Bromobenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:11:00PM
Bromochloromethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:11:00PM
Bromodichloromethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:11:00PM
Bromoform	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:11:00PM
Bromomethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:11:00PM
Carbon Disulfide	BDL	20.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:11:00PM
Carbon Tetrachloride	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:11:00PM
Chlorobenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:11:00PM
Chloroethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:11:00PM
Chloroform	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:11:00PM
Chloromethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:11:00PM
cis-1,2-Dichloroethene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:11:00PM
cis-1,3-Dichloropropene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:11:00PM
Dibromochloromethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:11:00PM
Dibromomethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:11:00PM
Dichlorodifluoromethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:11:00PM
Ethylbenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:11:00PM
Hexachlorobutadiene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:11:00PM
Iodomethane	BDL	10.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:11:00PM
Isopropylbenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:11:00PM
Methylene Chloride	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:11:00PM
Methyl tert-Butyl Ether	BDL	10.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:11:00PM
m,p-Xylene	**11.9**	10.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:11:00PM
Naphthalene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:11:00PM
n-Butylbenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:11:00PM
n-Hexane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:11:00PM
n-Propylbenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:11:00PM
o-Xylene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:11:00PM

CLIENT: Hull & Associates - Toledo Office
Project: COT235 Champion Spark Plug
Lab Order: 15F0878

Lab ID: 15F0878-05
Client Sample ID: COT235:HTMW-5:G061215
Collection Date: 6/12/2015 9:30:00AM
Matrix: Groundwater

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Prepared	Date Analyzed
sec-Butylbenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:11:00PM
Styrene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:11:00PM
tert_Butylbenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:11:00PM
Tetrachloroethene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:11:00PM
Toluene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:11:00PM
trans-1,2-Dichloroethene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:11:00PM
trans-1,3-Dichloropropene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:11:00PM
Trichloroethene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:11:00PM
Trichlorofluoromethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:11:00PM
Vinyl Chloride	BDL	1.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:11:00PM
Vinyl acetate	BDL	10.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:11:00PM
Surrogate: 4-Bromofluorobenzene	*94.5 %*			*85-115*		*1525190*	6/15/2015 2:00:00PM	6/15/2015 4:11:00PM
Surrogate: Dibromofluoromethane	*92.5 %*			*85-115*		*1525190*	6/15/2015 2:00:00PM	6/15/2015 4:11:00PM
Surrogate: Toluene-d8	*93.7 %*			*85-115*		*1525190*	6/15/2015 2:00:00PM	6/15/2015 4:11:00PM
Surrogate: 1,2-Dichloroethane-d4	*95.3 %*			*85-115*		*1525190*	6/15/2015 2:00:00PM	6/15/2015 4:11:00PM

CLIENT: Hull & Associates - Toledo Office
Project: COT235 Champion Spark Plug
Lab Order: 15F0878

Lab ID: 15F0878-06
Client Sample ID: COT235:HTMW-6:G061215
Collection Date: 6/11/2015 3:35:00PM
Matrix: Groundwater

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Prepared	Date Analyzed
ICP_Ag		**SW 6010B**					**Analyst: RJE**	
Silver	BDL	0.00200		mg/L	1	1527039	6/29/2015 1:15:00PM	7/5/2015 8:40:43AM
ICP_As		**SW 6010B**					**Analyst: RJE**	
Arsenic	**0.0270**	0.00500		mg/L	1	1527039	6/29/2015 1:15:00PM	7/5/2015 8:40:43AM
ICP_Ba		**SW 6010B**					**Analyst: RJE**	
Barium	**1.42**	0.00500		mg/L	1	1527039	6/29/2015 1:15:00PM	7/5/2015 8:40:43AM
ICP_Cd		**SW 6010B**					**Analyst: RJE**	
Cadmium	BDL	0.00200		mg/L	1	1527039	6/29/2015 1:15:00PM	7/5/2015 8:40:43AM
ICP_Cr		**SW 6010B**					**Analyst: RJE**	
Chromium	**0.00577**	0.00500		mg/L	1	1527039	6/29/2015 1:15:00PM	7/5/2015 8:40:43AM
ICP_Pb		**SW 6010B**					**Analyst: RJE**	
Lead	**0.00535**	0.00500		mg/L	1	1527039	6/29/2015 1:15:00PM	7/5/2015 8:40:43AM
ICP_Se		**SW 6010B**					**Analyst: RJE**	
Selenium	BDL	0.0100		mg/L	1	1527039	6/29/2015 1:15:00PM	7/5/2015 8:40:43AM
HG		**SW 7470A**					**Analyst: CW**	
Mercury	BDL	0.000200		mg/L	1	1525083	6/16/2015 9:45:00AM	6/17/2015 9:40:00AM
VOC 8260		**SW 8260B**					**Analyst: EAH**	
1,1,1,2-Tetrachloroethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:30:00PM
1,1,1-Trichloroethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:30:00PM
1,1,2,2-Tetrachloroethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:30:00PM
1,1,2-Trichloroethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:30:00PM
1,1-Dichloroethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:30:00PM
1,1-Dichloroethene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:30:00PM
1,1-Dichloropropene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:30:00PM
1,2,3-Trichlorobenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:30:00PM
1,2,3-Trichloropropane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:30:00PM
1,2,4-Trichlorobenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:30:00PM
1,2,4-Trimethylbenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:30:00PM
1,2-Dibromo-3-chloropropane	BDL	10.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:30:00PM
1,2-Dibromoethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:30:00PM
1,2-Dichlorobenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:30:00PM
1,2-Dichloroethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:30:00PM
1,2-Dichloropropane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:30:00PM
1,3,5-Trimethylbenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:30:00PM

CLIENT: Hull & Associates - Toledo Office **Lab Order:** 15F0878
Project: COT235 Champion Spark Plug

Lab ID: 15F0878-06 **Collection Date:** 6/11/2015 3:35:00PM
Client Sample ID: COT235:HTMW-6:G061215 **Matrix:** Groundwater

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Prepared	Date Analyzed
1,3-Dichlorobenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:30:00PM
1,3-Dichloropropane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:30:00PM
1,4-Dichlorobenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:30:00PM
2,2-Dichloropropane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:30:00PM
2-Butanone	BDL	20.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:30:00PM
2-Chlorotoluene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:30:00PM
2-Hexanone	BDL	20.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:30:00PM
4-Chlorotoluene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:30:00PM
4-Isopropyltoluene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:30:00PM
4-Methyl-2-pentanone	BDL	20.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:30:00PM
Acetone	BDL	20.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:30:00PM
Acetonitrile	BDL	40.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:30:00PM
Acrolein	BDL	20.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:30:00PM
Acrylonitrile	BDL	20.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:30:00PM
Allyl chloride	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:30:00PM
Benzene	**6.87**	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:30:00PM
Bromobenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:30:00PM
Bromochloromethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:30:00PM
Bromodichloromethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:30:00PM
Bromoform	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:30:00PM
Bromomethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:30:00PM
Carbon Disulfide	BDL	20.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:30:00PM
Carbon Tetrachloride	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:30:00PM
Chlorobenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:30:00PM
Chloroethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:30:00PM
Chloroform	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:30:00PM
Chloromethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:30:00PM
cis-1,2-Dichloroethene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:30:00PM
cis-1,3-Dichloropropene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:30:00PM
Dibromochloromethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:30:00PM
Dibromomethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:30:00PM
Dichlorodifluoromethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:30:00PM
Ethylbenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:30:00PM
Hexachlorobutadiene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:30:00PM
Iodomethane	BDL	10.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:30:00PM
Isopropylbenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:30:00PM
Methylene Chloride	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:30:00PM
Methyl tert-Butyl Ether	**18.5**	10.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:30:00PM
m,p-Xylene	BDL	10.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:30:00PM
Naphthalene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:30:00PM
n-Butylbenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:30:00PM
n-Hexane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:30:00PM
n-Propylbenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:30:00PM

CLIENT: Hull & Associates - Toledo Office
Project: COT235 Champion Spark Plug
Lab Order: 15F0878

Lab ID: 15F0878-06
Client Sample ID: COT235:HTMW-6:G061215
Collection Date: 6/11/2015 3:35:00PM
Matrix: Groundwater

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Prepared	Date Analyzed
o-Xylene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:30:00PM
sec-Butylbenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:30:00PM
Styrene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:30:00PM
tert_Butylbenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:30:00PM
Tetrachloroethene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:30:00PM
Toluene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:30:00PM
trans-1,2-Dichloroethene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:30:00PM
trans-1,3-Dichloropropene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:30:00PM
Trichloroethene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:30:00PM
Trichlorofluoromethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:30:00PM
Vinyl Chloride	BDL	1.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:30:00PM
Vinyl acetate	BDL	10.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:30:00PM
Surrogate: 4-Bromofluorobenzene	*94.8 %*			*85-115*		*1525190*	6/15/2015 2:00:00PM	6/15/2015 4:30:00PM
Surrogate: Dibromofluoromethane	*93.7 %*			*85-115*		*1525190*	6/15/2015 2:00:00PM	6/15/2015 4:30:00PM
Surrogate: Toluene-d8	*93.2 %*			*85-115*		*1525190*	6/15/2015 2:00:00PM	6/15/2015 4:30:00PM
Surrogate: 1,2-Dichloroethane-d4	*94.2 %*			*85-115*		*1525190*	6/15/2015 2:00:00PM	6/15/2015 4:30:00PM

CLIENT: Hull & Associates - Toledo Office **Lab Order:** 15F0878
Project: COT235 Champion Spark Plug

Lab ID: 15F0878-07 **Collection Date:** 6/11/2015 12:30:00PM
Client Sample ID: COT235:HTMW-1:G061115A **Matrix:** Groundwater

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Prepared	Date Analyzed
ICP_Ag		**SW 6010B**					**Analyst: RJE**	
Silver	BDL	0.00200		mg/L	1	1527039	6/29/2015 1:15:00PM	7/5/2015 8:46:19AM
ICP_As		**SW 6010B**					**Analyst: RJE**	
Arsenic	BDL	0.00500		mg/L	1	1527039	6/29/2015 1:15:00PM	7/5/2015 8:46:19AM
ICP_Ba		**SW 6010B**					**Analyst: RJE**	
Barium	BDL	0.00500		mg/L	1	1527039	6/29/2015 1:15:00PM	7/5/2015 8:46:19AM
ICP_Cd		**SW 6010B**					**Analyst: RJE**	
Cadmium	BDL	0.00200		mg/L	1	1527039	6/29/2015 1:15:00PM	7/5/2015 8:46:19AM
ICP_Cr		**SW 6010B**					**Analyst: RJE**	
Chromium	BDL	0.00500		mg/L	1	1527039	6/29/2015 1:15:00PM	7/5/2015 8:46:19AM
ICP_Pb		**SW 6010B**					**Analyst: RJE**	
Lead	BDL	0.00500		mg/L	1	1527039	6/29/2015 1:15:00PM	7/5/2015 8:46:19AM
ICP_Se		**SW 6010B**					**Analyst: RJE**	
Selenium	BDL	0.0100		mg/L	1	1527039	6/29/2015 1:15:00PM	7/5/2015 8:46:19AM
HG		**SW 7470A**					**Analyst: CW**	
Mercury	BDL	0.000200		mg/L	1	1525083	6/16/2015 9:45:00AM	6/17/2015 9:40:00AM
VOC 8260		**SW 8260B**					**Analyst: EAH**	
1,1,1,2-Tetrachloroethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:50:00PM
1,1,1-Trichloroethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:50:00PM
1,1,2,2-Tetrachloroethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:50:00PM
1,1,2-Trichloroethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:50:00PM
1,1-Dichloroethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:50:00PM
1,1-Dichloroethene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:50:00PM
1,1-Dichloropropene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:50:00PM
1,2,3-Trichlorobenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:50:00PM
1,2,3-Trichloropropane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:50:00PM
1,2,4-Trichlorobenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:50:00PM
1,2,4-Trimethylbenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:50:00PM
1,2-Dibromo-3-chloropropane	BDL	10.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:50:00PM
1,2-Dibromoethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:50:00PM
1,2-Dichlorobenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:50:00PM
1,2-Dichloroethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:50:00PM
1,2-Dichloropropane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:50:00PM
1,3,5-Trimethylbenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:50:00PM
1,3-Dichlorobenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:50:00PM

CLIENT: Hull & Associates - Toledo Office **Lab Order:** 15F0878
Project: COT235 Champion Spark Plug

Lab ID: 15F0878-07 **Collection Date:** 6/11/2015 12:30:00PM
Client Sample ID: COT235:HTMW-1:G061115A **Matrix:** Groundwater

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Prepared	Date Analyzed
1,3-Dichloropropane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:50:00PM
1,4-Dichlorobenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:50:00PM
2,2-Dichloropropane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:50:00PM
2-Butanone	BDL	20.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:50:00PM
2-Chlorotoluene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:50:00PM
2-Hexanone	BDL	20.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:50:00PM
4-Chlorotoluene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:50:00PM
4-Isopropyltoluene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:50:00PM
4-Methyl-2-pentanone	BDL	20.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:50:00PM
Acetone	BDL	20.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:50:00PM
Acetonitrile	BDL	40.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:50:00PM
Acrolein	BDL	20.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:50:00PM
Acrylonitrile	BDL	20.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:50:00PM
Allyl chloride	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:50:00PM
Benzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:50:00PM
Bromobenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:50:00PM
Bromochloromethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:50:00PM
Bromodichloromethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:50:00PM
Bromoform	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:50:00PM
Bromomethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:50:00PM
Carbon Disulfide	BDL	20.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:50:00PM
Carbon Tetrachloride	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:50:00PM
Chlorobenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:50:00PM
Chloroethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:50:00PM
Chloroform	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:50:00PM
Chloromethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:50:00PM
cis-1,2-Dichloroethene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:50:00PM
cis-1,3-Dichloropropene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:50:00PM
Dibromochloromethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:50:00PM
Dibromomethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:50:00PM
Dichlorodifluoromethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:50:00PM
Ethylbenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:50:00PM
Hexachlorobutadiene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:50:00PM
Iodomethane	BDL	10.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:50:00PM
Isopropylbenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:50:00PM
Methylene Chloride	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:50:00PM
Methyl tert-Butyl Ether	BDL	10.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:50:00PM
m,p-Xylene	BDL	10.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:50:00PM
Naphthalene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:50:00PM
n-Butylbenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:50:00PM
n-Hexane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:50:00PM
n-Propylbenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:50:00PM
o-Xylene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:50:00PM
sec-Butylbenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:50:00PM

CLIENT: Hull & Associates - Toledo Office
Project: COT235 Champion Spark Plug
Lab Order: 15F0878

Lab ID: 15F0878-07
Client Sample ID: COT235:HTMW-1:G061115A
Collection Date: 6/11/2015 12:30:00PM
Matrix: Groundwater

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Prepared	Date Analyzed
Styrene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:50:00PM
tert_Butylbenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:50:00PM
Tetrachloroethene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:50:00PM
Toluene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:50:00PM
trans-1,2-Dichloroethene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:50:00PM
trans-1,3-Dichloropropene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:50:00PM
Trichloroethene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:50:00PM
Trichlorofluoromethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:50:00PM
Vinyl Chloride	BDL	1.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:50:00PM
Vinyl acetate	BDL	10.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 4:50:00PM
Surrogate: 4-Bromofluorobenzene	*94.7 %*			*85-115*		*1525190*	6/15/2015 2:00:00PM	6/15/2015 4:50:00PM
Surrogate: Dibromofluoromethane	*94.0 %*			*85-115*		*1525190*	6/15/2015 2:00:00PM	6/15/2015 4:50:00PM
Surrogate: Toluene-d8	*93.4 %*			*85-115*		*1525190*	6/15/2015 2:00:00PM	6/15/2015 4:50:00PM
Surrogate: 1,2-Dichloroethane-d4	*94.8 %*			*85-115*		*1525190*	6/15/2015 2:00:00PM	6/15/2015 4:50:00PM

CLIENT: Hull & Associates - Toledo Office **Lab Order:** 15F0878
Project: COT235 Champion Spark Plug

Lab ID: 15F0878-08 **Collection Date:** 6/12/2015 10:10:00AM
Client Sample ID: COT235:E. Blank 2:W061215 **Matrix:** Groundwater

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Prepared	Date Analyzed
ICP_Ag		**SW 6010B**					**Analyst: RJE**	
Silver	BDL	0.00200		mg/L	1	1527039	6/29/2015 1:15:00PM	7/5/2015 8:51:00AM
ICP_As		**SW 6010B**					**Analyst: RJE**	
Arsenic	**0.00558**	0.00500		mg/L	1	1527039	6/29/2015 1:15:00PM	7/5/2015 8:51:00AM
ICP_Ba		**SW 6010B**					**Analyst: RJE**	
Barium	**0.109**	0.00500		mg/L	1	1527039	6/29/2015 1:15:00PM	7/5/2015 8:51:00AM
ICP_Cd		**SW 6010B**					**Analyst: RJE**	
Cadmium	BDL	0.00200		mg/L	1	1527039	6/29/2015 1:15:00PM	7/5/2015 8:51:00AM
ICP_Cr		**SW 6010B**					**Analyst: RJE**	
Chromium	BDL	0.00500		mg/L	1	1527039	6/29/2015 1:15:00PM	7/5/2015 8:51:00AM
ICP_Pb		**SW 6010B**					**Analyst: RJE**	
Lead	BDL	0.00500		mg/L	1	1527039	6/29/2015 1:15:00PM	7/5/2015 8:51:00AM
ICP_Se		**SW 6010B**					**Analyst: RJE**	
Selenium	BDL	0.0100		mg/L	1	1527039	6/29/2015 1:15:00PM	7/5/2015 8:51:00AM
HG		**SW 7470A**					**Analyst: CW**	
Mercury	BDL	0.000200		mg/L	1	1525083	6/16/2015 9:45:00AM	6/17/2015 9:40:00AM
VOC 8260		**SW 8260B**					**Analyst: EAH**	
1,1,1,2-Tetrachloroethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 5:09:00PM
1,1,1-Trichloroethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 5:09:00PM
1,1,2,2-Tetrachloroethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 5:09:00PM
1,1,2-Trichloroethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 5:09:00PM
1,1-Dichloroethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 5:09:00PM
1,1-Dichloroethene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 5:09:00PM
1,1-Dichloropropene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 5:09:00PM
1,2,3-Trichlorobenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 5:09:00PM
1,2,3-Trichloropropane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 5:09:00PM
1,2,4-Trichlorobenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 5:09:00PM
1,2,4-Trimethylbenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 5:09:00PM
1,2-Dibromo-3-chloropropane	BDL	10.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 5:09:00PM
1,2-Dibromoethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 5:09:00PM
1,2-Dichlorobenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 5:09:00PM
1,2-Dichloroethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 5:09:00PM
1,2-Dichloropropane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 5:09:00PM
1,3,5-Trimethylbenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 5:09:00PM
1,3-Dichlorobenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 5:09:00PM

CLIENT: Hull & Associates - Toledo Office
Project: COT235 Champion Spark Plug
Lab Order: 15F0878

Lab ID: 15F0878-08
Client Sample ID: COT235:E. Blank 2:W061215
Collection Date: 6/12/2015 10:10:00AM
Matrix: Groundwater

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Prepared	Date Analyzed
1,3-Dichloropropane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 5:09:00PM
1,4-Dichlorobenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 5:09:00PM
2,2-Dichloropropane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 5:09:00PM
2-Butanone	BDL	20.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 5:09:00PM
2-Chlorotoluene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 5:09:00PM
2-Hexanone	BDL	20.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 5:09:00PM
4-Chlorotoluene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 5:09:00PM
4-Isopropyltoluene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 5:09:00PM
4-Methyl-2-pentanone	BDL	20.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 5:09:00PM
Acetone	BDL	20.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 5:09:00PM
Acetonitrile	BDL	40.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 5:09:00PM
Acrolein	BDL	20.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 5:09:00PM
Acrylonitrile	BDL	20.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 5:09:00PM
Allyl chloride	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 5:09:00PM
Benzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 5:09:00PM
Bromobenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 5:09:00PM
Bromochloromethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 5:09:00PM
Bromodichloromethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 5:09:00PM
Bromoform	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 5:09:00PM
Bromomethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 5:09:00PM
Carbon Disulfide	BDL	20.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 5:09:00PM
Carbon Tetrachloride	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 5:09:00PM
Chlorobenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 5:09:00PM
Chloroethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 5:09:00PM
Chloroform	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 5:09:00PM
Chloromethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 5:09:00PM
cis-1,2-Dichloroethene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 5:09:00PM
cis-1,3-Dichloropropene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 5:09:00PM
Dibromochloromethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 5:09:00PM
Dibromomethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 5:09:00PM
Dichlorodifluoromethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 5:09:00PM
Ethylbenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 5:09:00PM
Hexachlorobutadiene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 5:09:00PM
Iodomethane	BDL	10.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 5:09:00PM
Isopropylbenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 5:09:00PM
Methylene Chloride	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 5:09:00PM
Methyl tert-Butyl Ether	BDL	10.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 5:09:00PM
m,p-Xylene	BDL	10.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 5:09:00PM
Naphthalene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 5:09:00PM
n-Butylbenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 5:09:00PM
n-Hexane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 5:09:00PM
n-Propylbenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 5:09:00PM
o-Xylene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 5:09:00PM
sec-Butylbenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 5:09:00PM

CLIENT: Hull & Associates - Toledo Office
Project: COT235 Champion Spark Plug
Lab Order: 15F0878

Lab ID: 15F0878-08
Client Sample ID: COT235:E. Blank 2:W061215
Collection Date: 6/12/2015 10:10:00AM
Matrix: Groundwater

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Prepared	Date Analyzed
Styrene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 5:09:00PM
tert_Butylbenzene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 5:09:00PM
Tetrachloroethene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 5:09:00PM
Toluene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 5:09:00PM
trans-1,2-Dichloroethene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 5:09:00PM
trans-1,3-Dichloropropene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 5:09:00PM
Trichloroethene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 5:09:00PM
Trichlorofluoromethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 5:09:00PM
Vinyl Chloride	BDL	1.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 5:09:00PM
Vinyl acetate	BDL	10.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 5:09:00PM
Surrogate: 4-Bromofluorobenzene	*94.4 %*			*85-115*		*1525190*	6/15/2015 2:00:00PM	6/15/2015 5:09:00PM
Surrogate: Dibromofluoromethane	*92.9 %*			*85-115*		*1525190*	6/15/2015 2:00:00PM	6/15/2015 5:09:00PM
Surrogate: Toluene-d8	*93.4 %*			*85-115*		*1525190*	6/15/2015 2:00:00PM	6/15/2015 5:09:00PM
Surrogate: 1,2-Dichloroethane-d4	*94.4 %*			*85-115*		*1525190*	6/15/2015 2:00:00PM	6/15/2015 5:09:00PM

CLIENT: Hull & Associates - Toledo Office
Project: COT235 Champion Spark Plug
Lab Order: 15F0878

Lab ID: 15F0878-09
Client Sample ID: COT235:TRIP -2: -
Collection Date: 6/11/2015 12:30:00PM
Matrix: Water

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Prepared	Date Analyzed
VOC 8260_TB		**SW 8260B**					**Analyst: EAH**	
1,1,1,2-Tetrachloroethane	BDL	1.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:34:00PM
1,1,1-Trichloroethane	BDL	1.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:34:00PM
1,1,2,2-Tetrachloroethane	BDL	1.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:34:00PM
1,1,2-Trichloroethane	BDL	1.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:34:00PM
1,1-Dichloroethane	BDL	2.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:34:00PM
1,1-Dichloroethene	BDL	1.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:34:00PM
1,1-Dichloropropene	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:34:00PM
1,2-Dibromoethane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:34:00PM
1,2-Dichloroethane	BDL	1.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:34:00PM
1,2-Dichloropropane	BDL	1.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:34:00PM
1,3-Dichloropropane	BDL	1.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:34:00PM
2,2-Dichloropropane	BDL	1.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:34:00PM
2-Butanone	BDL	10.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:34:00PM
2-Chlorotoluene	BDL	1.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:34:00PM
2-Hexanone	BDL	10.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:34:00PM
4-Chlorotoluene	BDL	1.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:34:00PM
4-Methyl-2-pentanone	BDL	10.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:34:00PM
Acetone	BDL	10.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:34:00PM
Acetonitrile	BDL	40.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:34:00PM
Acrolein	BDL	20.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:34:00PM
Acrylonitrile	BDL	10.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:34:00PM
Allyl chloride	BDL	1.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:34:00PM
Benzene	BDL	1.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:34:00PM
Bromobenzene	BDL	1.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:34:00PM
Bromochloromethane	BDL	1.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:34:00PM
Bromodichloromethane	BDL	1.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:34:00PM
Bromoform	BDL	1.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:34:00PM
Bromomethane	BDL	2.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:34:00PM
Carbon Disulfide	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:34:00PM
Carbon Tetrachloride	BDL	1.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:34:00PM
Chlorobenzene	BDL	1.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:34:00PM
Chloroethane	BDL	1.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:34:00PM
Chloroform	BDL	1.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:34:00PM
Chloromethane	BDL	1.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:34:00PM
cis-1,2-Dichloroethene	BDL	1.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:34:00PM
cis-1,3-Dichloropropene	BDL	1.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:34:00PM
Dibromochloromethane	BDL	1.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:34:00PM
Dibromomethane	BDL	1.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:34:00PM
Dichlorodifluoromethane	BDL	2.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:34:00PM
Ethylbenzene	BDL	1.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:34:00PM
Iodomethane	BDL	10.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:34:00PM
Methylene Chloride	BDL	1.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:34:00PM

CLIENT: Hull & Associates - Toledo Office
Project: COT235 Champion Spark Plug
Lab Order: 15F0878

Lab ID: 15F0878-09
Client Sample ID: COT235:TRIP -2: -
Collection Date: 6/11/2015 12:30:00PM
Matrix: Water

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Prepared	Date Analyzed
Methyl tert-Butyl Ether	BDL	10.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:34:00PM
m,p-Xylene	BDL	2.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:34:00PM
n-Hexane	BDL	5.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:34:00PM
o-Xylene	BDL	1.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:34:00PM
Styrene	BDL	1.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:34:00PM
Tetrachloroethene	BDL	2.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:34:00PM
Toluene	BDL	1.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:34:00PM
trans-1,2-Dichloroethene	BDL	1.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:34:00PM
trans-1,3-Dichloropropene	BDL	1.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:34:00PM
Trichloroethene	BDL	2.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:34:00PM
Trichlorofluoromethane	BDL	2.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:34:00PM
Vinyl Chloride	BDL	1.00		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:34:00PM
Vinyl acetate	BDL	10.0		ug/L	1	1525190	6/15/2015 2:00:00PM	6/15/2015 2:34:00PM
Surrogate: 4-Bromofluorobenzene	*94.4 %*			*85-115*		*1525190*	6/15/2015 2:00:00PM	6/15/2015 2:34:00PM
Surrogate: Dibromofluoromethane	*92.8 %*			*85-115*		*1525190*	6/15/2015 2:00:00PM	6/15/2015 2:34:00PM
Surrogate: Toluene-d8	*93.5 %*			*85-115*		*1525190*	6/15/2015 2:00:00PM	6/15/2015 2:34:00PM
Surrogate: 1,2-Dichloroethane-d4	*92.1 %*			*85-115*		*1525190*	6/15/2015 2:00:00PM	6/15/2015 2:34:00PM

Total Metals by ICP - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1527039 - PREP_ICP_W										
Blank (1527039-BLK1)				Prepared: 06/29/15 Analyzed: 07/05/15						
Arsenic	BDL	0.00500	mg/L							
Barium	BDL	0.00500	mg/L							
Cadmium	BDL	0.00200	mg/L							
Chromium	BDL	0.00500	mg/L							
Lead	BDL	0.00500	mg/L							
Selenium	BDL	0.0100	mg/L							
Silver	BDL	0.00200	mg/L							
LCS (1527039-BS1)				Prepared: 06/29/15 Analyzed: 07/05/15						
Arsenic	0.938	0.00500	mg/L	1.000		93.8	85-115			
Barium	1.09	0.00500	mg/L	1.000		109	85-115			
Cadmium	0.946	0.00200	mg/L	1.000		94.6	85-115			
Chromium	0.962	0.00500	mg/L	1.000		96.2	85-115			
Lead	0.961	0.00500	mg/L	1.000		96.1	85-115			
Selenium	0.957	0.0100	mg/L	1.000		95.7	85-115			
Silver	0.960	0.00200	mg/L	1.000		96.0	85-115			
LCS Dup (1527039-BSD1)				Prepared: 06/29/15 Analyzed: 07/05/15						
Arsenic	0.922	0.00500	mg/L	1.000		92.2	85-115	1.74	20	
Barium	1.07	0.00500	mg/L	1.000		107	85-115	2.14	20	
Cadmium	0.929	0.00200	mg/L	1.000		92.9	85-115	1.82	20	
Chromium	0.944	0.00500	mg/L	1.000		94.4	85-115	1.94	20	
Lead	0.941	0.00500	mg/L	1.000		94.1	85-115	2.09	20	
Selenium	0.944	0.0100	mg/L	1.000		94.4	85-115	1.37	20	
Silver	0.941	0.00200	mg/L	1.000		94.1	85-115	2.04	20	
Duplicate (1527039-DUP1)		**Source: 15F0878-02**		Prepared: 06/29/15 Analyzed: 07/05/15						
Arsenic	0.0212	0.00500	mg/L		0.0323			41.5	20	R
Barium	0.254	0.00500	mg/L		0.234			8.08	20	
Cadmium	0.000391	0.00200	mg/L		0.000367			6.33	20	
Chromium	0.0166	0.00500	mg/L		0.0170			2.11	20	
Lead	0.00698	0.00500	mg/L		0.00769			9.60	20	
Selenium	0.00199	0.0100	mg/L		0.00678			109	20	R
Silver	BDL	0.00200	mg/L		ND				20	

Total Metals by ICP - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1527039 - PREP_ICP_W										
Matrix Spike (1527039-MS1)	**Source: 15F0878-01**			Prepared: 06/29/15 Analyzed: 07/05/15						
Arsenic	0.931	0.00500	mg/L	1.000	0.00986	92.2	75-125			
Barium	1.13	0.00500	mg/L	1.000	0.107	102	75-125			
Cadmium	0.880	0.00200	mg/L	1.000	ND	88.0	75-125			
Chromium	0.905	0.00500	mg/L	1.000	0.000943	90.4	75-125			
Lead	0.892	0.00500	mg/L	1.000	ND	89.2	75-125			
Selenium	0.928	0.0100	mg/L	1.000	0.00705	92.1	75-125			
Silver	0.925	0.00200	mg/L	1.000	ND	92.5	75-125			
Matrix Spike Dup (1527039-MSD1)	**Source: 15F0878-01**			Prepared: 06/29/15 Analyzed: 07/05/15						
Arsenic	0.903	0.00500	mg/L	1.000	0.00986	89.3	75-125	3.12	20	
Barium	1.09	0.00500	mg/L	1.000	0.107	98.0	75-125	3.75	20	
Cadmium	0.853	0.00200	mg/L	1.000	ND	85.3	75-125	3.16	20	
Chromium	0.872	0.00500	mg/L	1.000	0.000943	87.1	75-125	3.66	20	
Lead	0.864	0.00500	mg/L	1.000	ND	86.4	75-125	3.22	20	
Selenium	0.909	0.0100	mg/L	1.000	0.00705	90.2	75-125	2.14	20	
Silver	0.909	0.00200	mg/L	1.000	ND	90.9	75-125	1.78	20	
Post Spike (1527039-PS1)	**Source: 15F0878-01**			Prepared: 06/29/15 Analyzed: 07/05/15						
Arsenic	0.856		mg/L	1.000	0.00986	84.6	75-125			
Barium	1.11		mg/L	1.000	0.107	100	75-125			
Cadmium	0.855		mg/L	1.000	0.0000280	85.5	75-125			
Chromium	0.882		mg/L	1.000	0.000943	88.1	75-125			
Lead	0.867		mg/L	1.000	-0.000989	86.7	75-125			
Selenium	0.911		mg/L	1.000	0.00705	90.4	75-125			
Silver	0.914		mg/L	1.000	0.000372	91.3	75-125			

CLIENT: Hull & Associates - Toledo Office **Lab Order:** 15F0878
Project: COT235 Champion Spark Plug

Mercury Analysis - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1525083 - PREP_HG_W										
Blank (1525083-BLK1)				Prepared: 06/16/15 Analyzed: 06/17/15						
Mercury	BDL	0.000200	mg/L							
LCS (1525083-BS1)				Prepared: 06/16/15 Analyzed: 06/17/15						
Mercury	0.00626	0.000200	mg/L	0.006250		100	80-120			
LCS Dup (1525083-BSD1)				Prepared: 06/16/15 Analyzed: 06/17/15						
Mercury	0.00582	0.000200	mg/L	0.006250		93	80-120	7	20	
Matrix Spike (1525083-MS1)		**Source: 15F0709-19**		Prepared: 06/16/15 Analyzed: 06/17/15						
Mercury	0.00629	0.000200	mg/L	0.006250	ND	101	70-130			
Matrix Spike Dup (1525083-MSD1)		**Source: 15F0709-19**		Prepared: 06/16/15 Analyzed: 06/17/15						
Mercury	0.00642	0.000200	mg/L	0.006250	ND	103	70-130	2	30	

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1525190 - VOC PREP										
Blank (1525190-BLK1)				Prepared & Analyzed: 06/15/15						
1,1,1,2-Tetrachloroethane	BDL	1.00	ug/L							
1,1,1,2-Tetrachloroethane	BDL	5.00	ug/L							
1,1,1-Trichloroethane	BDL	1.00	ug/L							
1,1,1-Trichloroethane	BDL	5.00	ug/L							
1,1,2,2-Tetrachloroethane	BDL	1.00	ug/L							
1,1,2,2-Tetrachloroethane	BDL	5.00	ug/L							
1,1,2-Trichloroethane	BDL	1.00	ug/L							
1,1,2-Trichloroethane	BDL	5.00	ug/L							
1,1-Dichloroethane	BDL	2.00	ug/L							
1,1-Dichloroethane	BDL	5.00	ug/L							
1,1-Dichloroethene	BDL	1.00	ug/L							
1,1-Dichloroethene	BDL	5.00	ug/L							
1,1-Dichloropropene	BDL	5.00	ug/L							
1,1-Dichloropropene	BDL	5.00	ug/L							
1,2,3-Trichlorobenzene	BDL	5.00	ug/L							
1,2,3-Trichloropropane	BDL	5.00	ug/L							
1,2,4-Trichlorobenzene	BDL	5.00	ug/L							
1,2,4-Trimethylbenzene	BDL	5.00	ug/L							
1,2-Dibromo-3-chloropropane	BDL	10.0	ug/L							
1,2-Dibromoethane	BDL	5.00	ug/L							
1,2-Dibromoethane	BDL	5.00	ug/L							
1,2-Dichlorobenzene	BDL	5.00	ug/L							
1,2-Dichloroethane	BDL	1.00	ug/L							
1,2-Dichloroethane	BDL	5.00	ug/L							
1,2-Dichloropropane	BDL	1.00	ug/L							
1,2-Dichloropropane	BDL	5.00	ug/L							
1,3,5-Trimethylbenzene	BDL	5.00	ug/L							
1,3-Dichlorobenzene	BDL	5.00	ug/L							
1,3-Dichloropropane	BDL	1.00	ug/L							
1,3-Dichloropropane	BDL	5.00	ug/L							
1,4-Dichlorobenzene	BDL	5.00	ug/L							
2,2-Dichloropropane	BDL	1.00	ug/L							
2,2-Dichloropropane	BDL	5.00	ug/L							
2-Butanone	BDL	10.0	ug/L							
2-Butanone	BDL	20.0	ug/L							
2-Chlorotoluene	BDL	1.00	ug/L							
2-Chlorotoluene	BDL	5.00	ug/L							
2-Hexanone	BDL	10.0	ug/L							
2-Hexanone	BDL	20.0	ug/L							
4-Chlorotoluene	BDL	1.00	ug/L							
4-Chlorotoluene	BDL	5.00	ug/L							
4-Isopropyltoluene	BDL	5.00	ug/L							
4-Methyl-2-pentanone	BDL	10.0	ug/L							
4-Methyl-2-pentanone	BDL	20.0	ug/L							
Acetone	BDL	10.0	ug/L							

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1525190 - VOC PREP										
Blank (1525190-BLK1)				Prepared & Analyzed: 06/15/15						
Acetone	BDL	20.0	ug/L							
Acetonitrile	BDL	40.0	ug/L							
Acetonitrile	BDL	40.0	ug/L							
Acrolein	BDL	20.0	ug/L							
Acrolein	BDL	20.0	ug/L							
Acrylonitrile	BDL	10.0	ug/L							
Acrylonitrile	BDL	20.0	ug/L							
Allyl chloride	BDL	1.00	ug/L							
Allyl chloride	BDL	5.00	ug/L							
Benzene	BDL	1.00	ug/L							
Benzene	BDL	5.00	ug/L							
Bromobenzene	BDL	1.00	ug/L							
Bromobenzene	BDL	5.00	ug/L							
Bromochloromethane	BDL	1.00	ug/L							
Bromochloromethane	BDL	5.00	ug/L							
Bromodichloromethane	BDL	1.00	ug/L							
Bromodichloromethane	BDL	5.00	ug/L							
Bromoform	BDL	1.00	ug/L							
Bromoform	BDL	5.00	ug/L							
Bromomethane	BDL	2.00	ug/L							
Bromomethane	BDL	5.00	ug/L							
Carbon Disulfide	BDL	5.00	ug/L							
Carbon Disulfide	BDL	20.0	ug/L							
Carbon Tetrachloride	BDL	5.00	ug/L							
Carbon Tetrachloride	BDL	1.00	ug/L							
Chlorobenzene	BDL	5.00	ug/L							
Chlorobenzene	BDL	1.00	ug/L							
Chloroethane	BDL	5.00	ug/L							
Chloroethane	BDL	1.00	ug/L							
Chloroform	BDL	5.00	ug/L							
Chloroform	BDL	1.00	ug/L							
Chloromethane	BDL	5.00	ug/L							
Chloromethane	BDL	1.00	ug/L							
cis-1,2-Dichloroethene	BDL	5.00	ug/L							
cis-1,2-Dichloroethene	BDL	1.00	ug/L							
cis-1,3-Dichloropropene	BDL	5.00	ug/L							
cis-1,3-Dichloropropene	BDL	1.00	ug/L							
Dibromochloromethane	BDL	5.00	ug/L							
Dibromochloromethane	BDL	1.00	ug/L							
Dibromomethane	BDL	5.00	ug/L							
Dibromomethane	BDL	1.00	ug/L							
Dichlorodifluoromethane	BDL	5.00	ug/L							
Dichlorodifluoromethane	BDL	2.00	ug/L							
Ethylbenzene	BDL	5.00	ug/L							
Ethylbenzene	BDL	1.00	ug/L							

CLIENT: Hull & Associates - Toledo Office **Lab Order:** 15F0878
Project: COT235 Champion Spark Plug

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1525190 - VOC PREP										
Blank (1525190-BLK1)				Prepared & Analyzed: 06/15/15						
Hexachlorobutadiene	BDL	5.00	ug/L							
Iodomethane	BDL	10.0	ug/L							
Iodomethane	BDL	10.0	ug/L							
Isopropylbenzene	BDL	5.00	ug/L							
Methylene Chloride	BDL	5.00	ug/L							
Methylene Chloride	BDL	1.00	ug/L							
Methyl tert-Butyl Ether	BDL	10.0	ug/L							
Methyl tert-Butyl Ether	BDL	10.0	ug/L							
m,p-Xylene	BDL	10.0	ug/L							
m,p-Xylene	BDL	2.00	ug/L							
Naphthalene	BDL	5.00	ug/L							
n-Butylbenzene	BDL	5.00	ug/L							
n-Hexane	BDL	5.00	ug/L							
n-Hexane	BDL	5.00	ug/L							
n-Propylbenzene	BDL	5.00	ug/L							
o-Xylene	BDL	5.00	ug/L							
o-Xylene	BDL	1.00	ug/L							
sec-Butylbenzene	BDL	5.00	ug/L							
Styrene	BDL	1.00	ug/L							
Styrene	BDL	5.00	ug/L							
tert_Butylbenzene	BDL	5.00	ug/L							
Tetrachloroethene	BDL	5.00	ug/L							
Tetrachloroethene	BDL	2.00	ug/L							
Toluene	BDL	5.00	ug/L							
Toluene	BDL	1.00	ug/L							
trans-1,2-Dichloroethene	BDL	5.00	ug/L							
trans-1,2-Dichloroethene	BDL	1.00	ug/L							
trans-1,3-Dichloropropene	BDL	5.00	ug/L							
trans-1,3-Dichloropropene	BDL	1.00	ug/L							
Trichloroethene	BDL	5.00	ug/L							
Trichloroethene	BDL	2.00	ug/L							
Trichlorofluoromethane	BDL	5.00	ug/L							
Trichlorofluoromethane	BDL	2.00	ug/L							
Vinyl Chloride	BDL	1.00	ug/L							
Vinyl Chloride	BDL	1.00	ug/L							
Vinyl acetate	BDL	10.0	ug/L							
Vinyl acetate	BDL	10.0	ug/L							
Surrogate: 4-Bromofluorobenzene	*47.2*		*ug/L*	*50.00*		*94.3*	*85-115*			
Surrogate: 4-Bromofluorobenzene	*47.2*		*ug/L*	*50.00*		*94.3*	*85-115*			
Surrogate: Dibromofluoromethane	*46.4*		*ug/L*	*50.00*		*92.8*	*85-115*			
Surrogate: Dibromofluoromethane	*46.4*		*ug/L*	*50.00*		*92.8*	*85-115*			
Surrogate: Toluene-d8	*46.8*		*ug/L*	*50.00*		*93.7*	*85-115*			
Surrogate: Toluene-d8	*46.8*		*ug/L*	*50.00*		*93.7*	*85-115*			
Surrogate: 1,2-Dichloroethane-d4	*45.6*		*ug/L*	*50.00*		*91.1*	*85-115*			
Surrogate: 1,2-Dichloroethane-d4	*45.6*		*ug/L*	*50.00*		*91.1*	*85-115*			

CLIENT: Hull & Associates - Toledo Office **Lab Order:** 15F0878
Project: COT235 Champion Spark Plug

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1525190 - VOC PREP										
LCS (1525190-BS1)				Prepared & Analyzed: 06/15/15						
1,1,1,2-Tetrachloroethane	21.8	5.00	ug/L	20.00		109	84.3-118			
1,1,1,2-Tetrachloroethane	21.8	1.00	ug/L	20.00		109	84.3-118			
1,1,1-Trichloroethane	19.1	5.00	ug/L	20.00		95.5	82-122			
1,1,1-Trichloroethane	19.1	1.00	ug/L	20.00		95.5	82-122			
1,1,2,2-Tetrachloroethane	22.0	5.00	ug/L	20.00		110	81-124			
1,1,2,2-Tetrachloroethane	22.0	1.00	ug/L	20.00		110	81-124			
1,1,2-Trichloroethane	19.5	5.00	ug/L	20.00		97.3	83.5-120			
1,1,2-Trichloroethane	19.5	1.00	ug/L	20.00		97.3	83.5-120			
1,1-Dichloroethane	18.4	5.00	ug/L	20.00		91.8	80.5-126			
1,1-Dichloroethane	18.4	2.00	ug/L	20.00		91.8	80.5-126			
1,1-Dichloroethene	18.3	5.00	ug/L	20.00		91.4	77.4-125			
1,1-Dichloroethene	18.3	1.00	ug/L	20.00		91.4	77.4-125			
1,1-Dichloropropene	18.9	5.00	ug/L	20.00		94.4	81.8-121			
1,1-Dichloropropene	18.9	5.00	ug/L	20.00		94.4	81.8-121			
1,2,3-Trichlorobenzene	24.3	5.00	ug/L	20.00		122	73.3-125			
1,2,3-Trichloropropane	23.6	5.00	ug/L	20.00		118	75.7-124			
1,2,4-Trichlorobenzene	23.6	5.00	ug/L	20.00		118	75.1-122			
1,2,4-Trimethylbenzene	21.8	5.00	ug/L	20.00		109	76.5-124			
1,2-Dibromo-3-chloropropane	22.8	10.0	ug/L	20.00		114	67.5-123			
1,2-Dibromoethane	22.0	5.00	ug/L	20.00		110	79.9-120			
1,2-Dibromoethane	22.0	5.00	ug/L	20.00		110	79.9-120			
1,2-Dichlorobenzene	22.1	5.00	ug/L	20.00		110	83.3-118			
1,2-Dichloroethane	20.0	5.00	ug/L	20.00		100	79.4-122			
1,2-Dichloroethane	20.0	1.00	ug/L	20.00		100	79.4-122			
1,2-Dichloropropane	19.5	5.00	ug/L	20.00		97.7	82-121			
1,2-Dichloropropane	19.5	1.00	ug/L	20.00		97.7	82-121			
1,3,5-Trimethylbenzene	21.6	5.00	ug/L	20.00		108	74.9-125			
1,3-Dichlorobenzene	21.6	5.00	ug/L	20.00		108	75.3-129			
1,3-Dichloropropane	19.6	1.00	ug/L	20.00		97.8	81.7-121			
1,3-Dichloropropane	19.6	5.00	ug/L	20.00		97.8	81.7-121			
1,4-Dichlorobenzene	21.2	5.00	ug/L	20.00		106	82.1-117			
2,2-Dichloropropane	18.8	1.00	ug/L	20.00		94.0	78.8-135			
2,2-Dichloropropane	18.8	5.00	ug/L	20.00		94.0	78.8-135			
2-Butanone	40.1	10.0	ug/L	40.00		100	53-155			
2-Butanone	40.1	20.0	ug/L	40.00		100	53-155			
2-Chlorotoluene	20.9	1.00	ug/L	20.00		105	83.4-119			
2-Chlorotoluene	20.9	5.00	ug/L	20.00		105	83.4-119			
2-Hexanone	42.2	10.0	ug/L	40.00		106	60.4-146			
2-Hexanone	42.2	20.0	ug/L	40.00		106	60.4-146			
4-Chlorotoluene	21.1	1.00	ug/L	20.00		105	81.9-124			
4-Chlorotoluene	21.1	5.00	ug/L	20.00		105	81.9-124			
4-Isopropyltoluene	21.3	5.00	ug/L	20.00		106	72.6-127			
4-Methyl-2-pentanone	42.1	10.0	ug/L	40.00		105	77.6-125			
4-Methyl-2-pentanone	42.1	20.0	ug/L	40.00		105	77.6-125			
Acetone	39.3	10.0	ug/L	40.00		98.3	40.3-166			

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1525190 - VOC PREP										
LCS (1525190-BS1)				Prepared & Analyzed: 06/15/15						
Acetone	39.3	20.0	ug/L	40.00		98.3	40.3-166			
Acetonitrile	19.6	40.0	ug/L	20.00		98.0	54.7-135			
Acetonitrile	19.6	40.0	ug/L	20.00		98.0	54.7-135			
Acrolein	37.7	20.0	ug/L	40.00		94.2	56.4-141			
Acrolein	37.7	20.0	ug/L	40.00		94.2	56.4-141			
Acrylonitrile	20.2	10.0	ug/L	20.00		101	72.1-130			
Acrylonitrile	20.2	20.0	ug/L	20.00		101	72.1-130			
Allyl chloride	18.4	1.00	ug/L	20.00		92.0	77.7-127			
Allyl chloride	18.4	5.00	ug/L	20.00		92.0	77.7-127			
Benzene	18.7	1.00	ug/L	20.00		93.5	84.6-119			
Benzene	18.7	5.00	ug/L	20.00		93.5	84.6-119			
Bromobenzene	20.6	1.00	ug/L	20.00		103	81.6-123			
Bromobenzene	20.6	5.00	ug/L	20.00		103	81.6-123			
Bromochloromethane	18.1	1.00	ug/L	20.00		90.6	84.9-123			
Bromochloromethane	18.1	5.00	ug/L	20.00		90.6	84.9-123			
Bromodichloromethane	19.4	1.00	ug/L	20.00		97.2	81.5-121			
Bromodichloromethane	19.4	5.00	ug/L	20.00		97.2	81.5-121			
Bromoform	22.0	1.00	ug/L	20.00		110	74.8-125			
Bromoform	22.0	5.00	ug/L	20.00		110	74.8-125			
Bromomethane	18.4	2.00	ug/L	20.00		92.2	60.9-164			
Bromomethane	18.4	5.00	ug/L	20.00		92.2	60.9-164			
Carbon Disulfide	17.3	5.00	ug/L	20.00		86.6	78.7-125			
Carbon Disulfide	17.3	20.0	ug/L	20.00		86.6	78.7-125			
Carbon Tetrachloride	19.0	1.00	ug/L	20.00		95.2	82.9-122			
Carbon Tetrachloride	19.0	5.00	ug/L	20.00		95.2	82.9-122			
Chlorobenzene	20.9	1.00	ug/L	20.00		104	87.7-115			
Chlorobenzene	20.9	5.00	ug/L	20.00		104	87.7-115			
Chloroethane	18.1	1.00	ug/L	20.00		90.7	79.5-133			
Chloroethane	18.1	5.00	ug/L	20.00		90.7	79.5-133			
Chloroform	18.1	1.00	ug/L	20.00		90.3	80.8-125			
Chloroform	18.1	5.00	ug/L	20.00		90.3	80.8-125			
Chloromethane	18.4	1.00	ug/L	20.00		92.2	67.2-136			
Chloromethane	18.4	5.00	ug/L	20.00		92.2	67.2-136			
cis-1,2-Dichloroethene	18.4	1.00	ug/L	20.00		92.2	79.7-126			
cis-1,2-Dichloroethene	18.4	5.00	ug/L	20.00		92.2	79.7-126			
cis-1,3-Dichloropropene	19.6	1.00	ug/L	20.00		98.0	79.4-123			
cis-1,3-Dichloropropene	19.6	5.00	ug/L	20.00		98.0	79.4-123			
Dibromochloromethane	22.0	1.00	ug/L	20.00		110	77.3-123			
Dibromochloromethane	22.0	5.00	ug/L	20.00		110	77.3-123			
Dibromomethane	19.8	1.00	ug/L	20.00		98.9	84.2-120			
Dibromomethane	19.8	5.00	ug/L	20.00		98.9	84.2-120			
Dichlorodifluoromethane	17.5	2.00	ug/L	20.00		87.5	79-132			
Dichlorodifluoromethane	17.5	5.00	ug/L	20.00		87.5	79-132			
Ethylbenzene	20.9	1.00	ug/L	20.00		104	85.2-118			
Ethylbenzene	20.9	5.00	ug/L	20.00		104	85.2-118			

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1525190 - VOC PREP										
LCS (1525190-BS1)				Prepared & Analyzed: 06/15/15						
Hexachlorobutadiene	21.2	5.00	ug/L	20.00		106	76.1-121			
Iodomethane	17.3	10.0	ug/L	20.00		86.6	45.5-132			
Iodomethane	17.3	10.0	ug/L	20.00		86.6	45.5-132			
Isopropylbenzene	20.7	5.00	ug/L	20.00		104	84.9-117			
Methylene Chloride	17.0	1.00	ug/L	20.00		85.1	73.8-131			
Methylene Chloride	17.0	5.00	ug/L	20.00		85.1	73.8-131			
Methyl tert-Butyl Ether	18.4	10.0	ug/L	20.00		91.9	75.8-123			
Methyl tert-Butyl Ether	18.4	10.0	ug/L	20.00		91.9	75.8-123			
m,p-Xylene	42.2	2.00	ug/L	40.00		106	85.7-119			
m,p-Xylene	42.2	10.0	ug/L	40.00		106	85.7-119			
Naphthalene	20.4	5.00	ug/L	20.00		102	59-132			
n-Butylbenzene	21.5	5.00	ug/L	20.00		107	70.6-128			
n-Hexane	18.2	5.00	ug/L	20.00		91.2	78.8-130			
n-Hexane	18.2	5.00	ug/L	20.00		91.2	78.8-130			
n-Propylbenzene	20.8	5.00	ug/L	20.00		104	83.1-119			
o-Xylene	21.2	1.00	ug/L	20.00		106	82.9-121			
o-Xylene	21.2	5.00	ug/L	20.00		106	82.9-121			
sec-Butylbenzene	21.0	5.00	ug/L	20.00		105	77.3-121			
Styrene	21.1	5.00	ug/L	20.00		105	82.3-120			
Styrene	21.1	1.00	ug/L	20.00		105	82.3-120			
tert_Butylbenzene	21.2	5.00	ug/L	20.00		106	69.6-130			
Tetrachloroethene	20.8	5.00	ug/L	20.00		104	84.2-119			
Tetrachloroethene	20.8	2.00	ug/L	20.00		104	84.2-119			
Toluene	18.8	1.00	ug/L	20.00		94.0	85.8-119			
Toluene	18.8	5.00	ug/L	20.00		94.0	85.8-119			
trans-1,2-Dichloroethene	17.8	1.00	ug/L	20.00		88.8	82.7-123			
trans-1,2-Dichloroethene	17.8	5.00	ug/L	20.00		88.8	82.7-123			
trans-1,3-Dichloropropene	19.8	1.00	ug/L	20.00		99.0	82.3-121			
trans-1,3-Dichloropropene	19.8	5.00	ug/L	20.00		99.0	82.3-121			
Trichloroethene	18.4	2.00	ug/L	20.00		92.2	82.2-120			
Trichloroethene	18.4	5.00	ug/L	20.00		92.2	82.2-120			
Trichlorofluoromethane	18.3	2.00	ug/L	20.00		91.3	82.6-132			
Trichlorofluoromethane	18.3	5.00	ug/L	20.00		91.3	82.6-132			
Vinyl Chloride	17.9	1.00	ug/L	20.00		89.6	81.2-132			
Vinyl Chloride	17.9	1.00	ug/L	20.00		89.6	81.2-132			
Vinyl acetate	20.7	10.0	ug/L	20.00		104	68.3-149			
Vinyl acetate	20.7	10.0	ug/L	20.00		104	68.3-149			
Surrogate: 4-Bromofluorobenzene	*47.3*		*ug/L*	*50.00*		*94.7*	*85-115*			
Surrogate: 4-Bromofluorobenzene	*47.3*		*ug/L*	*50.00*		*94.7*	*85-115*			
Surrogate: Dibromofluoromethane	*45.9*		*ug/L*	*50.00*		*91.9*	*85-115*			
Surrogate: Dibromofluoromethane	*45.9*		*ug/L*	*50.00*		*91.9*	*85-115*			
Surrogate: Toluene-d8	*46.4*		*ug/L*	*50.00*		*92.9*	*85-115*			
Surrogate: Toluene-d8	*46.4*		*ug/L*	*50.00*		*92.9*	*85-115*			
Surrogate: 1,2-Dichloroethane-d4	*46.1*		*ug/L*	*50.00*		*92.3*	*85-115*			
Surrogate: 1,2-Dichloroethane-d4	*46.1*		*ug/L*	*50.00*		*92.3*	*85-115*			

Notes and Definitions

R RPD outside of accepted recovery limits.

BDL Analyte is below detection limits

Sample preservation was met unless otherwise noted.

WATER

BFD878 PAGE 1 OF 1

NO. 1033

HULL

CHAIN OF CUSTODY RECORD

Dublin, OH ☐ 6397 Emerald Pkwy Suite 200 Dublin, OH 43016 P: (614) 793-8777

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Toledo, OH ☒ 3401 Glendale Ave. Suite 300 Toledo, OH 43614 P: (419) 385-2018

St. Clairsville, OH ☐ 148 W. Main St. 2nd Floor St. Clairsville, OH 43950 P: (800) 241-7173

Pittsburgh, PA ☐ Campbells Run Business Center 300 Business Center Dr., Suite 320 Pittsburgh, PA 15205 P: (412) 446-0315

REPORT TO: MATT BEIL

Client: City of Toledo

Site: Former Champion Property 900 Upton Ave Toledo, OH 10

Project #: COT235 Phase:

Samplers: J. CARLSON

Purchase Order #

SAMPLE MATRIX
AA-AMBIENT AIR
C-ASBESTOS
D-SEDIMENT
G-GROUNDWATER
IA-INDOOR AIR
L-LEACHATE
P-PRODUCT
S-SOIL
SG-SOIL GAS
SS-SUBSLAB VAPOR
W-WATER
X-CONCRETE

PRESERVATIVES
A-Cool only, <4 deg. C
B-HNO_3 pH<2
C-H_2SO_4 pH<2
D-NaOH pH>12
E-ZnAcetate + NaOH, pH>9
F-$Na_2S_2O_3$ (0.008%)
G-HCL pH <2
H-EDTA
I-5ml 1:1 HCL
J-none
K-Stored in dark
L-NH4Cl
M-Methanol
S-Sodium

METALS
N - Not filtered
F45u- filtered with 0.45 micron
F5u- filtered with 5 micron

ANALYSES / PRESERVATIVES

PROJECT NO. : SAMPLE LOCATION : SAMPLE MATRIX & ID	NO. OF CONT.	SAMPLE TYPE (discrete, composite)	COLLECTION DATE/TIME	METALS	VOCs 8260	PAHs 8270	RCRA Metals						COMMENTS
COT235 : HTMW-1 : G061115	4	—	6-11-15 /1230	N	X	X	X						
COT235 : HTMW-2 : G061115	4	—	6-11-15 /1625	N	X	X	X						
COT235 : HTMW-3 : G061115	4	—	6-11-15 /1510	N	X	X	X						
COT235 : HTMW-4 : G061215	4	—	6-12 /0900	N	X	X	X						Note DATE
COT235 : HTMW-5 : G061215	4	—	6-12 /0930	N	X	X	X						
COT235 : HTMW-6 : G061115	4	—	6-11-15 /1535	N	X	X	X						
COT235 : TRIP-2 : —	—	—	— / —	N	X								
COT235 : E.Blank-2 : W061215	4	—	6-12 /1010	N	X	X	X						
COT235 : HTMW-1 : G061115A	4	—	6-11-15 /1230	N	X	X	X						Dup.
: :			/										
: :			/										
: :	(36)	SGP (TBX2)	/										

RELINQUISHED BY:	DATE: 6-12-15	RECEIVED BY: FEDEX/Shipper	DATE: 6-12-15	Deliver To: PACE Analytical
	TIME: 1300		TIME: 1300	
RELINQUISHED BY:	DATE:	RECEIVED BY:	DATE:	Method of Delivery: FED EX
	TIME:		TIME:	Airbill Number: on File 8755 9711 1430
RELINQUISHED BY:	DATE:	RECEIVED BY:	DATE: 6-13-15	Regulatory Program: OHIO VAP
	TIME:		TIME: 0915	Required Limits:

COOLER TEMPERATURE AS RECEIVED: 4 °C ICE

DISTRIBUTION: WHITE -LAB USE (MUST BE RETURNED WITH REPORT); YELLOW -LAB USE; PINK -RETAINED BY HULL

NOTES: CUSTODY SEAL = YES

TURN AROUND TIME: STANDARD DAYS

Pace Analytical Services, Inc.
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4860 Blazer Parkway
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(614)486-5421

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

June 22, 2015

Jason Lykins
Pace Analytical Services, Inc.
25 Holiday Drive
Englewood, OH 45322

RE: Project: 15F0878
Pace Project No.: 50121172

Dear Jason Lykins:
Enclosed are the analytical results for sample(s) received by the laboratory on June 16, 2015. 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,

Mick Mayse

Mick Mayse
mick.mayse@pacelabs.com
Project Manager

Enclosures

cc: Ms. Alicia Barnes, Pace Englewood
Ms. Christina Schneider, Pace Englewood

REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 15F0878
Pace Project No.: 50121172

Indiana Certification IDs

7726 Moller Road, Indianapolis, IN 46268
Illinois Certification #: 200074
Indiana Certification #: C-49-06
Kansas Certification #:E-10177/ E-10247
Kentucky UST Certification #: 0042
Kentucky WW Certification #:98019
Louisiana/NELAP Certification #: 04076
Ohio VAP Certification #: CL-0065
Oklahoma Certification #: 2014-148
Pennsylvania Certification #: 68-05340
Texas Certification #: T104704355-15-8
West Virginia Certification #: 330
Wisconsin Certification #: 999788130
USDA Soil Permit #: P330-10-00128

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 15F0878
Pace Project No.: 50121172

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50121172001	**15F0878-01**	Water	06/11/15 12:30	06/16/15 09:10
50121172002	**15F0878-02**	Water	06/11/15 16:25	06/16/15 09:10
50121172003	**15F0878-03**	Water	06/11/15 15:10	06/16/15 09:10
50121172004	**15F0878-04**	Water	06/12/15 09:00	06/16/15 09:10
50121172005	**15F0878-05**	Water	06/12/15 09:30	06/16/15 09:10
50121172006	**15F0878-06**	Water	06/11/15 15:35	06/16/15 09:10
50121172007	**15F0878-07**	Water	06/11/15 12:30	06/16/15 09:10
50121172008	**15F0878-08**	Water	06/12/15 10:10	06/16/15 09:10

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SAMPLE ANALYTE COUNT

Project: 15F0878
Pace Project No.: 50121172

Lab ID	Sample ID	Method	Analysts	Analytes Reported
50121172001	**15F0878-01**	EPA 8270 by SIM LVE	TBP	19
50121172002	**15F0878-02**	EPA 8270 by SIM LVE	TBP	19
50121172003	**15F0878-03**	EPA 8270 by SIM LVE	TBP	19
50121172004	**15F0878-04**	EPA 8270 by SIM LVE	TBP	19
50121172005	**15F0878-05**	EPA 8270 by SIM LVE	TBP	19
50121172006	**15F0878-06**	EPA 8270 by SIM LVE	TBP	19
50121172007	**15F0878-07**	EPA 8270 by SIM LVE	TBP	19
50121172008	**15F0878-08**	EPA 8270 by SIM LVE	TBP	19

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: 15F0878
Pace Project No.: 50121172

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50121172005	**15F0878-05**					
EPA 8270 by SIM LVE	2-Methylnaphthalene	3.0	ug/L	1.0	06/19/15 23:25	
EPA 8270 by SIM LVE	Naphthalene	1.2	ug/L	1.0	06/19/15 23:25	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 15F0878
Pace Project No.: 50121172

Sample: 15F0878-01 **Lab ID: 50121172001** Collected: 06/11/15 12:30 Received: 06/16/15 09:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAHLV	Analytical Method: EPA 8270 by SIM LVE Preparation Method: EPA 3510							
Acenaphthene	ND	ug/L	1.0	1	06/17/15 13:01	06/18/15 12:58	83-32-9	
Acenaphthylene	ND	ug/L	1.0	1	06/17/15 13:01	06/18/15 12:58	208-96-8	
Anthracene	ND	ug/L	0.10	1	06/17/15 13:01	06/18/15 12:58	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.10	1	06/17/15 13:01	06/18/15 12:58	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.10	1	06/17/15 13:01	06/18/15 12:58	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.10	1	06/17/15 13:01	06/18/15 12:58	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.10	1	06/17/15 13:01	06/18/15 12:58	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.10	1	06/17/15 13:01	06/18/15 12:58	207-08-9	
Chrysene	ND	ug/L	0.50	1	06/17/15 13:01	06/18/15 12:58	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.10	1	06/17/15 13:01	06/18/15 12:58	53-70-3	
Fluoranthene	ND	ug/L	1.0	1	06/17/15 13:01	06/18/15 12:58	206-44-0	
Fluorene	ND	ug/L	1.0	1	06/17/15 13:01	06/18/15 12:58	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.10	1	06/17/15 13:01	06/18/15 12:58	193-39-5	
2-Methylnaphthalene	ND	ug/L	1.0	1	06/17/15 13:01	06/18/15 12:58	91-57-6	
Naphthalene	ND	ug/L	1.0	1	06/17/15 13:01	06/18/15 12:58	91-20-3	
Phenanthrene	ND	ug/L	1.0	1	06/17/15 13:01	06/18/15 12:58	85-01-8	
Pyrene	ND	ug/L	1.0	1	06/17/15 13:01	06/18/15 12:58	129-00-0	
Surrogates								
2-Fluorobiphenyl (S)	43	%.	21-114	1	06/17/15 13:01	06/18/15 12:58	321-60-8	
p-Terphenyl-d14 (S)	48	%.	25-131	1	06/17/15 13:01	06/18/15 12:58	1718-51-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 15F0878
Pace Project No.: 50121172

Sample: 15F0878-02 **Lab ID: 50121172002** Collected: 06/11/15 16:25 Received: 06/16/15 09:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAHLV	Analytical Method: EPA 8270 by SIM LVE Preparation Method: EPA 3510							
Acenaphthene	ND	ug/L	1.0	1	06/17/15 13:01	06/18/15 13:11	83-32-9	
Acenaphthylene	ND	ug/L	1.0	1	06/17/15 13:01	06/18/15 13:11	208-96-8	
Anthracene	ND	ug/L	0.10	1	06/17/15 13:01	06/18/15 13:11	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.10	1	06/17/15 13:01	06/18/15 13:11	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.10	1	06/17/15 13:01	06/18/15 13:11	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.10	1	06/17/15 13:01	06/18/15 13:11	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.10	1	06/17/15 13:01	06/18/15 13:11	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.10	1	06/17/15 13:01	06/18/15 13:11	207-08-9	
Chrysene	ND	ug/L	0.50	1	06/17/15 13:01	06/18/15 13:11	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.10	1	06/17/15 13:01	06/18/15 13:11	53-70-3	
Fluoranthene	ND	ug/L	1.0	1	06/17/15 13:01	06/18/15 13:11	206-44-0	
Fluorene	ND	ug/L	1.0	1	06/17/15 13:01	06/18/15 13:11	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.10	1	06/17/15 13:01	06/18/15 13:11	193-39-5	
2-Methylnaphthalene	ND	ug/L	1.0	1	06/17/15 13:01	06/18/15 13:11	91-57-6	
Naphthalene	ND	ug/L	1.0	1	06/17/15 13:01	06/18/15 13:11	91-20-3	
Phenanthrene	ND	ug/L	1.0	1	06/17/15 13:01	06/18/15 13:11	85-01-8	
Pyrene	ND	ug/L	1.0	1	06/17/15 13:01	06/18/15 13:11	129-00-0	
Surrogates								
2-Fluorobiphenyl (S)	66	%.	21-114	1	06/17/15 13:01	06/18/15 13:11	321-60-8	
p-Terphenyl-d14 (S)	76	%.	25-131	1	06/17/15 13:01	06/18/15 13:11	1718-51-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 15F0878
Pace Project No.: 50121172

Sample: 15F0878-03 **Lab ID: 50121172003** Collected: 06/11/15 15:10 Received: 06/16/15 09:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAHLV	Analytical Method: EPA 8270 by SIM LVE Preparation Method: EPA 3510							
Acenaphthene	ND	ug/L	1.0	1	06/17/15 13:01	06/18/15 13:25	83-32-9	
Acenaphthylene	ND	ug/L	1.0	1	06/17/15 13:01	06/18/15 13:25	208-96-8	
Anthracene	ND	ug/L	0.10	1	06/17/15 13:01	06/18/15 13:25	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.10	1	06/17/15 13:01	06/18/15 13:25	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.10	1	06/17/15 13:01	06/18/15 13:25	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.10	1	06/17/15 13:01	06/18/15 13:25	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.10	1	06/17/15 13:01	06/18/15 13:25	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.10	1	06/17/15 13:01	06/18/15 13:25	207-08-9	
Chrysene	ND	ug/L	0.50	1	06/17/15 13:01	06/18/15 13:25	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.10	1	06/17/15 13:01	06/18/15 13:25	53-70-3	
Fluoranthene	ND	ug/L	1.0	1	06/17/15 13:01	06/18/15 13:25	206-44-0	
Fluorene	ND	ug/L	1.0	1	06/17/15 13:01	06/18/15 13:25	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.10	1	06/17/15 13:01	06/18/15 13:25	193-39-5	
2-Methylnaphthalene	ND	ug/L	1.0	1	06/17/15 13:01	06/18/15 13:25	91-57-6	
Naphthalene	ND	ug/L	1.0	1	06/17/15 13:01	06/18/15 13:25	91-20-3	
Phenanthrene	ND	ug/L	1.0	1	06/17/15 13:01	06/18/15 13:25	85-01-8	
Pyrene	ND	ug/L	1.0	1	06/17/15 13:01	06/18/15 13:25	129-00-0	
Surrogates								
2-Fluorobiphenyl (S)	62	%.	21-114	1	06/17/15 13:01	06/18/15 13:25	321-60-8	
p-Terphenyl-d14 (S)	70	%.	25-131	1	06/17/15 13:01	06/18/15 13:25	1718-51-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 15F0878
Pace Project No.: 50121172

Sample: 15F0878-04 **Lab ID: 50121172004** Collected: 06/12/15 09:00 Received: 06/16/15 09:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAHLV	Analytical Method: EPA 8270 by SIM LVE Preparation Method: EPA 3510							
Acenaphthene	ND	ug/L	1.0	1	06/19/15 09:14	06/19/15 23:12	83-32-9	
Acenaphthylene	ND	ug/L	1.0	1	06/19/15 09:14	06/19/15 23:12	208-96-8	
Anthracene	ND	ug/L	0.10	1	06/19/15 09:14	06/19/15 23:12	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.10	1	06/19/15 09:14	06/19/15 23:12	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.10	1	06/19/15 09:14	06/19/15 23:12	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.10	1	06/19/15 09:14	06/19/15 23:12	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.10	1	06/19/15 09:14	06/19/15 23:12	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.10	1	06/19/15 09:14	06/19/15 23:12	207-08-9	
Chrysene	ND	ug/L	0.50	1	06/19/15 09:14	06/19/15 23:12	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.10	1	06/19/15 09:14	06/19/15 23:12	53-70-3	
Fluoranthene	ND	ug/L	1.0	1	06/19/15 09:14	06/19/15 23:12	206-44-0	
Fluorene	ND	ug/L	1.0	1	06/19/15 09:14	06/19/15 23:12	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.10	1	06/19/15 09:14	06/19/15 23:12	193-39-5	
2-Methylnaphthalene	ND	ug/L	1.0	1	06/19/15 09:14	06/19/15 23:12	91-57-6	
Naphthalene	ND	ug/L	1.0	1	06/19/15 09:14	06/19/15 23:12	91-20-3	
Phenanthrene	ND	ug/L	1.0	1	06/19/15 09:14	06/19/15 23:12	85-01-8	
Pyrene	ND	ug/L	1.0	1	06/19/15 09:14	06/19/15 23:12	129-00-0	
Surrogates								
2-Fluorobiphenyl (S)	60	%.	21-114	1	06/19/15 09:14	06/19/15 23:12	321-60-8	
p-Terphenyl-d14 (S)	60	%.	25-131	1	06/19/15 09:14	06/19/15 23:12	1718-51-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 15F0878
Pace Project No.: 50121172

Sample: 15F0878-05 **Lab ID: 50121172005** Collected: 06/12/15 09:30 Received: 06/16/15 09:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAHLV	Analytical Method: EPA 8270 by SIM LVE Preparation Method: EPA 3510							
Acenaphthene	ND	ug/L	1.0	1	06/19/15 09:14	06/19/15 23:25	83-32-9	
Acenaphthylene	ND	ug/L	1.0	1	06/19/15 09:14	06/19/15 23:25	208-96-8	
Anthracene	ND	ug/L	0.10	1	06/19/15 09:14	06/19/15 23:25	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.10	1	06/19/15 09:14	06/19/15 23:25	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.10	1	06/19/15 09:14	06/19/15 23:25	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.10	1	06/19/15 09:14	06/19/15 23:25	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.10	1	06/19/15 09:14	06/19/15 23:25	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.10	1	06/19/15 09:14	06/19/15 23:25	207-08-9	
Chrysene	ND	ug/L	0.50	1	06/19/15 09:14	06/19/15 23:25	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.10	1	06/19/15 09:14	06/19/15 23:25	53-70-3	
Fluoranthene	ND	ug/L	1.0	1	06/19/15 09:14	06/19/15 23:25	206-44-0	
Fluorene	ND	ug/L	1.0	1	06/19/15 09:14	06/19/15 23:25	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.10	1	06/19/15 09:14	06/19/15 23:25	193-39-5	
2-Methylnaphthalene	**3.0**	ug/L	1.0	1	06/19/15 09:14	06/19/15 23:25	91-57-6	
Naphthalene	**1.2**	ug/L	1.0	1	06/19/15 09:14	06/19/15 23:25	91-20-3	
Phenanthrene	ND	ug/L	1.0	1	06/19/15 09:14	06/19/15 23:25	85-01-8	
Pyrene	ND	ug/L	1.0	1	06/19/15 09:14	06/19/15 23:25	129-00-0	
Surrogates								
2-Fluorobiphenyl (S)	59	%.	21-114	1	06/19/15 09:14	06/19/15 23:25	321-60-8	
p-Terphenyl-d14 (S)	65	%.	25-131	1	06/19/15 09:14	06/19/15 23:25	1718-51-0	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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ANALYTICAL RESULTS

Project: 15F0878
Pace Project No.: 50121172

Sample: 15F0878-06 **Lab ID: 50121172006** Collected: 06/11/15 15:35 Received: 06/16/15 09:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAHLV	Analytical Method: EPA 8270 by SIM LVE Preparation Method: EPA 3510							
Acenaphthene	ND	ug/L	1.0	1	06/17/15 13:01	06/18/15 13:38	83-32-9	
Acenaphthylene	ND	ug/L	1.0	1	06/17/15 13:01	06/18/15 13:38	208-96-8	
Anthracene	ND	ug/L	0.10	1	06/17/15 13:01	06/18/15 13:38	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.10	1	06/17/15 13:01	06/18/15 13:38	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.10	1	06/17/15 13:01	06/18/15 13:38	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.10	1	06/17/15 13:01	06/18/15 13:38	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.10	1	06/17/15 13:01	06/18/15 13:38	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.10	1	06/17/15 13:01	06/18/15 13:38	207-08-9	
Chrysene	ND	ug/L	0.50	1	06/17/15 13:01	06/18/15 13:38	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.10	1	06/17/15 13:01	06/18/15 13:38	53-70-3	
Fluoranthene	ND	ug/L	1.0	1	06/17/15 13:01	06/18/15 13:38	206-44-0	
Fluorene	ND	ug/L	1.0	1	06/17/15 13:01	06/18/15 13:38	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.10	1	06/17/15 13:01	06/18/15 13:38	193-39-5	
2-Methylnaphthalene	ND	ug/L	1.0	1	06/17/15 13:01	06/18/15 13:38	91-57-6	
Naphthalene	ND	ug/L	1.0	1	06/17/15 13:01	06/18/15 13:38	91-20-3	
Phenanthrene	ND	ug/L	1.0	1	06/17/15 13:01	06/18/15 13:38	85-01-8	
Pyrene	ND	ug/L	1.0	1	06/17/15 13:01	06/18/15 13:38	129-00-0	
Surrogates								
2-Fluorobiphenyl (S)	68	%.	21-114	1	06/17/15 13:01	06/18/15 13:38	321-60-8	
p-Terphenyl-d14 (S)	70	%.	25-131	1	06/17/15 13:01	06/18/15 13:38	1718-51-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 15F0878
Pace Project No.: 50121172

Sample: 15F0878-07 **Lab ID: 50121172007** Collected: 06/11/15 12:30 Received: 06/16/15 09:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAHLV	Analytical Method: EPA 8270 by SIM LVE Preparation Method: EPA 3510							
Acenaphthene	ND	ug/L	1.0	1	06/17/15 13:01	06/18/15 13:51	83-32-9	
Acenaphthylene	ND	ug/L	1.0	1	06/17/15 13:01	06/18/15 13:51	208-96-8	
Anthracene	ND	ug/L	0.10	1	06/17/15 13:01	06/18/15 13:51	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.10	1	06/17/15 13:01	06/18/15 13:51	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.10	1	06/17/15 13:01	06/18/15 13:51	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.10	1	06/17/15 13:01	06/18/15 13:51	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.10	1	06/17/15 13:01	06/18/15 13:51	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.10	1	06/17/15 13:01	06/18/15 13:51	207-08-9	
Chrysene	ND	ug/L	0.50	1	06/17/15 13:01	06/18/15 13:51	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.10	1	06/17/15 13:01	06/18/15 13:51	53-70-3	
Fluoranthene	ND	ug/L	1.0	1	06/17/15 13:01	06/18/15 13:51	206-44-0	
Fluorene	ND	ug/L	1.0	1	06/17/15 13:01	06/18/15 13:51	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.10	1	06/17/15 13:01	06/18/15 13:51	193-39-5	
2-Methylnaphthalene	ND	ug/L	1.0	1	06/17/15 13:01	06/18/15 13:51	91-57-6	
Naphthalene	ND	ug/L	1.0	1	06/17/15 13:01	06/18/15 13:51	91-20-3	
Phenanthrene	ND	ug/L	1.0	1	06/17/15 13:01	06/18/15 13:51	85-01-8	
Pyrene	ND	ug/L	1.0	1	06/17/15 13:01	06/18/15 13:51	129-00-0	
Surrogates								
2-Fluorobiphenyl (S)	54	%.	21-114	1	06/17/15 13:01	06/18/15 13:51	321-60-8	
p-Terphenyl-d14 (S)	59	%.	25-131	1	06/17/15 13:01	06/18/15 13:51	1718-51-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 15F0878
Pace Project No.: 50121172

Sample: 15F0878-08 **Lab ID: 50121172008** Collected: 06/12/15 10:10 Received: 06/16/15 09:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAHLV	Analytical Method: EPA 8270 by SIM LVE Preparation Method: EPA 3510							
Acenaphthene	ND	ug/L	1.0	1	06/19/15 09:14	06/19/15 23:39	83-32-9	
Acenaphthylene	ND	ug/L	1.0	1	06/19/15 09:14	06/19/15 23:39	208-96-8	
Anthracene	ND	ug/L	0.10	1	06/19/15 09:14	06/19/15 23:39	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.10	1	06/19/15 09:14	06/19/15 23:39	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.10	1	06/19/15 09:14	06/19/15 23:39	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.10	1	06/19/15 09:14	06/19/15 23:39	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.10	1	06/19/15 09:14	06/19/15 23:39	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.10	1	06/19/15 09:14	06/19/15 23:39	207-08-9	
Chrysene	ND	ug/L	0.50	1	06/19/15 09:14	06/19/15 23:39	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.10	1	06/19/15 09:14	06/19/15 23:39	53-70-3	
Fluoranthene	ND	ug/L	1.0	1	06/19/15 09:14	06/19/15 23:39	206-44-0	
Fluorene	ND	ug/L	1.0	1	06/19/15 09:14	06/19/15 23:39	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.10	1	06/19/15 09:14	06/19/15 23:39	193-39-5	
2-Methylnaphthalene	ND	ug/L	1.0	1	06/19/15 09:14	06/19/15 23:39	91-57-6	
Naphthalene	ND	ug/L	1.0	1	06/19/15 09:14	06/19/15 23:39	91-20-3	
Phenanthrene	ND	ug/L	1.0	1	06/19/15 09:14	06/19/15 23:39	85-01-8	
Pyrene	ND	ug/L	1.0	1	06/19/15 09:14	06/19/15 23:39	129-00-0	
Surrogates								
2-Fluorobiphenyl (S)	73	%.	21-114	1	06/19/15 09:14	06/19/15 23:39	321-60-8	
p-Terphenyl-d14 (S)	85	%.	25-131	1	06/19/15 09:14	06/19/15 23:39	1718-51-0	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 15F0878
Pace Project No.: 50121172

QC Batch: OEXT/39717 Analysis Method: EPA 8270 by SIM LVE
QC Batch Method: EPA 3510 Analysis Description: 8270 Water PAH LV by SIM MSSV
Associated Lab Samples: 50121172001, 50121172002, 50121172003, 50121172006, 50121172007

METHOD BLANK: 1319532 Matrix: Water
Associated Lab Samples: 50121172001, 50121172002, 50121172003, 50121172006, 50121172007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
2-Methylnaphthalene	ug/L	ND	1.0	06/18/15 12:05	
Acenaphthene	ug/L	ND	1.0	06/18/15 12:05	
Acenaphthylene	ug/L	ND	1.0	06/18/15 12:05	
Anthracene	ug/L	ND	0.10	06/18/15 12:05	
Benzo(a)anthracene	ug/L	ND	0.10	06/18/15 12:05	
Benzo(a)pyrene	ug/L	ND	0.10	06/18/15 12:05	
Benzo(b)fluoranthene	ug/L	ND	0.10	06/18/15 12:05	
Benzo(g,h,i)perylene	ug/L	ND	0.10	06/18/15 12:05	
Benzo(k)fluoranthene	ug/L	ND	0.10	06/18/15 12:05	
Chrysene	ug/L	ND	0.50	06/18/15 12:05	
Dibenz(a,h)anthracene	ug/L	ND	0.10	06/18/15 12:05	
Fluoranthene	ug/L	ND	1.0	06/18/15 12:05	
Fluorene	ug/L	ND	1.0	06/18/15 12:05	
Indeno(1,2,3-cd)pyrene	ug/L	ND	0.10	06/18/15 12:05	
Naphthalene	ug/L	ND	1.0	06/18/15 12:05	
Phenanthrene	ug/L	ND	1.0	06/18/15 12:05	
Pyrene	ug/L	ND	1.0	06/18/15 12:05	
2-Fluorobiphenyl (S)	%.	50	21-114	06/18/15 12:05	
p-Terphenyl-d14 (S)	%.	71	25-131	06/18/15 12:05	

LABORATORY CONTROL SAMPLE: 1319533

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2-Methylnaphthalene	ug/L	10	7.5	75	29-110	
Acenaphthene	ug/L	10	8.5	85	39-117	
Acenaphthylene	ug/L	10	8.5	85	40-120	
Anthracene	ug/L	10	8.7	87	48-126	
Benzo(a)anthracene	ug/L	10	10.8	108	51-134	
Benzo(a)pyrene	ug/L	10	11.0	110	48-141	
Benzo(b)fluoranthene	ug/L	10	11.2	112	49-139	
Benzo(g,h,i)perylene	ug/L	10	10.1	101	44-134	
Benzo(k)fluoranthene	ug/L	10	11.3	113	48-140	
Chrysene	ug/L	10	10.8	108	53-136	
Dibenz(a,h)anthracene	ug/L	10	10.1	101	44-132	
Fluoranthene	ug/L	10	11.1	111	50-135	
Fluorene	ug/L	10	9.1	91	44-124	
Indeno(1,2,3-cd)pyrene	ug/L	10	10.1	101	45-132	
Naphthalene	ug/L	10	7.6	76	30-112	
Phenanthrene	ug/L	10	10.4	104	47-128	
Pyrene	ug/L	10	10.9	109	50-134	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALITY CONTROL DATA

Project: 15F0878
Pace Project No.: 50121172

LABORATORY CONTROL SAMPLE: 1319533

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2-Fluorobiphenyl (S)	%.			65	21-114	
p-Terphenyl-d14 (S)	%.			83	25-131	

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QUALITY CONTROL DATA

Project: 15F0878
Pace Project No.: 50121172

QC Batch: OEXT/39744 Analysis Method: EPA 8270 by SIM LVE
QC Batch Method: EPA 3510 Analysis Description: 8270 Water PAH LV by SIM MSSV
Associated Lab Samples: 50121172004, 50121172005, 50121172008

METHOD BLANK: 1321311 Matrix: Water
Associated Lab Samples: 50121172004, 50121172005, 50121172008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
2-Methylnaphthalene	ug/L	ND	1.0	06/19/15 20:33	
Acenaphthene	ug/L	ND	1.0	06/19/15 20:33	
Acenaphthylene	ug/L	ND	1.0	06/19/15 20:33	
Anthracene	ug/L	ND	0.10	06/19/15 20:33	
Benzo(a)anthracene	ug/L	ND	0.10	06/19/15 20:33	
Benzo(a)pyrene	ug/L	ND	0.10	06/19/15 20:33	
Benzo(b)fluoranthene	ug/L	ND	0.10	06/19/15 20:33	
Benzo(g,h,i)perylene	ug/L	ND	0.10	06/19/15 20:33	
Benzo(k)fluoranthene	ug/L	ND	0.10	06/19/15 20:33	
Chrysene	ug/L	ND	0.50	06/19/15 20:33	
Dibenz(a,h)anthracene	ug/L	ND	0.10	06/19/15 20:33	
Fluoranthene	ug/L	ND	1.0	06/19/15 20:33	
Fluorene	ug/L	ND	1.0	06/19/15 20:33	
Indeno(1,2,3-cd)pyrene	ug/L	ND	0.10	06/19/15 20:33	
Naphthalene	ug/L	ND	1.0	06/19/15 20:33	
Phenanthrene	ug/L	ND	1.0	06/19/15 20:33	
Pyrene	ug/L	ND	1.0	06/19/15 20:33	
2-Fluorobiphenyl (S)	%.	60	21-114	06/19/15 20:33	
p-Terphenyl-d14 (S)	%.	88	25-131	06/19/15 20:33	

LABORATORY CONTROL SAMPLE: 1321312

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2-Methylnaphthalene	ug/L	10	5.8	58	29-110	
Acenaphthene	ug/L	10	6.9	69	39-117	
Acenaphthylene	ug/L	10	7.1	71	40-120	
Anthracene	ug/L	10	7.6	76	48-126	
Benzo(a)anthracene	ug/L	10	8.7	87	51-134	
Benzo(a)pyrene	ug/L	10	8.8	88	48-141	
Benzo(b)fluoranthene	ug/L	10	8.4	84	49-139	
Benzo(g,h,i)perylene	ug/L	10	7.7	77	44-134	
Benzo(k)fluoranthene	ug/L	10	9.6	96	48-140	
Chrysene	ug/L	10	8.4	84	53-136	
Dibenz(a,h)anthracene	ug/L	10	7.9	79	44-132	
Fluoranthene	ug/L	10	8.4	84	50-135	
Fluorene	ug/L	10	7.2	72	44-124	
Indeno(1,2,3-cd)pyrene	ug/L	10	8.0	80	45-132	
Naphthalene	ug/L	10	6.0	60	30-112	
Phenanthrene	ug/L	10	8.0	80	47-128	
Pyrene	ug/L	10	8.5	85	50-134	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALITY CONTROL DATA

Project: 15F0878
Pace Project No.: 50121172

LABORATORY CONTROL SAMPLE: 1321312

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2-Fluorobiphenyl (S)	%.			62	21-114	
p-Terphenyl-d14 (S)	%.			81	25-131	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALIFIERS

Project: 15F0878
Pace Project No.: 50121172

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

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.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

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.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 15F0878
Pace Project No.: 50121172

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50121172001	**15F0878-01**	EPA 3510	OEXT/39717	EPA 8270 by SIM LVE	MSSV/18255
50121172002	**15F0878-02**	EPA 3510	OEXT/39717	EPA 8270 by SIM LVE	MSSV/18255
50121172003	**15F0878-03**	EPA 3510	OEXT/39717	EPA 8270 by SIM LVE	MSSV/18255
50121172004	**15F0878-04**	EPA 3510	OEXT/39744	EPA 8270 by SIM LVE	MSSV/18269
50121172005	**15F0878-05**	EPA 3510	OEXT/39744	EPA 8270 by SIM LVE	MSSV/18269
50121172006	**15F0878-06**	EPA 3510	OEXT/39717	EPA 8270 by SIM LVE	MSSV/18255
50121172007	**15F0878-07**	EPA 3510	OEXT/39717	EPA 8270 by SIM LVE	MSSV/18255
50121172008	**15F0878-08**	EPA 3510	OEXT/39744	EPA 8270 by SIM LVE	MSSV/18269

SUBCONTRACT ORDER

Pace Analytical Services

15F0878

LT#19744 50121172 1687

SENDING LABORATORY:

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25 Holiday Drive
Englewood, OH 45322
Phone: 937.832.8242
Fax: 937.832.2868
Project Manager: Jason Lykins

RECEIVING LABORATORY:

Pace Analytical Services, Inc. Indianapolis Office
7726 Moller Road
Indianapolis, IN 46268
Phone :(317) 875-5894
Fax: -

6.15.15 gmw

Analysis	Due	Expires	Laboratory ID	Comments
Sample ID: 15F0878-01	**Groundw**	**Sampled:06/11/15 12:30**	-001	**VAP**
PAH_FULL_8270	06/29/15 16:00	06/18/15 12:30		
Containers Supplied:				
Sample ID: 15F0878-02	**Groundw**	**Sampled:06/11/15 16:25**	002	**VAP**
PAH_FULL_8270	06/29/15 16:00	06/18/15 16:25		
Containers Supplied:				
Sample ID: 15F0878-03	**Groundw**	**Sampled:06/11/15 15:10**	003	**VAP**
PAH_FULL_8270	06/29/15 16:00	06/18/15 15:10		
Containers Supplied:				
Sample ID: 15F0878-04	**Groundw**	**Sampled:06/12/15 09:00**	004	**VAP**
PAH_FULL_8270	06/29/15 16:00	06/19/15 09:00		
Containers Supplied:				
Sample ID: 15F0878-05	**Groundw**	**Sampled:06/12/15 09:30**	005	**VAP**
PAH_FULL_8270	06/29/15 16:00	06/19/15 09:30		
Containers Supplied:				
Sample ID: 15F0878-06	**Groundw**	**Sampled:06/11/15 15:35**	006	**VAP**
PAH_FULL_8270	06/29/15 16:00	06/18/15 15:35		
Containers Supplied:				

Released By	Date	Received By	Date
Fedex		Fedex	
Fedex	6/16/15	Robin Nelle PACE	6/16/15 0910
Released By	Date	Received By	Date

Temp 3.4 °C

SUBCONTRACT ORDER

Pace Analytical Services

15F0878

Analysis	Due	Expires	Laboratory ID	Comments
Sample ID: 15F0878-07	**Groundw**	**Sampled:06/11/15 12:30**	007	**VAP**
PAH_FULL_8270	06/29/15 16:00	06/18/15 12:30		
Containers Supplied:				
Sample ID: 15F0878-08	**Groundw**	**Sampled:06/12/15 10:10**	008	**VAP**
PAH_FULL_8270	06/29/15 16:00	06/19/15 10:10		
Containers Supplied:				

Released By	Date	Received By	Date
fedex		fedex	
fedex	6/16/15	[illegible] PACE	6/16/15 0510
Released By	Date	Received By	Date

Temp. 3.

Sample Condition Upon Receipt

Pace Analytical

Client Name: Pace OH   Project # 50121172

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other

Tracking #: 024129248598

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 Ice

Thermometer 123456 ABCDEF (3 circled)   Type of Ice: (Wet) Blue None   ☐ Samples on ice, cooling process has begun

Cooler Temperature 3.4°   Ice Visible in Sample Containers: ☐ yes ☒ no

(Corrected, if applicable)

Temp should be above freezing to 6°C

Date and initials of person examining contents: 6/16/15 [initials]

		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.
Containers Intact:	☒Yes ☐No ☐N/A	7.
Sample Labels match COC: -Includes date/time/ID/Analysis	☒Yes ☐No ☐N/A	8.
All containers needing acid/base pres. have been checked? exceptions: VOA, coliform, TOC, O&G All containers needing preservation are found to be in compliance with EPA recommendation (<2, >9, >12) unless otherwise noted.	☐Yes ☐No ☒N/A	9. (Circle) HNO3 H2SO4 NaOH HCl
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	
Project Manager Review:		[initials]
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: Jason L. (Historically)   Date/Time: 6/9/15

Comments/ Resolution: See 50120683

Full PAH list needed not full list SVOC

Project Manager Review: [signature]   **Date:** 6/16/15

Form F-IN-Q-290-rev.06, 05Aug2014

Sample Container Count

CLIENT: PACE OH

COC PAGE ___ of ___

COC ID# _____

Project # 50112172

Sample Line Item	DG9H	AG1U	WGFU	AG0U	R	4 / 6	BP2N	BP2U	BP2S	BP3N	BP3U	BP3S	AG3S	AG1H	BP3C	~~BP1U~~ AG3U	SP5T	_____	pH <2	pH>12	Comments
1																					
2																					
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					

Container Codes

DG9H	40mL HCL amber voa vial	AG0U	100mL unpreserved amber glass	BP1N	1 liter HNO3 plastic	DG9P	40mL TSP amber vial
AG1U	1liter unpreserved amber glass	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 glass	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	SP5T	120mL Coliform Na Thiosulfate
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 glass	BP2Z	500mL NaOH, Zn Ac	U	Summa Can
BP3N	250mL HNO3 plastic	AG3U	250mL unpreserved amber glass	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 glass	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

F-IN-Q-270-rev.05,02Apr2014

Sample Receipt Summary

15F0878

Client:	Hull & Associates - Toledo Office	Project Manager:	Jason Lykins
Project:	COT235 Champion Spark Plug	Project Number:	COT235 Champion Spark Plug

Report To:
Matt Beil
3401 Glendale Avenue
Toledo OH 43614
Phone: (419) 385-2018
Fax: (419) 385-5487

WO Due Date:	6/29/2015 5:00:00PM
TAT (Days):	10
Received By:	Scott Pander
Received:	6/13/2015 9:15:00AM
Logged In By:	Peggy Whitaker
Logged In:	6/15/2015 11:11:00AM

Receipt Temp (C):	**4.0**
Custody Seals	True
Container Intact	True
COC/Labels agree	True
Received on ice	True
VOC vials had zero head space	True
Approved Container	True
Sufficient volume received	True
Received within HT	True
Shipped By:	**Fed Ex**
Number of Containers	**4**

Samples Received:

Laboratory ID:	Field ID:	Date/Time Sampled:	Matrix:
15F0878-01	COT235:HTMW-1:G061115	6/11/2015 12:30:00PM	Groundwater
15F0878-02	COT235:HTMW-2:G061115	6/11/2015 4:25:00PM	Groundwater
15F0878-03	COT235:HTMW-3:G061115	6/11/2015 3:10:00PM	Groundwater
15F0878-04	COT235:HTMW-4:G061215	6/12/2015 9:00:00AM	Groundwater
15F0878-05	COT235:HTMW-5:G061215	6/12/2015 9:30:00AM	Groundwater
15F0878-06	COT235:HTMW-6:G061215	6/11/2015 3:35:00PM	Groundwater
15F0878-07	COT235:HTMW-1:G061115A	6/11/2015 12:30:00PM	Groundwater
15F0878-08	COT235:E. Blank 2:W061215	6/12/2015 10:10:00AM	Groundwater
15F0878-09	COT235:TRIP -2: -	6/11/2015 12:30:00PM	Water

Sample Notes:

APPENDIX E

Field Data Sheets

HULL

AIR / SOIL VAPOR SAMPLING LOG

Sheet 1 of 1

Facility Name: Former Champion Property
Address: 900 Upton Ave
Toledo, OHIO
Hull Personnel: J. CARLSON
Job No.: COT 235

Sampling Date: 6-24-2015
Weather: Sunny
Indoor Temperature: -
Outdoor Temperature: 75°
Monitoring Equipment Used: PID M.nr. Rae 11.7
Calibration Date / Time: 6-24-2015 0840

AIR SAMPLING LOCATION	HSG-1		HSG-2											
Sampling Container Type	Summa		Summa											
Summa Canister Ser No./Tag No.	0273		1183											
Purge Time Start / Stop	0848	850	853	855										
Flow Controller No.	FC0144		FC1099											
Sample Type (Grab, Composite)	Composite		Composite											
Pre-Sample PID Measurement	0.0		0.0											
Sample Start Time	0850		0855											
Canister Vapor Pressure Readings (Time, Vapor Pressure Hg)	Time	Hg	Time	Hg	Time	Hg	Time	Hg	Time	Hg	Time	Hg	Time	Hg
	1110	24	1110	24										
	1520	8	1520	10										
	1555	6	1558	5										
Sample End Time	1555		1558											
Post-Sample PID Measurement	0		0											
Depth of Probe (ft. bgs)	4.5'		4.5'											
Surface Condition (asphalt, concrete, etc.)	gravel		gravel											
Sample ID	COT235:HSG-1:A062415		COT235:HSG-2:A062415											

NOTES 062415

Was ther precipitation in the previous 48-hours prior to sampling? ☒ Yes ☐ No If, YES, what is the amount of precipitation 0.20.

HULL

GROUNDWATER SAMPLING FIELD DATA SHEET

Sheet 1 of 1

Facility: Former Champion Spark Plug Property
Address: 900 Upton Ave, Toledo, Ohio
Job No: COT235
Hull Personnel: J. CARLSON

Well ID: HTMW-1
Date: 6-11-15
Weather: Ptly Cloudy
Temp/Wind: 70-80
Barometric P:

MONITORING WELL DATA

Well Type: PVC-Temp
Well Condition: good
Purge / Sample Method: Fair. Pump
Type & Depth of Pump: —
Water Quality Monitoring Equip Used: KORIER

Depth of Water (ft°): 5.90 (1.0)
Total Depth (ft°): 17.0
Height of Water (ft): 11.10
Well Screen Interval (ft°): 10'

WELL VOLUME CALCULATION:

Gallons/Foot of Depth[c]		Feet of Standing Water		1 Well Volume (gallons)
0.041	X	11.10	=	0.45

PURGING DATA

Time:	Pumping Rate (ml/min)	Cumulative Volume (l)	Depth to water (ft)[a] (0.3 max)[b]	Temp. (°C) (0.5)	pH (S.U.) (0.2)	Specific Cond. (uS/cm) (3%)	ORP (Mv or ml/g)) (20)	Turbidity (NTU) (10%)	DO (mg/l) (10%)	Comments
1208	100	750 mL	5.90	18.4	9.3	2.02	-135	0	1.44	
1217	300 mg/gal	4,000	—	15.5	8.7	1.90	-229	294	0.57	
1222	300	5,000	6.00	15.4	8.7	1.90	-228	302	0.50	
1227	300	6,000 25gal	6.00	15.4	8.7	1.89	-226	258	0.48	
1230	100	SAMPLED		15.6	8.7	1.87	-225	270	0.44	

6 1 1

SAMPLING DATA

SAMPLE ID	DATE	TIME	ANALYSIS	PRESERVED?	FIELD FILTERED? Y / N	FILTER SIZE
COT235:HTMW-1:G061115	6-11-15	1230		yes	N	—
COT235:HTMW-1:G061115A	"	"				

EXPLOSIVE GAS READING PRIOR TO STATIC WELL LEVEL:

0 PID Wellhead
0 %LEL:

a. Measurement from top of casing

b. Stabilization Criteria, per OhioEPA TEGD 5/2012, adjust depending on State Program.

c. 1" well = 0.041, 1.5" well = 0.091, 2" well = 0.163, 4" well = 0.653, 6" well = 1.468

1111 1000 mL / 1205 / 1208

NOTES:

HULL

GROUNDWATER SAMPLING FIELD DATA SHEET

Sheet 1 of 1

Facility: Former Champion Spark Plug Facility
Address: 900 Upton Ave
Job No: COT235
Hull Personnel: J. CARLSON

Well ID: HTMW-2
Date: 6-11-15
Weather: Sunny 70's
Temp/Wind: 70's 5-10
Barometric P: -

MONITORING WELL DATA

Well Type: PVC - 1" Temp
Well Condition: good
Purge / Sample Method: Par. Pump
Type & Depth of Pump:
Water Quality Monitoring Equip Used: HORIBA

Depth of Water (ft°): 8.71
Total Depth (ft°): 15.6 2.4
Height of Water (ft): 6.89
Well Screen Interval (ft°): 10'

WELL VOLUME CALCULATION:

Gallons/Foot of Depth[c]		Feet of Standing Water		1 Well Volume (gallons)
0.041	x	6.89	=	0.28

PURGING DATA

Time:	Pumping Rate (ml/min)	Cumulative Volume (l)	Depth to water (ft)[a] (0.3 max)[b]	Temp. (°C) (0.5)	pH (S.U.) (0.2)	Specific Cond. (uS/cm) (3%)	ORP (Mv or ml/g)) (20)	Turbidity (NTU) (10%)	DO (mg/l) (10%)	S/aw Comments
1134	100	300 mL	8.71	21.6	8.4	2.13	-20	614	3.70	very thick SILTY
1138	100	750 mL	DRY							- changed Tubing and
										started Pitcher in well
1625	100	SAMPLED	-	-	-	-	-	-	-	** Not enough water for meter readings

SAMPLING DATA

EXPLOSIVE GAS READING PRIOR TO STATIC WELL LEVEL:

0 PID Wellhead
0 %LEL:

SAMPLE ID	DATE	TIME	ANALYSIS	PRESERVED?	FIELD FILTERED? Y / N	FILTER SIZE
COT235: HTMW-2:G0611/15	6-11-15	1625		Y	NO	-

a. Measurement from top of casing

b. Stabilization Criteria, per OhioEPA TEGD 5/2012, adjust depending on State Program.

c. 1" well = 0.041, 1.5" well = 0.091, 2" well = 0.163, 4" well = 0.653, 6" well = 1.468

NOTES:

HULL

GROUNDWATER SAMPLING FIELD DATA SHEET

Sheet 1 of 1

Facility: Former Champion Spark Plug Property
Address: 900 Upton Ave. Toledo, OHIO
Job No: COT235
Hull Personnel: J. CARLSON

Well ID: HTMW-3
Date: 6-11-15
Weather: Ptly Cloudy
Temp/Wind: 70-80°
Barometric P: -

MONITORING WELL DATA

Well Type: Temp PVC
Well Condition:
Purge / Sample Method:
Type & Depth of Pump:
Water Quality Monitoring Equip Used:

Depth of Water (ft°): 6.75 (2.3) 4.45
Total Depth (ft°): 14.9 (2.3) 12.6
Height of Water (ft): 8.15
Well Screen Interval (ft°): 10'

WELL VOLUME CALCULATION:

Gallons/Foot of Depth[c]		Feet of Standing Water		1 Well Volume (gallons)
0.041	x	8.15	=	0.33

PURGING DATA

Time:	Pumping Rate (ml/min)	Cumulative Volume (l)	Depth to water (ft)[a] (0.3 max)[b]	Temp. (°C) (0.5)	pH (S.U.) (0.2)	Specific Cond. (uS/cm) (3%)	ORP (Mv or ml/g)) (20)	Turbidity (NTU) (10%)	DO (mg/l) (10%)	Comments
1003	100	0.25 gal	DRY	Before First Reading						
1010	100	~1000 mL	Now Dry	19.3	11.7	3.51	-62	40.3	3.00	
1510	100	SAMPLED		—	—	—	—	—	—	** Not enough water for meter Readings

6/11/15

SAMPLING DATA

SAMPLE ID	DATE	TIME	ANALYSIS	PRESERVED?	FIELD FILTERED? Y / N	FILTER SIZE
COT235:HTMW-3:20611115	6-11-15	1510		Y	N	

EXPLOSIVE GAS READING PRIOR TO STATIC WELL LEVEL:

0 PID Wellhead
0 %LEL:

a. Measurement from top of casing
b. Stabilization Criteria, per OhioEPA TEGD 5/2012, adjust depending on State Program.
c. 1" well = 0.041, 1.5" well = 0.091, 2" well = 0.163, 4" well = 0.653, 6" well = 1.468

NOTES: Enough for Sample But couldn't take Readings

HULL

GROUNDWATER SAMPLING FIELD DATA SHEET

Sheet 1 of 1

Facility: Former Champion Spark Plug Property
Address: 900 Upton Ave, Toledo, OHIO
Job No: COT235
Hull Personnel: J. CARLSON

Well ID: HTMW-4
Date: 6-11-15 / 6-12-15
Weather: Ptly Cloudy
Temp/Wind: 70-80 s-E mph
Barometric P: —

MONITORING WELL DATA

Well Type: PVC 1" Temp
Well Condition: Good
Purge / Sample Method: Par. Pump
Type & Depth of Pump: —
Water Quality Monitoring Equip Used: Horiba

Depth of Water (ft°): 6.25
Total Depth (ft°): 15.20 (1)
Height of Water (ft): 8.95
Well Screen Interval (ft°): 10'

WELL VOLUME CALCULATION:

Gallons/Foot of Depth[c]		Feet of Standing Water		1 Well Volume (gallons)
0.041	x	8.95	=	0.37

PURGING DATA

Time:	Pumping Rate (ml/min)	Cumulative Volume (l)	Depth to water (ft)[a] (0.3 max)[b]	Temp. (°C) (0.5)	pH (S.U.) (0.2)	Specific Cond. (uS/cm) (3%)	ORP (Mv or ml/g)) (20)	Turbidity (NTU) (10%)	DO (mg/l) (10%)	Comments
6/11 1358	100-200	1,000		13.2	10.5	0.595	-111	0	4.92	
1401	100	1,100	DRY							
6/12 0900	100	SAMPLE		—	—	—	—	—	—	** Not enough water for meter readings

SAMPLING DATA

EXPLOSIVE GAS READING PRIOR TO STATIC WELL LEVEL:

0 PID Wellhead
0 %LEL:

SAMPLE ID	DATE	TIME	ANALYSIS	PRESERVED?	FIELD FILTERED? Y / N	FILTER SIZE
COT235:HTMW-4:G061215	6-12-15	0900		Y	N	—

a. Measurement from top of casing

b. Stabilization Criteria, per OhioEPA TEGD 5/2012, adjust depending on State Program.

c. 1" well = 0.041, 1.5" well = 0.091, 2" well = 0.163, 4" well = 0.653, 6" well = 1.468

NOTES:

HULL

GROUNDWATER SAMPLING FIELD DATA SHEET

Sheet 1 of 1

Facility: Former Champion Spark Plug Property
Address: 900 Upton Ave, Toledo, OH 10
Job No: COT235
Hull Personnel: J. CARLSON

Well ID: NTMW-5
Date: 6-11-15
Weather: Pt ly Cloudy
Temp/Wind: 70-80 5-10
Barometric P: —

MONITORING WELL DATA

Well Type: PVC 1" Temp
Well Condition: Good
Purge / Sample Method: Per. Pump
Type & Depth of Pump: —
Water Quality Monitoring Equip Used: HORIBA

Depth of Water (ft°): 7.25 (0.3)
Total Depth (ft°): 15.2
Height of Water (ft): 7.95
Well Screen Interval (ft°): 10'

WELL VOLUME CALCULATION:

Gallons/Foot of Depth[c]		Feet of Standing Water		1 Well Volume (gallons)
0.041	x	7.95	=	0.32

PURGING DATA

Time:	Pumping Rate (ml/min)	Cumulative Volume (l)	Depth to water (ft)[a] (0.3 max)[b]	Temp. (°C) (0.5)	pH (S.U.) (0.2)	Specific Cond. (uS/cm) (3%)	ORP (Mv or ml/g)) (20)	Turbidity (NTU) (10%)	DO (mg/l) (10%)	Comments
Initial 6/11 1335	200	1,000		14.7	11.5	1.33	-258	45.0	2.45	
1340	100	2,000	DRY		11.4	0.875	-313	651	5.4	
6/12 0940	100	—	Post Sample	20.5	11.2	933	-43	8.3	6.3	

SAMPLING DATA

SAMPLE ID	DATE	TIME	ANALYSIS	PRESERVED?	FIELD FILTERED? Y / N	FILTER SIZE
COT235:NTMW-5:G061215	6/12/15	0930		yes	No	—

EXPLOSIVE GAS READING PRIOR TO STATIC WELL LEVEL:

0 PID Wellhead

0 %LEL:

a. Measurement from top of casing

b. Stabilization Criteria, per OhioEPA TEGD 5/2012, adjust depending on State Program.

c. 1" well = 0.041, 1.5" well = 0.091, 2" well = 0.163, 4" well = 0.653, 6" well = 1.468

NOTES:

HULL

GROUNDWATER SAMPLING FIELD DATA SHEET

Sheet 1 of 1

Facility: Former Champion Spark Plug Property
Address: 900 Upton Ave, Toledo, OH 10
Job No: COT235
Hull Personnel: J. CARLSON

Well ID: HTMW-6
Date: 6-11-15
Weather: Pt ly Cloudy
Temp/Wind: 70-80 5-10 mph
Barometric P: —

MONITORING WELL DATA

Well Type: PVC 1" Temp
Well Condition: Good
Purge / Sample Method: Par. Pump
Type & Depth of Pump: —
Water Quality Monitoring Equip Used: NORIBA

Depth of Water (ft°): 6.68
Total Depth (ft°): 14.6
Height of Water (ft): 7.92
Well Screen Interval (ft°): 10'

WELL VOLUME CALCULATION:

Gallons/Foot of Depth[c]		Feet of Standing Water		1 Well Volume (gallons)
0.041	x	7.92	=	0.32

PURGING DATA

Time:	Pumping Rate (ml/min)	Cumulative Volume (l)	Depth to water (ft)[a] (0.3 max)[b]	Temp. (°C) (0.5)	pH (S.U.) (0.2)	Specific Cond. (uS/cm) (3%)	ORP (Mv or ml/g)) (20)	Turbidity (NTU) (10%)	DO (mg/l) (10%)	Comments
1046	100	500ml		21.47	8.9	0.002	-26	103	9.96	
1059	100	1500ml	DRY							
1540	100	Post SAMPLE		22.9	8.9	3.12	-117	58.1	3.90	

SAMPLING DATA

SAMPLE ID	DATE	TIME	ANALYSIS	PRESERVED?	FIELD FILTERED? Y / N	FILTER SIZE
COT235:HTmw6:G061115	6-11-15	1535		Y	N	-

EXPLOSIVE GAS READING PRIOR TO STATIC WELL LEVEL:

0 PID Wellhead

0 %LEL:

a. Measurement from top of casing

b. Stabilization Criteria, per OhioEPA TEGD 5/2012, adjust depending on State Program.

c. 1" well = 0.041, 1.5" well = 0.091, 2" well = 0.163, 4" well = 0.653, 6" well = 1.468

NOTES:

APPENDIX F

Ohio Department of Natural Resources Well Logs

GeoSearch

On time. On target. In touch.™

GeoPlus Water Well Report

Satellite view

Target Property:

Champion Sparkplug
900-914 UPTON AVE
TOLEDO, Lucas County, Ohio 43607

Prepared For:

Historical Information Gatherers

Order #: 41213
Job #: 90695
Project #: 148131
Date: 09/25/2014

Table of Contents

Target Property Summary

Champion Sparkplug
900-914 UPTON AVE
TOLEDO, Lucas County, Ohio 43607

USGS Quadrangle: ***Toledo, OH***
Target Property Geometry: ***Area***

Target Property Longitude(s)/Latitude(s):
(-83.586335, 41.651305), (-83.587088, 41.651771), (-83.587644, 41.651771), (-83.587644, 41.651341), (-83.588164, 41.651323), (-83.588164, 41.651036), (-83.589939, 41.651036), (-83.589957, 41.647449), (-83.589222, 41.647449), (-83.589222, 41.645709), (-83.588182, 41.645709), (-83.588254, 41.646893), (-83.588002, 41.648381), (-83.587303, 41.649996), (-83.586353, 41.651269), (-83.586335, 41.651305)

County/Parish Covered:
Lucas (OH)

Zipcode(s) Covered:
Toledo OH: 43607

State(s) Covered:
OH

****Target property is located in Radon Zone 2.***
Zone 2 areas have a predicted average indoor radon screening level between 2 and 4 pCi/L (picocuries per liter).

Database Findings Summary

FEDERAL LISTING

Database	Acronym	Locatable	Unlocatable	Search Radius (miles)
UNITED STATES GEOLOGICAL SURVEY NATIONAL WATER INFORMATION SYSTEM	NWIS	0	0	0.5000

SUB-TOTAL		0	0	

Database Findings Summary

STATE (OH) LISTING

Database	Acronym	Locatable	Unlocatable	Search Radius (miles)
WATER WELLS	DNRWW	38	0	0.5000
PUBLIC WATER SUPPLY WELLS AND INTAKES	PWS	0	0	0.5000
SUB-TOTAL		38	0	
TOTAL		38	0	

Locatable Database Findings

FEDERAL LISTING

Acronym	Search Radius (miles)	TP/AP (0 - 0.02)	1/8 Mile (> TP/AP)	1/4 Mile (> 1/8)	1/2 Mile (> 1/4)	1 Mile (> 1/2)	> 1 Mile	Total
NWIS	0.5000		0	0	0	NS	NS	0
SUB-TOTAL			0	0	0	0	0	0

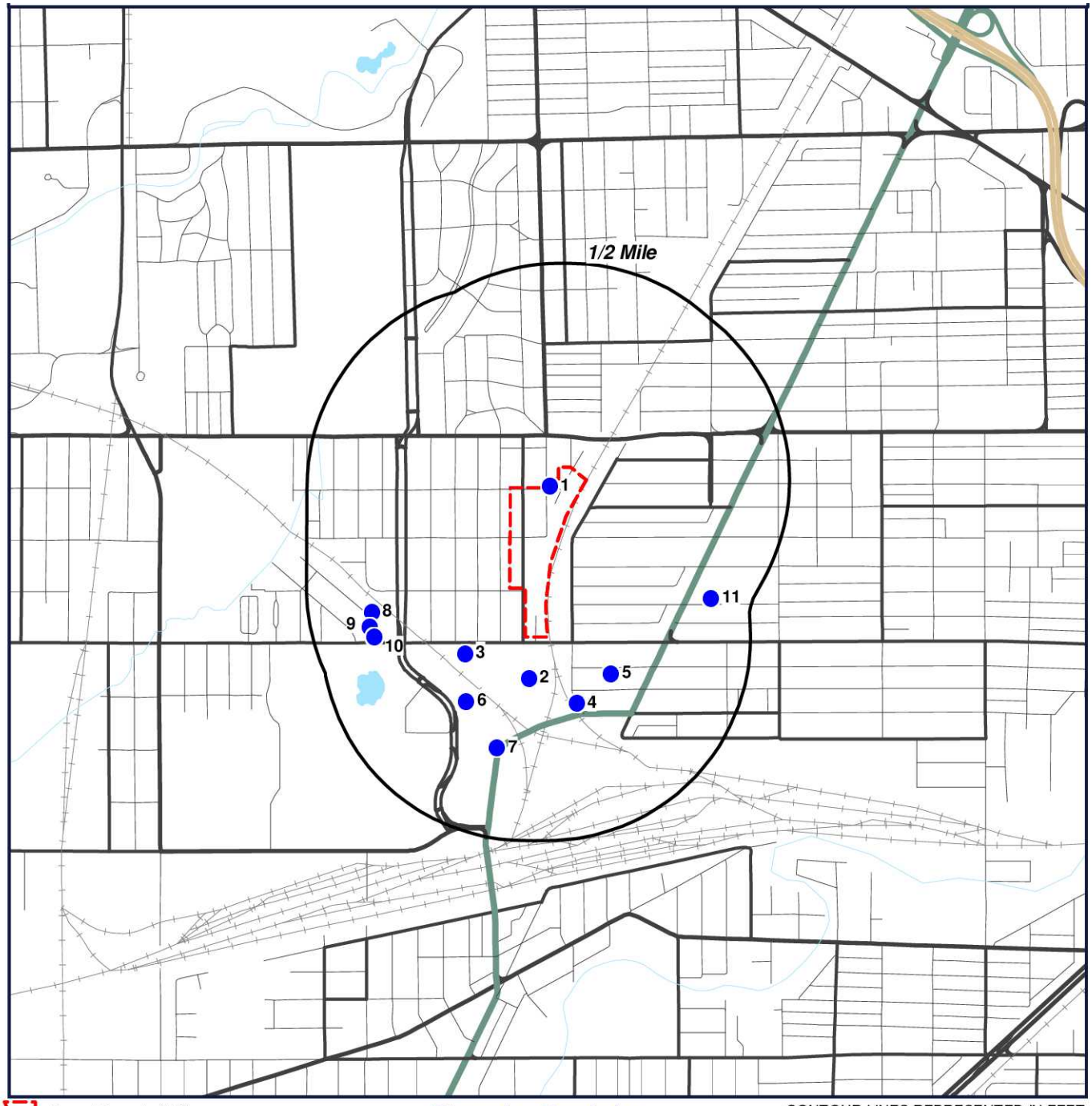
Locatable Database Findings

STATE (OH) LISTING

Acronym	Search Radius (miles)	TP/AP (0 - 0.02)	1/8 Mile (> TP/AP)	1/4 Mile (> 1/8)	1/2 Mile (> 1/4)	1 Mile (> 1/2)	> 1 Mile	Total
DNRWW	0.5000	22	1	6	9	NS	NS	38
PWS	0.5000		0	0	0	NS	NS	0
SUB-TOTAL		22	1	6	9	0	0	38
TOTAL		22	1	6	9	0	0	38

NOTES:
NS = NOT SEARCHED
TP/AP = TARGET PROPERTY/ADJACENT PROPERTY

Waterwell Map



Target Property (TP)

DNRWW

Champion Sparkplug
900-914 UPTON AVE
TOLEDO, Ohio
43607

CONTOUR LINES REPRESENTED IN FEET

N
W E
S

0' 1000' 2000' 3000'

SCALE: 1" = 2000'

[Click here to access Satelite view]

Report Summary of Locatable Sites

Map ID#	Database Name	Site ID#	Distance From Site	Site Name	Address	City, Zip Code	PAGE #
1	DNRWW	795829	0.001 W		900 UPTON AVE		9
1	DNRWW	795830	0.001 W		900 UPTON AVE		10
1	DNRWW	795854	0.001 W		900 UPTON AVE		11
1	DNRWW	795855	0.001 W		900 UPTON AVE		12
1	DNRWW	795856	0.001 W		900 UPTON AVE		13
1	DNRWW	795857	0.001 W		900 UPTON AVE		14
1	DNRWW	755305	0.001 W		900 UPTON AVE		15
1	DNRWW	753014	0.001 W		900 UPTON AVE		16
1	DNRWW	753012	0.001 W		900 UPTON AVE		17
1	DNRWW	740800	0.001 W		900 UPTON AVE		18
1	DNRWW	740780	0.001 W		900 UPTON AVE		19
1	DNRWW	740779	0.001 W		900 UPTON AVE		20
1	DNRWW	740781	0.001 W		900 UPTON AVE		21
1	DNRWW	740782	0.001 W		900 UPTON AVE		22
1	DNRWW	740783	0.001 W		900 UPTON AVE		23
1	DNRWW	740784	0.001 W		900 UPTON AVE		24
1	DNRWW	740791	0.001 W		900 UPTON AVE		25
1	DNRWW	740799	0.001 W		900 UPTON AVE		26
1	DNRWW	753013	0.001 W		900 UPTON AVE		27
1	DNRWW	755303	0.001 W		900 UPTON AVE		28
1	DNRWW	755304	0.001 W		900 UPTON AVE		29
1	DNRWW	795828	0.001 W		900 UPTON AVE		30
2	DNRWW	2023566	0.1 S		1925 NEBRASKA AVE	TOLEDO, 43607	31
3	DNRWW	2023570	0.16 SW		1925 NEBRASKA AVE	TOLEDO	32
4	DNRWW	31700	0.18 S		BROWN RD	TOLEDO	33
4	DNRWW	216314	0.18 S		BROWN RD	TOLEDO	34
4	DNRWW	277089	0.18 S		BROWN RD	TOLEDO	35
5	DNRWW	2023567	0.19 S		1925 NEBRASKA AVE	TOLEDO	36
6	DNRWW	2023569	0.22 SW		1925 NEBRASKA AVE	TOLEDO	37
7	DNRWW	734132	0.29 S		99 FEARING BLVD		38
7	DNRWW	734133	0.29 S		99 FEARING BLVD		39
7	DNRWW	734131	0.29 S		99 FEARING BLVD		40
8	DNRWW	2039782	0.35 SW		2225 NEBRASKA AVE	TOLEDO	41
8	DNRWW	2039780	0.35 SW		2225 NEBRASKA	TOLEDO	42
9	DNRWW	2039781	0.36 SW		2225 NEBRASKA AVE	TOLEDO	43
10	DNRWW	2039779	0.35 SW		2225 NEBRASKA AVE	TOLEDO	44
10	DNRWW	2039777	0.36 SW		2225 NEBRASKA AVE	TOLEDO	45

11	DNRWW	2014664	0.41 SE	1602 W BANCROFT	TOLEDO, 43606	46

Water Wells (DNRWW)

MAP ID# 1 **Distance from Property: 0.00 mi. W**

WELL LOG NUMBER: **795829**
LOCATION ADDRESS: **900 UPTON AVE**
NO CITY/ZIP REPORTED, OH
DATE OF COMPLETION: **08/21/94**
WELL DEPTH (ft.): **13**
WELL USE: **MONITOR**
AQUIFER DESCRIPTION: **SILT**
OWNER NAME: **CHAMPION SPARK PLUG**
LONGITUDE: **-83.58804**
LATITUDE: **41.65112**

Back to Report Summary

Water Wells (DNRWW)

MAP ID# 1 **Distance from Property: 0.00 mi. W**

WELL LOG NUMBER: **795830**
LOCATION ADDRESS: **900 UPTON AVE**
NO CITY/ZIP REPORTED, OH
DATE OF COMPLETION: **08/21/94**
WELL DEPTH (ft.): **15**
WELL USE: **MONITOR**
AQUIFER DESCRIPTION: **SILT**
OWNER NAME: **CHAMPION SPARK PLUG**
LONGITUDE: **-83.58804**
LATITUDE: **41.65112**

Back to Report Summary

Water Wells (DNRWW)

MAP ID# 1 **Distance from Property: 0.00 mi. W**

WELL LOG NUMBER: **795854**
LOCATION ADDRESS: **900 UPTON AVE**
NO CITY/ZIP REPORTED, OH
DATE OF COMPLETION: **08/16/95**
WELL DEPTH (ft.): **17**
WELL USE: **MONITOR**
AQUIFER DESCRIPTION: **SILT**
OWNER NAME: **CHAMPION SPARK PLUG**
LONGITUDE: **-83.58804**
LATITUDE: **41.65112**

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Water Wells (DNRWW)

MAP ID# 1 **Distance from Property: 0.00 mi. W**

WELL LOG NUMBER: **795855**
LOCATION ADDRESS: **900 UPTON AVE**
NO CITY/ZIP REPORTED, OH
DATE OF COMPLETION: **08/16/95**
WELL DEPTH (ft.): **15**
WELL USE: **MONITOR**
AQUIFER DESCRIPTION: **SILT**
OWNER NAME: **CHAMPION SPARK PLUG**
LONGITUDE: **-83.58804**
LATITUDE: **41.65112**

Back to Report Summary

Water Wells (DNRWW)

MAP ID# 1 **Distance from Property: 0.00 mi. W**

WELL LOG NUMBER: **795856**
LOCATION ADDRESS: **900 UPTON AVE**
NO CITY/ZIP REPORTED, OH
DATE OF COMPLETION: **08/16/95**
WELL DEPTH (ft.): **15**
WELL USE: **MONITOR**
AQUIFER DESCRIPTION: **SILT**
OWNER NAME: **CHAMPION SPARK PLUG**
LONGITUDE: **-83.58804**
LATITUDE: **41.65112**

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Water Wells (DNRWW)

MAP ID# 1 **Distance from Property: 0.00 mi. W**

WELL LOG NUMBER: **795857**
LOCATION ADDRESS: **900 UPTON AVE**
NO CITY/ZIP REPORTED, OH
DATE OF COMPLETION: **08/16/95**
WELL DEPTH (ft.): **15**
WELL USE: **MONITOR**
AQUIFER DESCRIPTION: **SILT**
OWNER NAME: **CHAMPION SPARK PLUG**
LONGITUDE: **-83.58804**
LATITUDE: **41.65112**

Back to Report Summary

Water Wells (DNRWW)

MAP ID# 1 **Distance from Property: 0.00 mi. W**

WELL LOG NUMBER: **755305**
LOCATION ADDRESS: **900 UPTON AVE**
NO CITY/ZIP REPORTED, OH
DATE OF COMPLETION: **09/11/92**
WELL DEPTH (ft.): **15**
WELL USE: **MONITOR**
AQUIFER DESCRIPTION: **SAND**
OWNER NAME: **CHAMPION SPARK PLUG**
LONGITUDE: **-83.58804**
LATITUDE: **41.65112**

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Water Wells (DNRWW)

MAP ID# 1 **Distance from Property: 0.00 mi. W**

WELL LOG NUMBER: **753014**
LOCATION ADDRESS: **900 UPTON AVE**
NO CITY/ZIP REPORTED, OH
DATE OF COMPLETION: **02/21/94**
WELL DEPTH (ft.): **8**
WELL USE: **MONITOR**
AQUIFER DESCRIPTION: **SAND & CLAY**
OWNER NAME: **CHAMPION SPARK PLUM**
LONGITUDE: **-83.58804**
LATITUDE: **41.65112**

Back to Report Summary

Water Wells (DNRWW)

MAP ID# 1 **Distance from Property: 0.00 mi. W**

WELL LOG NUMBER: **753012**
LOCATION ADDRESS: **900 UPTON AVE**
NO CITY/ZIP REPORTED, OH
DATE OF COMPLETION: **10/22/93**
WELL DEPTH (ft.): **16**
WELL USE: **MONITOR**
AQUIFER DESCRIPTION: **SILT**
OWNER NAME: **CHAMPION SPARK PLUG**
LONGITUDE: **-83.58804**
LATITUDE: **41.65112**

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Water Wells (DNRWW)

MAP ID# 1 **Distance from Property: 0.00 mi. W**

WELL LOG NUMBER: **740800**
LOCATION ADDRESS: **900 UPTON AVE**
NO CITY/ZIP REPORTED, OH
DATE OF COMPLETION: **09/04/92**
WELL DEPTH (ft.): **15**
WELL USE: **NOT REPORTED**
AQUIFER DESCRIPTION: **SAND**
OWNER NAME: **CHAMPION SPARK PLUG**
LONGITUDE: **-83.58804**
LATITUDE: **41.65112**

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Water Wells (DNRWW)

MAP ID# 1 **Distance from Property: 0.00 mi. W**

WELL LOG NUMBER: **740780**
LOCATION ADDRESS: **900 UPTON AVE**
NO CITY/ZIP REPORTED, OH
DATE OF COMPLETION: **12/09/91**
WELL DEPTH (ft.): **16**
WELL USE: **NOT REPORTED**
AQUIFER DESCRIPTION: **SILT**
OWNER NAME: **CHAMPION SPARK PLUG**
LONGITUDE: **-83.58804**
LATITUDE: **41.65112**

Back to Report Summary

Water Wells (DNRWW)

MAP ID# 1 **Distance from Property: 0.00 mi. W**

WELL LOG NUMBER: **740779**
LOCATION ADDRESS: **900 UPTON AVE**
NO CITY/ZIP REPORTED, OH
DATE OF COMPLETION: **12/09/91**
WELL DEPTH (ft.): **16**
WELL USE: **NOT REPORTED**
AQUIFER DESCRIPTION: **SILT**
OWNER NAME: **CHAMPION SPARK PLUG**
LONGITUDE: **-83.58804**
LATITUDE: **41.65112**

Back to Report Summary

Water Wells (DNRWW)

MAP ID# 1 **Distance from Property: 0.00 mi. W**

WELL LOG NUMBER: **740781**
LOCATION ADDRESS: **900 UPTON AVE**
NO CITY/ZIP REPORTED, OH
DATE OF COMPLETION: **12/09/91**
WELL DEPTH (ft.): **16**
WELL USE: **NOT REPORTED**
AQUIFER DESCRIPTION: **SILT**
OWNER NAME: **CHAMPION SPARK PLUG**
LONGITUDE: **-83.58804**
LATITUDE: **41.65112**

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Water Wells (DNRWW)

MAP ID# 1 **Distance from Property: 0.00 mi. W**

WELL LOG NUMBER: **740782**
LOCATION ADDRESS: **900 UPTON AVE**
NO CITY/ZIP REPORTED, OH
DATE OF COMPLETION: **12/09/91**
WELL DEPTH (ft.): **21**
WELL USE: **NOT REPORTED**
AQUIFER DESCRIPTION: **GRAVEL**
OWNER NAME: **CHAMPION SPARK PLUG**
LONGITUDE: **-83.58804**
LATITUDE: **41.65112**

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Water Wells (DNRWW)

MAP ID# 1 **Distance from Property: 0.00 mi. W**

WELL LOG NUMBER: **740783**
LOCATION ADDRESS: **900 UPTON AVE**
NO CITY/ZIP REPORTED, OH
DATE OF COMPLETION: **12/09/91**
WELL DEPTH (ft.): **21**
WELL USE: **NOT REPORTED**
AQUIFER DESCRIPTION: **SILT**
OWNER NAME: **CHAMPION SPARK PLUG**
LONGITUDE: **-83.58804**
LATITUDE: **41.65112**

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Water Wells (DNRWW)

MAP ID# 1 **Distance from Property: 0.00 mi. W**

WELL LOG NUMBER: **740784**
LOCATION ADDRESS: **900 UPTON AVE**
NO CITY/ZIP REPORTED, OH
DATE OF COMPLETION: **12/09/91**
WELL DEPTH (ft.): **16**
WELL USE: **NOT REPORTED**
AQUIFER DESCRIPTION: **SILT**
OWNER NAME: **CHAMPION SPARK PLUG**
LONGITUDE: **-83.58804**
LATITUDE: **41.65112**

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Water Wells (DNRWW)

MAP ID# 1 **Distance from Property: 0.00 mi. W**

WELL LOG NUMBER: **740791**
LOCATION ADDRESS: **900 UPTON AVE**
NO CITY/ZIP REPORTED, OH
DATE OF COMPLETION: **05/06/92**
WELL DEPTH (ft.): **11**
WELL USE: **MONITOR**
AQUIFER DESCRIPTION: **SILT**
OWNER NAME: **CHAMPION SPARK PLUG**
LONGITUDE: **-83.58804**
LATITUDE: **41.65112**

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Water Wells (DNRWW)

MAP ID# 1 **Distance from Property: 0.00 mi. W**

WELL LOG NUMBER: **740799**
LOCATION ADDRESS: **900 UPTON AVE**
NO CITY/ZIP REPORTED, OH
DATE OF COMPLETION: **08/04/92**
WELL DEPTH (ft.): **12**
WELL USE: **MONITOR**
AQUIFER DESCRIPTION: **SAND & GRAVEL**
OWNER NAME: **CHAMPION SPARK PLUG**
LONGITUDE: **-83.58804**
LATITUDE: **41.65112**

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Water Wells (DNRWW)

MAP ID# 1 **Distance from Property: 0.00 mi. W**

WELL LOG NUMBER: **753013**
LOCATION ADDRESS: **900 UPTON AVE**
NO CITY/ZIP REPORTED, OH
DATE OF COMPLETION: **12/17/93**
WELL DEPTH (ft.): **9**
WELL USE: **NOT REPORTED**
AQUIFER DESCRIPTION: **LIMESTONE**
OWNER NAME: **CHAMPION SPARK PLUG**
LONGITUDE: **-83.58804**
LATITUDE: **41.65112**

Back to Report Summary

Water Wells (DNRWW)

MAP ID# 1 **Distance from Property: 0.00 mi. W**

WELL LOG NUMBER: **755303**
LOCATION ADDRESS: **900 UPTON AVE**
NO CITY/ZIP REPORTED, OH
DATE OF COMPLETION: **09/11/92**
WELL DEPTH (ft.): **17**
WELL USE: **MONITOR**
AQUIFER DESCRIPTION: **SAND**
OWNER NAME: **CHAMPION SPARK PLUG**
LONGITUDE: **-83.58804**
LATITUDE: **41.65112**

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Water Wells (DNRWW)

MAP ID# 1 **Distance from Property: 0.00 mi. W**

WELL LOG NUMBER: **755304**
LOCATION ADDRESS: **900 UPTON AVE**
NO CITY/ZIP REPORTED, OH
DATE OF COMPLETION: **09/11/92**
WELL DEPTH (ft.): **15**
WELL USE: **MONITOR**
AQUIFER DESCRIPTION: **SAND**
OWNER NAME: **CHAMPION SPARK PLUG**
LONGITUDE: **-83.58804**
LATITUDE: **41.65112**

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Water Wells (DNRWW)

MAP ID# 1 **Distance from Property: 0.00 mi. W**

WELL LOG NUMBER: **795828**
LOCATION ADDRESS: **900 UPTON AVE**
NO CITY/ZIP REPORTED, OH
DATE OF COMPLETION: **08/21/94**
WELL DEPTH (ft.): **6**
WELL USE: **MONITOR**
AQUIFER DESCRIPTION: **SAND**
OWNER NAME: **CHAMPION SPARK PLUG**
LONGITUDE: **-83.58804**
LATITUDE: **41.65112**

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Water Wells (DNRWW)

MAP ID# 2 **Distance from Property: 0.10 mi. S**

WELL LOG NUMBER: **2023566**
LOCATION ADDRESS: **1925 NEBRASKA AVE**
TOLEDO, OH 43607
DATE OF COMPLETION: **08/13/09**
WELL DEPTH (ft.): **10**
WELL USE: **MONITOR**
AQUIFER DESCRIPTION: **CLAY**
OWNER NAME: **TECUMSEH PRODUCTS**
LONGITUDE: **-83.58905**
LATITUDE: **41.64428**

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Water Wells (DNRWW)

MAP ID# 3 **Distance from Property: 0.16 mi. SW**

WELL LOG NUMBER: **2023570**
LOCATION ADDRESS: **1925 NEBRASKA AVE**
TOLEDO, OH
DATE OF COMPLETION: **08/13/09**
WELL DEPTH (ft.): **10**
WELL USE: **MONITOR**
AQUIFER DESCRIPTION: **CLAY**
OWNER NAME: **TECUMSEH PRODUCTS**
LONGITUDE: **-83.59208**
LATITUDE: **41.64517**

Back to Report Summary

Water Wells (DNRWW)

MAP ID# 4 **Distance from Property: 0.18 mi. S**

WELL LOG NUMBER: **31700**
LOCATION ADDRESS: **BROWN RD**
TOLEDO, OH
DATE OF COMPLETION: **19610123**
WELL DEPTH (ft.): **0**
WELL USE: **DOMESTIC**
AQUIFER DESCRIPTION: **ROCK**
OWNER NAME: **RAY & SON CRANDELL**
LONGITUDE: **-83.58677**
LATITUDE: **41.64339**

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Water Wells (DNRWW)

MAP ID# 4 **Distance from Property: 0.18 mi. S**

WELL LOG NUMBER: **216314**
LOCATION ADDRESS: **BROWN RD**
TOLEDO, OH
DATE OF COMPLETION: **19620109**
WELL DEPTH (ft.): **0**
WELL USE: **DOMESTIC**
AQUIFER DESCRIPTION: **ROCK**
OWNER NAME: **DON LUENGEN**
LONGITUDE: **-83.58677**
LATITUDE: **41.64339**

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Water Wells (DNRWW)

MAP ID# 4 **Distance from Property: 0.18 mi. S**

WELL LOG NUMBER: **277089**
LOCATION ADDRESS: **BROWN RD**
TOLEDO, OH
DATE OF COMPLETION: **19640123**
WELL DEPTH (ft.): **0**
WELL USE: **DOMESTIC**
AQUIFER DESCRIPTION: **LIMESTONE**
OWNER NAME: **L M ROTHENBUHLER**
LONGITUDE: **-83.58677**
LATITUDE: **41.64339**

Back to Report Summary

MAP ID# 5 **Distance from Property: 0.19 mi. S**

WELL LOG NUMBER: **2023567**
LOCATION ADDRESS: **1925 NEBRASKA AVE**
TOLEDO, OH
DATE OF COMPLETION: **08/13/09**
WELL DEPTH (ft.): **10**
WELL USE: **MONITOR**
AQUIFER DESCRIPTION: **CLAY**
OWNER NAME: **TECUMSEH PRODUCTS**
LONGITUDE: **-83.58515**
LATITUDE: **41.64445**

Back to Report Summary

Water Wells (DNRWW)

MAP ID# 6 **Distance from Property: 0.22 mi. SW**

WELL LOG NUMBER: **2023569**
LOCATION ADDRESS: **1925 NEBRASKA AVE**
TOLEDO, OH
DATE OF COMPLETION: **08/13/09**
WELL DEPTH (ft.): **10**
WELL USE: **MONITOR**
AQUIFER DESCRIPTION: **CLAY**
OWNER NAME: **TECUMSEH PRODUCTS**
LONGITUDE: **-83.59202**
LATITUDE: **41.64347**

Back to Report Summary

Water Wells (DNRWW)

MAP ID# 7 **Distance from Property: 0.29 mi. S**

WELL LOG NUMBER: **734132**
LOCATION ADDRESS: **99 FEARING BLVD**
NO CITY/ZIP REPORTED, OH
DATE OF COMPLETION: **08/28/91**
WELL DEPTH (ft.): **8**
WELL USE: **MONITOR**
AQUIFER DESCRIPTION: **SAND**
OWNER NAME: **TOLEDO STAMPING**
LONGITUDE: **-83.59055**
LATITUDE: **41.64180**

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MAP ID# 7 **Distance from Property: 0.29 mi. S**

WELL LOG NUMBER: **734133**
LOCATION ADDRESS: **99 FEARING BLVD**
NO CITY/ZIP REPORTED, OH
DATE OF COMPLETION: **08/28/91**
WELL DEPTH (ft.): **8**
WELL USE: **MONITOR**
AQUIFER DESCRIPTION: **SAND**
OWNER NAME: **TOLEDO STAMPING**
LONGITUDE: **-83.59055**
LATITUDE: **41.64180**

Back to Report Summary

Water Wells (DNRWW)

MAP ID# 7 **Distance from Property: 0.29 mi. S**

WELL LOG NUMBER: **734131**
LOCATION ADDRESS: **99 FEARING BLVD**
NO CITY/ZIP REPORTED, OH
DATE OF COMPLETION: **08/28/91**
WELL DEPTH (ft.): **9**
WELL USE: **MONITOR**
AQUIFER DESCRIPTION: **SAND**
OWNER NAME: **TOLEDO STAMPING**
LONGITUDE: **-83.59055**
LATITUDE: **41.64180**

Back to Report Summary

Water Wells (DNRWW)

MAP ID# 8 **Distance from Property: 0.35 mi. SW**

WELL LOG NUMBER: **2039782**
LOCATION ADDRESS: **2225 NEBRASKA AVE**
TOLEDO, OH
DATE OF COMPLETION: **09/07/12**
WELL DEPTH (ft.): **10**
WELL USE: **MONITOR**
AQUIFER DESCRIPTION: **SAND**
OWNER NAME: **UNIVERSITY OF TOLEDO**
LONGITUDE: **-83.59638**
LATITUDE: **41.64626**

Back to Report Summary

Water Wells (DNRWW)

MAP ID# 8 **Distance from Property: 0.35 mi. SW**

WELL LOG NUMBER: **2039780**
LOCATION ADDRESS: **2225 NEBRASKA**
TOLEDO, OH
DATE OF COMPLETION: **09/06/12**
WELL DEPTH (ft.): **10**
WELL USE: **MONITOR**
AQUIFER DESCRIPTION: **SAND**
OWNER NAME: **UNIVERSITY OF TOLEDO**
LONGITUDE: **-83.59652**
LATITUDE: **41.64663**

Back to Report Summary

Water Wells (DNRWW)

MAP ID# 9 **Distance from Property: 0.36 mi. SW**

WELL LOG NUMBER: **2039781**
LOCATION ADDRESS: **2225 NEBRASKA AVE**
TOLEDO, OH
DATE OF COMPLETION: **09/07/12**
WELL DEPTH (ft.): **10**
WELL USE: **MONITOR**
AQUIFER DESCRIPTION: **SAND**
OWNER NAME: **UNIVERSITY OF TOLEDO**
LONGITUDE: **-83.59662**
LATITUDE: **41.64612**

Back to Report Summary

Water Wells (DNRWW)

MAP ID# 10 **Distance from Property: 0.35 mi. SW**

WELL LOG NUMBER: **2039779**
LOCATION ADDRESS: **2225 NEBRASKA AVE**
TOLEDO, OH
DATE OF COMPLETION: **09/06/12**
WELL DEPTH (ft.): **10**
WELL USE: **MONITOR**
AQUIFER DESCRIPTION: **SAND**
OWNER NAME: **UNIVERSITY OF TOLEDO**
LONGITUDE: **-83.59617**
LATITUDE: **41.64583**

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Water Wells (DNRWW)

MAP ID# 10 **Distance from Property: 0.36 mi. SW**

WELL LOG NUMBER: **2039777**
LOCATION ADDRESS: **2225 NEBRASKA AVE**
TOLEDO, OH
DATE OF COMPLETION: **09/06/12**
WELL DEPTH (ft.): **10**
WELL USE: **VAPOR EXTRACTION**
AQUIFER DESCRIPTION: **SAND**
OWNER NAME: **UNIVERSITY OF TOLEDO**
LONGITUDE: **-83.59640**
LATITUDE: **41.64576**

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Water Wells (DNRWW)

MAP ID# 11 **Distance from Property: 0.41 mi. SE**

WELL LOG NUMBER: **2014664**
LOCATION ADDRESS: **1602 W BANCROFT**
TOLEDO, OH 43606
DATE OF COMPLETION: **01/04/08**
WELL DEPTH (ft.): **14**
WELL USE: **MONITOR**
AQUIFER DESCRIPTION: **SILT**
OWNER NAME: **ALL SEASON'S HEATING AND COOLING**
LONGITUDE: **-83.58038**
LATITUDE: **41.64713**

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NWIS United States Geological Survey National Water Information System

VERSION DATE: 07/02/14

This USGS National Water Information System database only includes groundwater wells. The USGS defines this well type as: A hole or shaft constructed in the earth intended to be used to locate, sample, or develop groundwater, oil, gas, or some other subsurface material. The diameter of a well is typically much smaller than the depth. Wells are also used to artificially recharge groundwater or to pressurize oil and gas production zones. Additional information about specific kinds of wells should be recorded under the secondary site types or the Use of Site field. Underground waste-disposal wells should be classified as waste-injection wells.

DNRWW Water Wells

VERSION DATE: 01/21/14

The Ohio Department of Natural Resources (ODNR) Division of Soil and Water Resources maintains this water well database containing well log form information, such as the formations encountered during drilling, how the well was constructed and the efficiency of the well. Drillers have been required to fill out a Well Log and Drilling Report form and submit it to the ODNR Division of Water since 1947. Disclaimer: A significant number of wells in this database have very limited location information and therefore may not be locatable. Also, the agency provided spatial coordinates are not always accurate.

PWS Public Water Supply Wells and Intakes

VERSION DATE: 04/28/14

This database of public water supply wells and intakes is provided by the Ohio Environmental Protection Agency, Division of Drinking and Ground Waters. The data is utilized to locate drinking water source wells for analysis of ground water quality/quantity and source protection. In addition, many environmental regulations require the determination of the proximity to a public drinking water system source wells or intakes as part of a permitting process or risk assessment. Users of this data should be aware that inconsistencies and inaccuracies may exist if the data is compared to data from other time periods due to changes in methods of data collection and mapping.