Washington State Department of Transportation

SR 520 Bridge Replacement and HOV Program

Phase II Environmental Site Assessment State Route (SR) 520 Eastbound Off-Ramp to Montlake Vicinity Seattle, Washington

Prepared for

Washington State Department of Transportation
SR520 Bridge Replacement and HOV Program
999 3rd Ave Suite 2200
Seattle, WA 98104

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December 8, 2016

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We have performed a Phase II environmental site assessment of the property at (SR) 520 Eastbound Off-Ramp to Montlake Vicinity Seattle, Washington in conformance with the scope and limitations of ASTM Practice E 1903-11 and for the following objectives:

> The Phase II ESA was conducted to determine if petroleum related contamination is present in the subsurface of the Washington State Department of Transportation (WSDOT) and City of Seattle right-of-way adjacent to the property at 2625 East Montlake Place East due to potential releases from the underground storage tanks (USTs) and/or the auto body/service station. The USTs and potential contaminant source was identified in the Limited Phase I ESA conducted by WSDOT (WSDOT, 2016).

Glenn A Hayman for Andrea Winder 12/8/2016

Andrea Winder
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Glenn A Hayman 12/8/2016

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Acronyms and Abbreviations

bgs	below ground surface
COPC	contaminant of potential concern
CSM	Conceptual Site Model
Dx	Diesel-range petroleum hydrocarbons
Ecology	Washington Department of Ecology
ESA	Environmental Site Assessment
Gx	Gasoline-range hydrocarbons
HCID	Hydrocarbon Identification
INNOVEX	Innovex Environmental Management, Inc.
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MS	Matrix Spike
MSD	Matrix Spike Duplicate
MTCA	Model Toxics Control Act
NWTPH	Northwest Total Petroleum Hydrocarbons
OnSite	OnSite Environmental Inc.
PCB	Polychlorinated Biphenyl
PDI	Photoionization Detector
PP-13	Priority Pollutant Metals
Program	SR 520 Bridge Replacement and HOV Program
QA	Quality Assurance
QC	Quality Control
RPD	Relative Percent Difference
SR	State Route
SAP	Sampling and Analysis Plan
SDOT	Seattle Department of Transportation
SVOC	Semivolatile Organic Compound
TPHg	Total Petroleum Hydrocarbons as Gasoline
UST	Underground Storage Tank
VOC	Volatile Organic Compound
WAC	Washington Administrative Code
WSDOT	Washington State Department of Transportation

1.0 INTRODUCTION

1.1 Authorization

Innovex Environmental Management, Inc. (INNOVEX) has completed a Phase II Environmental Site Assessment (ESA) of City of Seattle and WSDOT right-of-way in the vicinity of 2625 East Montlake Place East, Seattle, Washington (Site) for the Washington State Department of Transportation (WSDOT) SR520 Bridge Replacement and HOV Program (PROGRAM). This work was conducted under Master Subconsultant Agreement Y-11848, Task Order AU00.

A Sampling and Analysis Plan (SAP) was prepared to describe the Phase II ESA activities for WSDOT and as a guide for field activities, including explorations, field testing, soil and groundwater sampling, and the handling of investigation-derived waste (IDW). Deviations from the SAP are summarized in Section 4.8 of this report.

1.2 Objective

The Phase II ESA was conducted to determine if petroleum related contamination was present in the subsurface of the right-of-ways adjacent to the property at 2625 East Montlake Place East due to the '76 gasoline and service station at this address. The USTs and potential contaminant source was identified in the Limited Phase I ESA conducted by WSDOT (WSDOT, 2016).

The scope of this investigation included the following tasks:

- Advancement of five soil borings to collect soil and, if encountered, groundwater samples for chemical analysis.
- Collection and analysis of soil and groundwater samples to determine if petroleum related contamination is present in the soil and groundwater beneath the Site.
- If petroleum related contamination is detected, additional samples were collected to determine the vertical and horizontal extent of the contamination plume when possible.
- Analysis of one soil sample from each boring for Site contaminants of concern. Additional samples were analyzed based on field observations and initial analytical results with the approval of the WSDOT Project Manager.
- The results of this Phase II investigation will be used to assist WSDOT in management of potential environmental risks associated with the reconstruction of the eastbound SR 520 off ramp to Montlake Boulevard East and East Montlake Place East.

2.0 SITE BACKGROUND

2.1 Site Description

The areas investigated for the Phase II ESA are the City of Seattle and WSDOT SR 520 right-of-ways in the vicinity of 2625 East Montlake Place East, Seattle, Washington. The investigation took place in the northeast quarter of Township 25 North, Range 4 East and Section 21.

2.2 Site History

East Montlake Place East was shown on the 1897 and the 1909 (reprinted 1936) topographic maps. The area of investigation was otherwise undeveloped. By 1949 the roads and streets in the area were largely in place, with the exception of SR 520. SR 520 was built in the early 1960's. The area adjacent to the Site is a residential neighborhood. The Montlake Playfield, a community center and sports field are a few blocks west of the Site.

2.2.1 Limited Phase I Environmental Site Assessment (ESA) Results

WSDOT conducted a limited Phase I ESA of the property immediately south and west of the areas investigated. This property is occupied by a '76 gasoline and service station and the Montlake Boulevard Market. Historically the property has been operated as a gasoline station and grocery store since 1926. The findings of limited Phase I ESA relevant to this Phase II ESA are:

- There are three active single wall gasoline USTs on the property. The year of installation and the UST size are as follows: 1952, 5,000 gallons; 1962, 10,000 gallons; and 1975, 10,000 gallons. In addition, in 1975 a 300 gallon used waste oil UST was installed. This tank was closed in place at an unknown date.
- There was no known environmental documentation identified during the limited Phase I investigation indicating that an inadvertent spill or release was present at the Site.
- An oil and gasoline facility resided northwest of the Subject Property across West Montlake Place.

The Limited Phase I recommendations included that a Phase II ESA be conducted to determine if the USTs have failed and released petroleum hydrocarbons into the surrounding soils and/or groundwater.

2.3 Previous Environmental Sampling and Analysis

WSDOT provided INNOVEX with copies of analytical reports for soil samples from nearby geotechnical explorations. The explorations are H-609p-11, H-667p-15 and H-691p-16 (Figure 2). Hydrocarbons were not detected in the soil sample from each exploration that was analyzed. The analytical results for a groundwater sample collected from H-667p-15 were also provided. In the sample, total petroleum hydrocarbons as gasoline (TPHg) was detected at a concentration of 170 micrograms per liter (ug/L) and total xylenes were detected at a concentration of 1.6 ug/L. The concentrations of the detected compounds are below the cleanup levels of 1,000 ug/L and 1,000 ug/L respectively. Laboratory analytical reports are presented in Appendix B. The Limited Phase I ESA identified a former oil and gasoline facility near the location of boring H-667p-15 from a Sanborn Map. An enlarged portion of the Sanborn Map is contained in Appendix C

3.0 PHYSICAL SETTING AND GEOLOGY

3.1 Physical Setting

The Site lies within the Puget Sound Lowland, which consists of a broad, low-lying region situated between the Cascade Range to the east and the Olympic Mountains to the west. The Lowland depression is underlain by Tertiary volcanic and sedimentary bedrock and is filled to the present-day land surface with Quaternary glacial and non-glacial sediments.

The Puget Sound Lowland's present-day geomorphic features can be attributed to the last continental glacier, the Cordilleran ice sheet, which covered the region during the Fraser Glaciation. The ice sheet advanced from British Columbia 18,000 years ago to just south of Olympia and disappeared approximately 10,000 years ago (Lasmanis, 1991).

The area investigated was below paved surfaces within the right of way for East Montlake Place East and the SR 520 eastbound off ramp. The surface elevation was between approximately 50 and 60 feet above the NAVD 88 datum. The surface topography slopes to the west towards Portage Bay.

3.2 Site Geology and Hydrogeology

The Site lies approximately 600 feet east of Portage Bay (Lake Union). Groundwater flow is inferred to follow surface topography and flow to the west. The topographic relief is less than 10 feet and primarily due to the slope of the SR 520 off ramp.

Subsurface conditions at the Site have been interpreted from the soil boring logs completed during this investigation, and from geotechnical boring logs provided by WSDOT. The borings were advanced as part of the geotechnical evaluation of the SR 520 Bridge Replacement and HOV Program. The borings are H-609p-15, H-667p-15 and H-691p-16 (Figure 2). Each boring had a transducer for water level measurements installed in it. The nominal depth to groundwater is generally 10 to 12 feet below ground surface (bgs). Boring logs, groundwater level measurements and a figure with boring locations are presented in Appendix B.

The near surface soils observed below the roadway subgrade were generally found to be silty sand with some fine gravel during the Phase II ESA fieldwork. Dense glacial till was encountered at a depth of between 15 and 24 feet bgs. The till was primarily fine silty sand and fine sandy silt with occasional fine to medium gravel and some clay. Boring logs are presented in Appendix A.

4.0 PHASE II ESA ACTIVITIES

4.1 Scope of Assessment

A sampling and analysis plan was developed (INNOVEX, 2016) to investigate recognized environmental conditions (RECs) identified in the Limited Phase I ESA. A total of five soil borings were conducted. Subsurface soil samples and groundwater samples were submitted to OnSite Environmental Inc. (OnSite) in Redmond, Washington for chemical analysis. Our rationale and the results for the exploration program are summarized below.

4.2 Conceptual Site Model and Sampling Plan

In order to provide a framework for evaluating data gaps and subsequent analytical data, a conceptual site model (CSM) depicting potential sources of chemicals, release mechanisms, means of retention in or migration to exposure media, exposure routes, and receptors was developed for the Site. The CSM describes, in a generalized way, the interactions of potential contaminants, mechanisms of contaminant migration, and possible routes of human and ecological exposure under site-specific conditions.

Based on background information previously presented, the contaminants of potential concern (COPCs) identified for the Site included:

- Gasoline-range petroleum hydrocarbons
- Diesel-range petroleum hydrocarbons
- Oil-range petroleum hydrocarbons
- Polychlorinated Biphenyls (PCBs)
- Volatile Organic Compounds (VOCs)
- Semi-volatile Organics (SVOCs)
- Priority Pollutant Metals (PP-13)

The PP-13 metals are; antimony, arsenic, beryllium, cadmium, chromium, copper, lead, nickel, selenium, silver, thallium, and zinc.

4.3 Utility Location

WSDOT coordinated the utility locating. There were no buried utilities at the boring locations. On East Montlake Place East there were overhead power lines for king County Metro electric trolleys. WSDOT arranged for the power to be turned off to allow soil borings to be advanced.

4.4 Permits and Traffic Control

WSDOT obtained Street Use permits from WSDOT and SDOT for work on the SR 520 off ramp and East Montlake Place East respectively. In addition, they obtained a noise variance to allow the drilling to be conducted at night, and reducing the impacts to traffic and local businesses.

WSDOT prepared a traffic control plan. INNOVEX subcontracted GHD, Inc. to implement the plan.

4.5 Mud Rotary Drilling

Five soil borings were advanced and sampled (Figure 2) by a WSDOT drilling crew with a mud rotary drill rig. The drilling mud consisted of water with no bentonite or other additives. Drilling fieldwork was conducted on the nights of October 6, 7, and 8, 2016. Although there were no known releases identified by the Limited Phase I ESA, the Program determined it prudent to investigate subsurface conditions within City and State right-of-ways adjacent to the '76 gasoline and service station.

Fieldwork consisted of collecting subsurface soil samples with a 2-inch split spoon from a total of five soil boring locations. A petroleum odor and elevated photoionization detector (PID) readings were noted in soil samples from four of the borings. Soil samples from boring H-1-16 did not have a petroleum odor or elevated PID readings.

Downhole drilling equipment, hoses, and storage tank and pump on the rig were decontaminated at the WSDOT facility on South Corson Avenue in Seattle before the start of drilling and after each nights work. The drilling mud (water) was changed between each boring.

4.6 Soil and Groundwater Sampling

A total of 40 soil samples and one groundwater sample were collected from the soil borings. Eight soil samples were collected from each boring. The soil sample from each boring with the highest PID reading was selected for chemical analysis except as discussed in the next paragraph for samples from boring H-1-16. Additional samples were analyzed for selected analyses based on field screening and initial analytical results with the approval of the WSDOT Project Manager.

Soil samples from boring H-1-16 did not have elevated PID readings. The soil sample from above the contact with dense glacial till was selected for chemical analysis.

One groundwater sample was collected with the driller's bailer from boring H-3-16 located on the SR 520 off ramp. No other groundwater samples were collected.

4.7 Analytical Methods

The COPCs identified for the Site include petroleum hydrocarbon related constituents. Selected soil and groundwater samples were analyzed to determine the concentrations of these COPCs using the following methods:

- Hydrocarbon Identification (HCID) – Northwest Total Petroleum Hydrocarbon (NWTPH) HCID (Soil and water)
- Gasoline-range petroleum hydrocarbons –NWTPH-Gx (soil and water)
- Diesel-range petroleum hydrocarbons – NWTPH-Dx (soil and water)
- Oil-range petroleum hydrocarbons – NWTPH-Dx (soil and water)
- Polychlorinated Biphenyls (PCBs) – EPA Method 8082 (soil and water)
- Volatile Organic Compounds (VOCs) – EPA Method 8260 (soil and water)
- Semi-volatile Organics (SVOCs) – EPA Method 8270 (soil and water)
- Priority Pollutant Metals (PP-13) – EPA Method 6010 (soil and water)

Table 1 summarizes the samples submitted to OnSite Environmental (OnSite) for chemical analysis and the requested analyses.

4.7.1 Soil Analytical Results

Detected analytes in soil are summarized in in the following tables:

- Table 4 HCID Soil Analytical Results
- Table 5 Volatile Organic Compounds Detected in Soil Samples
- Table 6 Semivolatile Organic Compounds Detected in Soil Samples
- Table 7 Polychlorinated Biphenyls Detected in Soil Samples
- Table 8 Metals Detected in Soil Samples

The analytical reports are included in Appendix D.

HCID analysis did not detect total petroleum hydrocarbons as gasoline (TPHg) in samples from borings H-1-16, H-2-16, H-3-16, and H-5-16 (Table 4). TPHg was detected in two soil samples from boring H-4-16.

VOCs were not detected in the analyzed soil sample from boring H-1-16. VOCS were detected in soils samples from soil borings H-2-16, H-3-16, H-4-16 and H-5-16 (Table 5). VOCs above the applicable cleanup level were detected soil samples from borings H-3-16, H-4-16, and H-5-16. The compounds that had concentrations above the cleanup level are benzene, ethylbenzene, total xylene, naphthalene, and methylene chloride.

SVOCs were not detected in the analyzed soil sample from boring H-1-16. SVOCS were detected in soils samples from soil borings H-2-16, H-3-16, H-4-16 and H-5-16 (Table 6). One SVOC, naphthalene, was above the applicable cleanup level in a soil sample from borings H-4-16. Naphthalene is an analyte for both the VOC and SVOS analytical method.

PCBs were not detected in any of the soil samples analyzed (Table 7).

Chromium, copper, lead, nickel and zinc were present in soil samples from each of the five boring at concentrations above the analytical method reporting limit (Table 8). Copper and nickel were present at concentrations above the applicable cleanup level.

4.7.2 Groundwater Analytical Results

One groundwater sample was collected as part of the investigation. It was collected from boring H-3-16 and was analyzed for VOCs, SVOCs and dissolved metals. The detected analytes are summarized in Table 2. Three VOCs, benzene, bromochloromethane, and chloroform; and two dissolved metals, antimony and arsenic had concentrations greater than the applicable cleanup level.

4.8 Deviations from the Sampling and Analysis Plan

The approved SAP identified the drilling method as auger drilling. The drilling crew arrived on site with a mud rotary drill rig. The WSDOT and Innovex project managers talked and recognized that by using mud rotary drilling the data quality would be of reduced and that the data would not be legally defensible. Contaminant concentrations could be impacted because the recirculated drilling mud (water with no additives) could reduce high contaminant concentrations and also increase low

contaminant concentrations in soil or groundwater. However; the data would be of sufficient quality to determine if contaminants of concern were present in the soil and to meet the needs of WSDOT.

4.9 Data Quality

Data reports from OnSite were reviewed by INNOVEX. Laboratory provided data quality parameters were reviewed. Data qualifiers were applied as necessary. Data for VOCs, PAHs, PCBs, MTCA metals, and TPHs were determined by INNOVEX to be as qualified acceptable for all purposes following evaluation of the quality control specifications presented in the SAP; or equivalent requirements found in the contracted commercial laboratory analytical methods. Precision, accuracy, representativeness, comparability, and completeness parameters were evaluated for each method. In addition to laboratory control samples, the data were also reviewed for trip temperature and holding time.

The Method 5035A VOA vials provided for soil sample H-1-16-10 contained too much soil to perform the requested analysis. Therefore, the sample was extracted from an 8-ounce jar and analyzed. Some loss of volatiles may have occurred.

All four Internal Standards did not meet acceptance criteria for samples H-3-16-6 and H-3-16-8.5. The samples were re-analyzed with similar results. Leaks in the sealed VOA environment caused by grit between the VOA lip and VOA cap septum have been shown to cause low internal standard recovery. The samples were consequently extracted from their respective 8-ounce jars, analyzed, and reported. Some loss of volatiles may have occurred, and common laboratory solvents Acetone and Methylene Chloride may have been introduced during sample preparation. Acetone and Methylene Chloride were detected in sample H-3-16-8.5. Methylene Chloride was detected sample H-3-16-8.5. These results were “H” qualified indicating that the analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

OnSite followed most recent version of the specified analytical methods. Precision was acceptable as demonstrated by the reported matrix spike/matrix spike duplicate (MS/MSD) laboratory control sample/laboratory control sample duplicate (LCS/LCSD) relative percent difference (RPD) values. Accuracy was also acceptable, as demonstrated by the reported surrogate, MS/MSD and LCS/LCD percent recovery values. Samples were collected and field activities were conducted in accordance with the SAP, with the exception of the deviations described in the above section.

4.10 Disposal of Investigation Derived Waste

Investigation Derived waste (IDW) including soil cuttings, decontamination water and drilling mud were containerized by the drilling crew and taken to the WSDOT facility on Corson Avenue, Seattle for temporary storage pending sample analytical results followed by proper disposal.

5.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the above findings, deviations from the SAP and analytical results presented above we offer the following conclusions for this investigation.

- VOCs were the primary analytes detected in soil samples at concentrations above applicable MTCA cleanup levels.
- The only SVOC detected soil samples above the applicable MTCA cleanup level was naphthalene in one sample.
- PCBs were not detected in any of the soil or groundwater samples analyzed.
- Copper and Nickel are the only metals detected in soil samples at concentrations above the MTCA soil cleanup level for protection of groundwater.
- VOCs were present in the groundwater sample at concentrations above applicable MTCA cleanup levels.
- No SVOCs were detected in the groundwater sample at concentrations above applicable MTCA cleanup levels.
- PCBs were not detected in the groundwater sample.
- Antimony and arsenic were detected in the groundwater sample at concentrations above applicable MTCA cleanup levels.
- Soil and groundwater in the investigation area appear to be impacted by gasoline and related compounds at concentrations above applicable MTCA cleanup levels.
- Contamination was detected in soil samples collected from boring H-4-16 at depths of up to 25 feet bgs.

The source of the gasoline related analytes and contaminants detected in the soil and groundwater samples collected as part of this investigation is potentially the current or former USTs at the adjacent service station. It is recommended the additional investigation on the service station property be conducted to determine the extent of the contamination identified by this Phase II ESA.

To ensure the results of future environmental investigations are legally defensible INNOVEX recommends that mud rotary drilling not be used.

6.0 LIMITATIONS

This report is based on the Site conditions, data, and other information available as of the date of the report, and the conclusions herein are applicable only to the time frame in which the report was prepared. Background information used to prepare this report including, but not limited to Site plans and other data have been furnished to INNOVEX by WSDOT and as available on Ecology's website. INNOVEX has relied on this information as furnished, and is neither responsible for nor has confirmed the accuracy of this information.

7.0 REFERENCES

WSDOT (Washington State Department of Transportation), 2016. Limited Phase I Environmental Site Assessment State Route (SR) 520 Montlake '76 Gasoline and Service Station, Seattle, Washington

Lasmanis, Raymond, 1991. The Geology of Washington Rocks and Minerals. Volume 66, No. 4, p. 262-277.

TABLES

Table 1 Summary of Sample Analyses, SR 520 Eastbound Off-Ramp to Montlake Vicinity Seattle, Washington

Sample Name	Sample Depth (ft bgs)	HCID	TPHg	PCBs	VOCs	SVOCs	PP-13
Soil Samples							
H-1-16-10	10	X		X	X	X	X
H-2-16-13.5	13.5	X		X	X	X	X
H-3-16-3	3	X		X	X	X	X
H-3-16-6	6	X		X	X	X	X
H-3-16-8.5	8.5	X		X	X	X	X
H-4-16-3	3	X	X				
H-4-16-6	6	X	X				
H-4-16-8.5	8.5	X	X				
H-4-16-11	11	X	X				
H-4-16-16	16	X	X	X	X	X	X
H-4-16-18.5	18.5	X	X				
H-4-16-19.9	19.9	X	X				
H-4-16-25.4	25.4	X	X				
H-5-16-3	3	X					
H-5-16-6	6	X					
H-5-16-8.5	8.5	X					
H-5-16-11	11	X					
H-5-16-13.5	13.5	X		X	X	X	X
H-5-16-16	16	X					
H-5-16-18.5	18.5	X					
Groundwater Sample							
H-3-16	NA	X		X	X	X	X[1]

[1] Dissolved metals

Table 2 Groundwater Cleanup Levels for Detected Analytes and Detected Analyte Concentrations in Sample H-3-16, SR 520 Eastbound Off-Ramp to Montlake Vicinity Seattle, Washington

Chemical Name	Analyte Type	Sample H-3-16 (µg/L)	MTCA Cleanup Level (µg/L)		CAS #
acetone	VOC	6.5	7200	Method B Non cancer	67-64-1
benzene	VOC	**7.4**	0.80	Method B Cancer	71-43-2
bromodichloromethane	VOC	**1.0**	0.71	Method B Cancer	75-27-4
chloroform	VOC	**8.3**	1.41	Method B Cancer	67-66-3
isopropylbenzene (cumene)	VOC	0.025	800	Method B Non cancer	98-82-8
ethylbenzene	VOC	0.7	700	Method A Unrestricted Land Use	100-41-4
propylbenzene;n-	VOC	0.37	800	Method B Non cancer	103-65-1
trimethylbenzene;1,2,4-	VOC	0.44	--	No Cleanup Level Listed in CLARC Table	95-63-6
trimethylbenzene;1,3,5-	VOC	0.30	80	Method B Non cancer	108-67-8
xylenes, total	VOC	2.77	1000	Method A Unrestricted Land Use	1330-20-7
benzo[a]anthracene	SVOC	0.082	0.12	Method B Cancer	56-55-3
bis(2-ethylhexyl) phthalate	SVOC	5.7	6.25	Method B Cancer	117-81-7
chrysene	SVOC	0.012	12	Method B Cancer	218-01-9
di-n-butylphthalate (di-butyl phthalate)	SVOC	9.3	1600	Method B Non cancer	84-74-2
diethyl phthalate	SVOC	1.3	12800	Method B Non cancer	84-66-2
methyl naphthalene;1-	SVOC	0.13	560	Method B Non cancer	90-12-0
methyl naphthalene;2-	SVOC	0.23	32	Method B Non cancer	91-57-6
naphthalene	SVOC	0.25	160	Method A Unrestricted Land Use	91-20-3
phenanthrene	SVOC	0.11	--	No Cleanup Level Listed in CLARC Table	85-01-8
antimony	Metal	**18**	6.40	Method B Non cancer	7440-36-0
arsenic, inorganic	Metal	**3.3**	0.06	Method B Cancer	7440-38-2
lead	Metal	2.5	15	Method A Unrestricted Land Use	7439-92-1

Exceeds cleanup level

Table derived from Ecology's CLARC Master Table at https://fortress.wa.gov/ecy/clarc/CLARCDataTables.aspx

VOC - Volatile Organic Compound

SVOC - Semivolatile Organic Compound

Metal - Dissolved Metal

Table 3 Soil Cleanup Levels for Detected Analytes, SR 520 Eastbound Off-Ramp to Montlake Vicinity Seattle, Washington

Chemical Name	Sample Name	Highest Soil Concentration (mg/kg)	MTCA Cleanup Level (mg/kg)		CAS #
acetone	H-2-16-13.5	0.060	2	Protective of Groundwater	67-64-1
benzene	H-3-16-8.5	**0.35**	0.0017	Protective of Groundwater	71-43-2
chromium(III)	H-5-16-13.5	64	2000	Method A Unrestricted Land Use	16065-83-1
copper	H-5-16-13.5	**46**	14	Protective of Groundwater	7440-50-8
isopropylbenzene (cumene)	H-5-16-13.5	0.19	8000	Method B Non cancer	98-82-8
ethylbenzene	H-4-16-18.5	**1.4**	0.34	Protective of Groundwater	100-41-4
lead	H-2-16-13.5	11	150	Protective of Groundwater	7439-92-1
2-butanone (methyl ethyl ketone)	H-3-16-8.5	0.021	48000	Method B Non cancer	78-93-3
p-isopropyltoluene	H-5-16-13.5	0.32	--	No Cleanup Level Listed in CLARC Table	99-87-6
1-methyl naphthalene	H-4-16-16	0.37	34	Method B Cancer	90-12-0
2-methyl naphthalene	H-4-16-16	0.74	320	Method B Non cancer	91-57-6
methylene chloride	H-3-16-6	**0.053 H**	0.0015	Protective of Groundwater	75-09-2
naphthalene	H-4-16-16	**0.64**	0.24	Protective of Groundwater	91-20-3
n-butylbenzene	H-5-16-13.5	2.0	4000	Method B Non cancer	104-51-8
nickel soluble salts	H-5-16-13.5	**69**	6.53	Protective of Groundwater	7440-02-0
n-propylbenzene	H-5-16-13.5	1.2	8000	Method B Non cancer	103-65-1
sec-butylbenzene	H-5-16-13.5	0.51	8000	Method B Non cancer	135-98-8
toluene	H-4-16-18.5	0.090	0.27	Protective of Groundwater	108-88-3
TPHg with benzene present	H-4-16-19.9	**99**	30	Method A Unrestricted Land Use	unavailable25
1,2,4-trimethylbenzene	H-3-16-8.5	1.8	--	No Cleanup Level Listed in CLARC Table	95-63-6
1,3,5-trimethylbenzene	H-4-16-16	0.56	800	Method B Non cancer	108-67-8
xylenes, total	H-4-16-18.5	**2.28**	1	Protective of Groundwater	1330-20-7
zinc	H-5-16-13.5	69	299	Protective of Groundwater	7440-66-6

Exceeds cleanup level

H - The result indicated is a common laboratory contaminant and may have been introduced during sample preparation.

Table derived from Ecology's CLARC Master Table at https://fortress.wa.gov/ecy/clarc/CLARCDataTables.aspx

Table 4 HCID Soil Analytical Results, SR 520 Eastbound Off-Ramp to Montlake Vicinity Seattle, Washington

Sample ID	Sample Date	Sample depth (ft.)	TPHg (mg/kg)	TPHd (mg/kg)	TPHo (mg/kg)
H-1-16-10	10/6/2016	10	ND	ND	ND
H-2-16-13.5	10/7/2016	13.5	ND	ND	ND
H-3-16-3	10/7/2016	3	ND	ND	ND
H-3-16-6	10/7/2016	6	ND	ND	ND
H-3-16-8.5	10/7/2016	8.5	ND	ND	ND
H-4-16-3	10/8/2016	3	ND	ND	ND
H-4-16-6	10/8/2016	6	ND	ND	ND
H-4-16-8.5	10/8/2016	8.5	ND	ND	ND
H-4-16-11	10/8/2016	11	ND	ND	ND
H-4-16-16	10/8/2016	16	Detected	ND	ND
H-4-16-18.5	10/8/2016	18.5	Detected	ND	ND
H-4-16-19.9	10/8/2016	19.9	ND	ND	ND
H-4-16-25.4	10/8/2016	25.4	ND	ND	ND
H-5-16-3	10/8/2016	3	ND	ND	ND
H-5-16-6	10/8/2016	6	ND	ND	ND
H-5-16-8.5	10/8/2016	8.5	ND	ND	ND
H-5-16-11	10/8/2016	11	ND	ND	ND
H-5-16-13.5	10/8/2016	13.5	ND	ND	ND
H-5-16-16	10/8/2016	16	ND	ND	ND
H-5-16-18.5	10/8/2016	18.5	ND	ND	ND

ND = Not Detected

Table 5 Volatile Organic Compounds Detected in Soil Samples, SR 520 Eastbound Off-Ramp to Montlake Vicinity, Seattle, Washington

Sample ID	Sample Date	Sample depth (ft.)	TPHg (mg/kg)	Acetone (mg/kg)	Methylene Chloride (mg/kg)	2-Butanone (mg/kg)	Benzene (mg/kg)	Toluene1 (mg/kg)	Ethyl-benzene (mg/kg)	Total-xylenes (mg/kg)	Isopropyl-benzene (mg/kg)	n-Propyl-benzene (mg/kg)	1,3,5-Trimethyl-benzene (mg/kg)	1,2,4-Trimethyl-benzene (mg/kg)	sec-Butyl-benzene (mg/kg)	p-Isopropyl-toluene (mg/kg)	n-Butyl-benzene (mg/kg)	Napthalene (mg/kg)
H-1-16-10	10/6/2016	10	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
H-2-16-13.5	10/7/2016	13.5	--	0.060	ND	0.021	0.0053	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
H-3-16-3	10/7/2016	3	--	ND	ND	ND	0.0055	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
H-3-16-6	10/7/2016	6	--	0.023 H	**0.053 H**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
H-3-16-8.5	10/7/2016	8.5	--	ND	**0.022 H**	ND	**0.038**	ND	0.0050	0.016	0.0018	0.0032	0.0015	0.0018	0.0013	0.002	ND	ND
H-4-16-3	10/8/2016	3	ND	--	--	--	ND	ND	ND	ND	--	--	--	--	--	--	--	--
H-4-16-6	10/8/2016	6	ND	--	--	--	**0.024**	ND	ND	ND	--	--	--	--	--	--	--	--
H-4-16-8.5	10/8/2016	8.5	ND	--	--	--	**0.045**	ND	ND	ND	--	--	--	--	--	--	--	--
H-4-16-11	10/8/2016	11	ND	--	--	--	**0.026**	ND	ND	ND	--	--	--	--	--	--	--	--
H-4-16-16	10/8/2016	16	**69**	ND	ND	ND	ND	ND	**0.55**	**1.89**	0.092	0.36	0.56	1.8	0.064	0.053	0.29	ND
H-4-16-18.5	10/8/2016	18.5	30	--	--	--	**0.13**	0.074	**0.76**	**2.28**	--	--	--	--	--	--	--	--
H-4-16-19.9	10/8/2016	19.9	**99**	--	--	--	**0.35**	0.090	**1.4**	**2.79**	--	--	--	--	--	--	--	--
H-4-16-25.4	10/8/2016	25.4	ND	--	--	--	**0.092**	0.064	ND	0.088	--	--	--	--	--	--	--	--
H-5-16-13.5	10/8/2016	13.5	--	ND	ND	ND	ND	ND	0.089	ND	0.19	1.2	0.15	ND	0.51	0.32	2.0	**0.64**
MTCA Cleanup Level			30	2	0.0015	48000	0.0017	0.27	0.34	1	8000	8000	800	No CUL	8000	No CUL	4000	0.24

-- Not Analyzed
ND Not Detected
Exceeds Cleanup Level
H H - The result indicated is a common laboratory contaminant and may have been introduced during sample preparation.
CUL Cleanup Level

Table 6 Semi Volatile Organic Compounds Detected in Soil Samples, SR 520 Eastbound Off-Ramp to Montlake Vicinity, Seattle, Washington

Sample ID	Sample Date	Sample depth (ft.)	Napthalene (mg/kg)	2-Methylnaphthalene (mg/kg)	1-Methylnaphthalene (mg/kg)1
H-1-16-10	10/6/2016	10	ND	ND	ND
H-2-16-13.5	10/7/2016	13.5	0.0096	ND	ND
H-3-16-8.5	10/7/2016	8.5	ND	0.018	0.013
H-4-16-16	10/8/2016	16	**0.59**	0.74	0.37
H-5-16-13.5	10/8/2016	13.5	0.039	0.35	0.037
MTCA Cleanup Level			0.24	320	34

ND = Not Detected

Table 7 Polychlorinated Biphenyls Detected in Soil Samples, SR 520 Eastbound Off-Ramp to Montlake Vicinity, Seattle, Washington

Sample ID	Sample Date	Sample depth (ft.)	Aroclor 1016 (mg/kg)	Aroclor 1212 (mg/kg)	Aroclor 1232 (mg/kg)	Aroclor 1242 (mg/kg)	Aroclor 1248 (mg/kg)	Aroclor 1254 (mg/kg)	Aroclor 1260 (mg/kg)
H-1-16-10	10/6/2016	10	ND	ND	ND	ND	ND	ND	ND
H-2-16-13.5	10/7/2016	13.5	ND	ND	ND	ND	ND	ND	ND
H-3-16-3	10/7/2016	3	ND	ND	ND	ND	ND	ND	ND
H-3-16-6	10/7/2016	6	ND	ND	ND	ND	ND	ND	ND
H-3-16-8.5	10/7/2016	8.5	ND	ND	ND	ND	ND	ND	ND
H-4-16-16	10/8/2016	16	ND	ND	ND	ND	ND	ND	ND
H-5-16-13.5	10/8/2016	13.5	ND	ND	ND	ND	ND	ND	ND

ND = Not Detected

Table 8 Metals Detected in Soil Samples, SR 520 Eastbound Off-Ramp to Montlake Vicinity, Seattle, Washington

Sample ID	Sample Date	Sample depth (ft.)	Chromium (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Nickel (mg/kg)	Zinc (mg/kg)
H-1-16-10	10/6/2016	10	36	8.4	ND	**27**	20
H-2-16-13.5	10/7/2016	13.5	37	**24**	11	**36**	56
H-3-16-3	10/7/2016	3	28	13	ND	**33**	26
H-3-16-6	10/7/2016	6	27	11	ND	**30**	24
H-3-16-8.5	10/7/2016	8.5	29	8.6	ND	**24**	26
H-4-16-16	10/8/2016	16	28	11	ND	**30**	24
H-5-16-13.5	10/8/2016	13.5	64	**46**	ND	**69**	69
MTCA Cleanup Level			2,000	14	150	6.53	299

ND = Not Detected

= Exceeds Cleanup Level

FIGURES

DESIGNED BY
Innovex Environmental
Thuan Bui
DRAWN BY
ICD
October 5, 2016

INNOVEX
ENVIRONMENTAL MANAGEMENT, INC.

16310 NE 80th St., Suite 300
Redmond, WA 98052
(800) 988-7880

0 1000 2000
SCALE IN FEET

N
W E
S

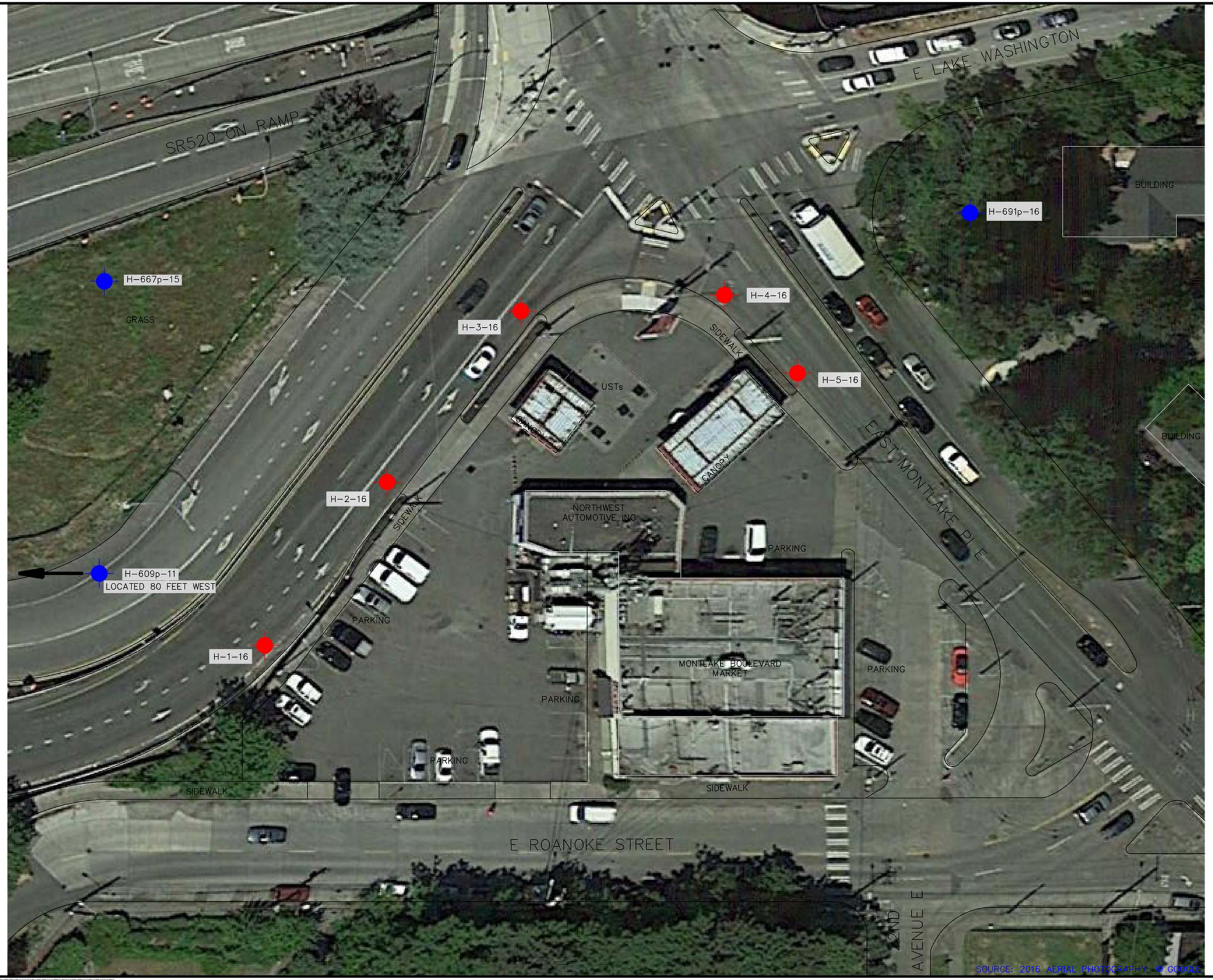
LATTITUDE 47D 38M 38S NORTH
LONGITUDE 122D 18M 15S WEST

US GEOLOGICAL SURVEY - 2014
7.5 MINUTE QUADRANGLE MAP
SEATTLE NORTH, WASHINGTON

FIGURE 1
Site Location Map

STATE ROUTE (SR)520
EASTBOUND OFF-RAMP
TO MONTLAKE VICINITY
2625 MONTLAKE PLACE EAST
SEATTLE, WASHINGTON

SR520_SITELOCATION.DWG



N
W E
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0 20 40
SCALE IN FEET

LEGEND

H-1-16 SOIL BORING LOCATION

H-691p-16 GEOTECHNICAL EXPLORATIONS

DESIGNED BY
Innovex Environmental
Thuan Bui
DRAWN BY
ICD
December 5, 2016

FIGURE 2
Boring Locations Map

STATE ROUTE (SR) 520
EAST BOUND OFF-RAMP
TO MONTLAKE VICINITY
2625 MONTLAKE PLACE EAST
SEATTLE, WASHINGTON

INNOVEX
ENVIRONMENTAL MANAGEMENT, INC.

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Redmond, WA 98052
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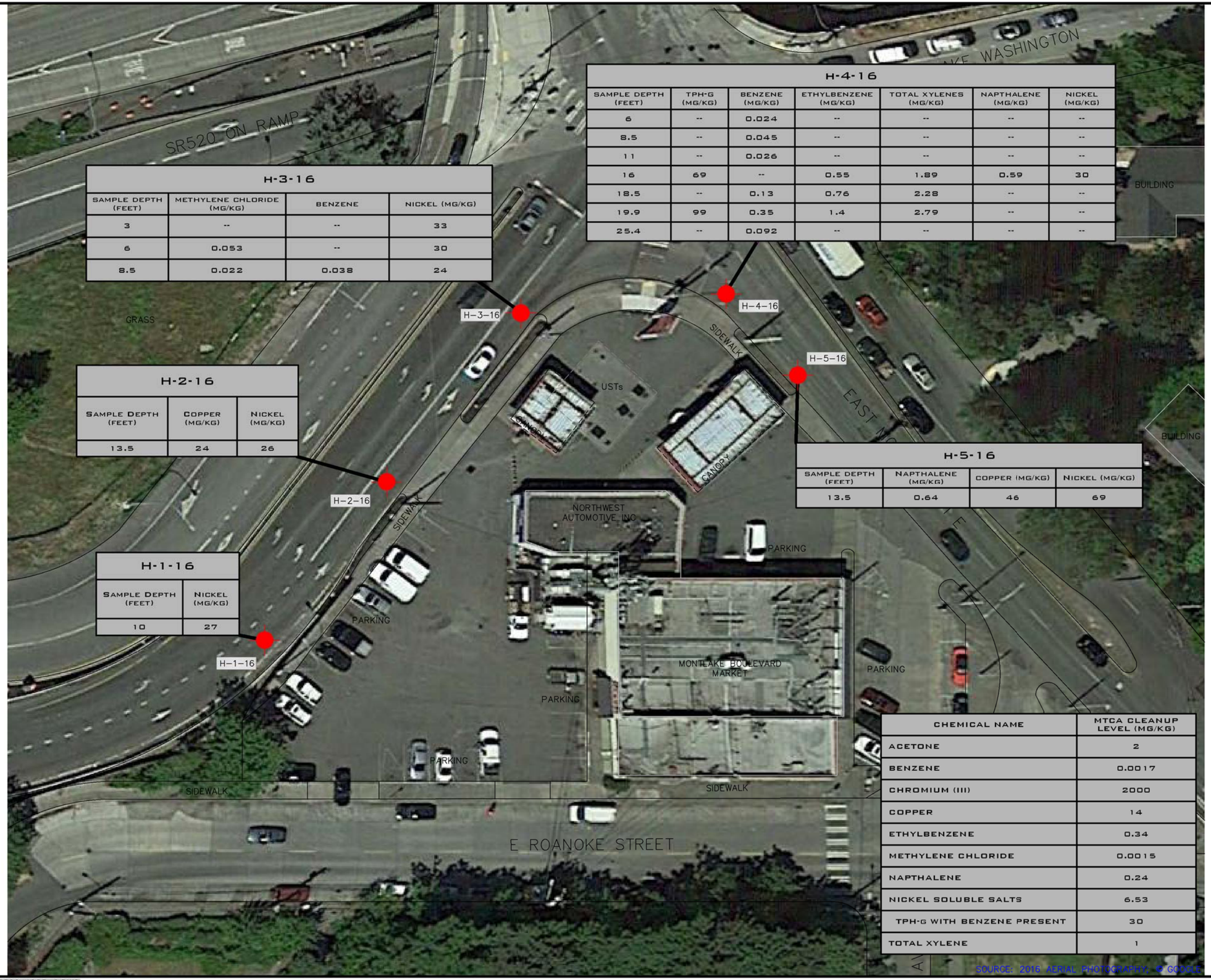
SR520_16Q3_FIGURE 2.DWG



H-3-16

SAMPLE DEPTH (FEET)	METHYLENE CHLORIDE (MG/KG)	BENZENE	NICKEL (MG/KG)
3	--	--	33
6	0.053	--	30
8.5	0.022	0.038	24

H-4-16

SAMPLE DEPTH (FEET)	TPH-G (MG/KG)	BENZENE (MG/KG)	ETHYLBENZENE (MG/KG)	TOTAL XYLENES (MG/KG)	NAPTHALENE (MG/KG)	NICKEL (MG/KG)
6	--	0.024	--	--	--	--
8.5	--	0.045	--	--	--	--
11	--	0.026	--	--	--	--
16	69	--	0.55	1.89	0.59	30
18.5	--	0.13	0.76	2.28	--	--
19.9	99	0.35	1.4	2.79	--	--
25.4	--	0.092	--	--	--	--

H-2-16

SAMPLE DEPTH (FEET)	COPPER (MG/KG)	NICKEL (MG/KG)
13.5	24	26

H-5-16

SAMPLE DEPTH (FEET)	NAPTHALENE (MG/KG)	COPPER (MG/KG)	NICKEL (MG/KG)
13.5	0.64	46	69

H-1-16

SAMPLE DEPTH (FEET)	NICKEL (MG/KG)
10	27

CHEMICAL NAME	MTCA CLEANUP LEVEL (MG/KG)
ACETONE	2
BENZENE	0.0017
CHROMIUM (III)	2000
COPPER	14
ETHYLBENZENE	0.34
METHYLENE CHLORIDE	0.0015
NAPTHALENE	0.24
NICKEL SOLUBLE SALTS	6.53
TPH-G WITH BENZENE PRESENT	30
TOTAL XYLENE	1

SOURCE: 2016 AERIAL PHOTOGRAPHY © GOOGLE

N
W E
S

0 20 40
SCALE IN FEET

LEGEND

H-1-16 SOIL BORING LOCATION

-- BELOW CLEANUP LEVEL

DESIGNED BY
Innovex Environmental
Thuan Bui
DRAWN BY
Thuan Bui
November 1, 2016

FIGURE 3
Soil Sample Analytical Results Exceeding the MTCA Cleanup Levels

STATE ROUTE (SR) 520 EASTBOUND OFF-RAMP TO MONTLAKE VICINITY
2625 MONTLAKE PLACE EAST
SEATTLE, WASHINGTON

INNOVEX ENVIRONMENTAL MANAGEMENT, INC.
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SR520_1603_2.DWG

Appendix A
Boring Logs

INNOVEX

FIELD LOG OF BORING

Drilling Co. : WSDOT
Drilling Rig Eq :
Drilling Method : Mud Rotary
Drill Diameter :
Weather Conditions : 55°F, rain showers

Job No. : 31008 Boring No. : B-1-16
Job Name : SR 520 Exploration
Logged by : Jennifer Heise
Location : Montlake Exit Ramp
Start Date : 10/16/16 End Date : 10/16/16

Well Construction	Time	Blows/6 in.	Headspace PID/OVA	Sample ID (X = Lab Sample)	Depth (ft)	Sample Interval	USCS Code	FIELD CLASSIFICATION [Density/consistency, color, minor, MAJOR, then trace constituents; moisture ; structure; other; (Geology USCS Classification)]
	2152							drilling began
		2			2			
		2						
		1						
		2						(4-6) medium brown silty sand w/ gravel, sample is ~~well~~ graded, gravel is fine to 1" diameter, sub angular to subrounded, sample is damp, no odor, no debris
			0.0		4			
					6			
	2158				8			(9-11) top 1 foot is blue fine sand w/ little gravel, then lens of orange sand, then 1' of gray sand w/ silt and very little fine gravel, no odor, sample is damp
			0.0					
		11	0.0		10			
		11						
		13						
		20						
	2204	50/4			15			(15) very poor sample recovery (≈ 4") blue-gray fine sand w/ silt and gravel ≈ 1.5" diameter, dense, dry, no odor
			0.0					
	2223	50/5			20			(20) very poor sample recovery (≈ 6") similar to previous - blue-gray poorly graded sand w/ fine to 1" gravel, ≈ 30% gravel, subangular to subrounded, sample is dry, no odor observed
			0.0					

GROUNDWATER DATA

Water Depth	Time	Date

COMMENTS (i.e. materials used, visitors, problems etc.) :

SUMMARY OF TIME

Boring/Sample : _____hrs.
Setup/Cleanup : _____ hrs.
Boring No. : _____
Standby : _____hrs.
Decon: _____hrs.
Sheet _____ of _____

INNOVEX ENVIRONMENTAL MANAGEMENT, INC.

FIELD LOG OF BORING

Drilling Co. : WSDOT
Drilling Rig Eq :
Drilling Method :
Drill Diameter :
Weather Conditions :

Job No. :
Boring No. : H-1-16
Job Name :
Logged by : Jennifer Heise
Location :
Start Date : 16/0006 End Date : 16/0006

Well Construction	Time	Blows/6 in.	Headspace PID/OVA	Sample ID (X = Lab Sample)	Depth (ft)	Sample Interval	USCS Code	FIELD CLASSIFICATION [Density/consistency, color, minor, MAJOR, then trace constituents; moisture ; structure; other; (Geology USCS Classification)]
					21			
					22			
					23			
					24			(24-25') (1 foot sample recovery) gray till-blue gray fine sand/silt layered w/ medium grained sand w/ gravel up to 3/4", mostly fine gravel, up to 15% sample is dry, no odor
	2236	29 50/5			25			
					26			
					27			driller encountered gravel at 27'
	2248	50/5			30			(30) (poor sample recovery ≈ 4-5") Till, blue gray fine sand w/ silt and gravel, poorly graded, gravel is fine to 3/4" diameter, subangular to subrounded, up to 35% gravel, sample is dense & dry
	2300	50/2			35			NO RECOVERY
	2313	50/2			40			NO RECOVERY

GROUNDWATER DATA

Water Depth	Time	Date

SUMMARY OF TIME

Sample : _____hrs.
_____ hrs.
_____
Standby : _____hrs.
Decon: _____hrs.
Sheet _____ of _____

COMMENTS (i.e. materials used; visitors, problems etc.) :

INNOVEX ENVIRONMENTAL MANAGEMENT, INC.

FIELD LOG OF BORING

Drilling Co. : _____ Job No. : _____ Boring No. : H-1-16

Drilling Rig Eq : _____ Job Name : _____

Drilling Method : _____ Logged by : _____

Drill Diameter : _____ Location : _____

Weather Conditions : _____ Start Date : 16/0006 End Date : 16/006

Well Construction	Time	Blows/6 in.	Headspace PID/OVA	Sample ID (X = Lab Sample)	Depth (ft)	Sample Interval	USCS Code	FIELD CLASSIFICATION [Density/consistency, color, minor, MAJOR, then trace constituents; moisture ; structure; other; (Geology USCS Classification)]
					41			
	2330	50/3	0.0		45			(45) poor sample recovery (~2-3") till- blue gray silty sand w/ little gravel, sample is dry and dense
	2350	50/3	0.0		50			(50) poor sample recovery (~2-3") till- gray silty sand w/ some medium grained sand, very little fine gravel, no odor, dense, dry
								boring terminated at 50' bgs
					55			

GROUNDWATER DATA

Water Depth	Time	Date

COMMENTS (i.e. materials used, visitors, problems etc.) :

SUMMARY OF TIME

Boring/Sample : _____hrs. Standby : _____hrs.

Setup/Cleanup : _____ hrs. Decon: _____hrs.

Boring No. : _____ Sheet _____ of _____

INNOVEX ENVIRONMENTAL MANAGEMENT, INC.

FIELD LOG OF BORING

H-2-16

Drilling Co. : WSDOT
Drilling Rig Eq : _____
Drilling Method : Mud Rotary
Drill Diameter : _____
Weather Conditions : Rain showers

Job No. : 31008 Boring No. : _____
Job Name : SR 520 @ Montlake Plaza II
Logged by : G. Hayman
Location : Seattle
Start Date : 10/7/16 End Date : 10/7/16

Well Construction	Time	Blows/6 in.	Headspace PID/OVA	Sample ID (X = Lab Sample)	Depth (ft)	Sample Interval	USCS Code	FIELD CLASSIFICATION [Density/consistency, color, minor, MAJOR, then trace constituents; moisture ; structure; other; (Geology USCS Classification)]
								Asphalt
	21:20	2 3 2	0.0		1.5-3		SM	Gray silty sand w/few gravel, moist, loose, no odor, PID=0.0
		2 1			4-6			no recovery
		2 1						
	21:35	2 1 1	0.7		7-8.5		SM	Gray silty sand, moist, v. loose, no odor, PID=0.7
	21:40	1 1 2 1	3.9		9-11			Same, petroleum odor
	21:45	2 1 1	4.7		12-13.5		SM	same as above PID-4.7 wood debris @ 13 feet, petroleum odor
	21:50	2 2 3 7	0.0		14-16			Dark gray silty sand, stiff
	21:55	16 20 31	0.0		17-18.5			Gray silty sand, dense, moist, no odor
		50/4"	10.3		19-19.3			Gray silty sand, very dense no odor
	22:00							

GROUNDWATER DATA

Water Depth	Time	Date

SUMMARY OF TIME

Boring/Sample : _____hrs. Standby : _____hrs.
Setup/Cleanup : _____ hrs. Decon: _____hrs.
Boring No. : _____ Sheet _____ of _____

COMMENTS (i.e. materials used; visitors, problems etc.) :

INNOVEX ENVIRONMENTAL MANAGEMENT, INC.

FIELD LOG OF BORING

H-2-16

Drilling Co. : WSDOT
Drilling Rig Eq :
Drilling Method : Mud Rotary
Drill Diameter :
Weather Conditions : Rain showers

Job No. : 31008 Boring No. :
Job Name : SR 520 @ Montlake Phase II
Logged by : G. Hayman
Location :
Start Date : 10/7/16 End Date : 10/7/16

Well Construction	Time	Blows/6 in.	Headspace PID/OVA	Sample ID (X = Lab Sample)	Depth (ft)	Sample Interval	USCS Code	FIELD CLASSIFICATION [Density/consistency, color, minor, MAJOR, then trace constituents; moisture ; structure; other; (Geology USCS Classification)]
					21			
		50	0.0		24-24.5	1		same as above, very dense gray/ silty sand no odor
								TD @ 24.5 ft

GROUNDWATER DATA

Water Depth	Time	Date

SUMMARY OF TIME

Boring/Sample : _____hrs. Standby : _____hrs.
Setup/Cleanup : _____hrs. Decon: _____hrs.
Boring No. : _____ Sheet _____of _____

COMMENTS (i.e. materials used; visitors, problems etc.) :

INNOVEX ENVIRONMENTAL MANAGEMENT, INC.

FIELD LOG OF BORING

11-3-16

Drilling Co. : WSDOT
Drilling Rig Eq :
Drilling Method : Mud rotary
Drill Diameter :
Weather Conditions :

Job No. : 31008 Boring No. :
Job Name : SR 520 @ E. Montlake Phase II
Logged by : G. Hayman
Location : Seattle, WA
Start Date : 10/7/16 End Date : 10/8/16

Well Construction	Time	Blows/6 in.	Headspace PID/OVA	Sample ID (X = Lab Sample)	Depth (ft)	Sample Interval	USCS Code	FIELD CLASSIFICATION [Density/consistency, color, minor, MAJOR, then trace constituents; moisture ; structure; other; (Geology USCS Classification)]
								Asphalt
	23:25	7	10.5				SP	Sand w/ fine gravel, moist, loose,
		8			1.5-3			petroleum odor PID=10.5
		6						
	23:30	3	21.5		4-6		SM	Gray silty sand, moist, very loose,
		4						petroleum odor, PID:21.5
		3						
		2						
	23:35	1	35.4		7-8.5			Brown silty Fine sand Few Fine gravel
		1						very loose, petroleum odor, PID=35.4
		1						
	23:45	5	-					NO recovery
		15						
		25						
		25						
	23:50	23	0		12-13.5		SM	Brown silty sand, wet, dense,
		44						no odor PID=0
		50						
								Bailed boring dry, allowed water to
								recover, 00:25 collected groundwater sample
	0:50	50/4	0		17-17.4			Dry silty sand w/ Few fine gravel, no odor
								PID=0
								TD=17.4 feet

GROUNDWATER DATA

Water Depth	Time	Date

SUMMARY OF TIME

Boring/Sample : _____ hrs.
Standby : _____ hrs.
Setup/Cleanup : _____ hrs.
Decon: _____ hrs.
Boring No. : _____
Sheet _____ of _____

COMMENTS (i.e. materials used; visitors, problems etc.) :

INNOVEX ENVIRONMENTAL MANAGEMENT, INC.

FIELD LOG OF BORING

11-4-16

Drilling Co. : WSDOT
Drilling Rig Eq :
Drilling Method : Mud rotary
Drill Diameter : 3"
Weather Conditions : Rain showers

Job No. : 310880 Boring No. :
Job Name : SR520 @ E. Mountlake Phase II
Logged by : O. Huyman
Location : Seattle, WA
Start Date : 10/8/16 End Date : 10/8/16

Well Construction	Time	Blows/6 in.	Headspace PID/OVA	Sample ID (X = Lab Sample)	Depth (ft)	Sample Interval	USCS Code	FIELD CLASSIFICATION [Density/consistency, color, minor, MAJOR, then trace constituents; moisture ; structure; other; (Geology USCS Classification)]
								Asphalt
	21:45	4 6 6	20.2		1.5-3		SM	gray silty sand, damp, loose, Petroleum odor, PID=20.2
	21:50	3 3 2 2	17		4-6			Gray silty sand, damp, very loose, petroleum odor, PID=17
	21:55	1 1 1	15.6		7-8.5			Silty sand, very loose, damp, Petroleum odor, PID=15.6
	22:00		43		9-11		SM	Gray-brown silty sand, very stiff. strong Petroleum odor
		16 16 13						No recovery
	22:05	9 10 10 13	720				SM	gray silty sand, wet, medium dense, very strong petroleum odor PID=720
	22:10	16 21 23	380		17-18.5			same as above
	22:15	18 50/5	120		19-19.9			gray silty sand, very dense, Petroleum odor, 2" till in tip of splitspoon

GROUNDWATER DATA

Water Depth	Time	Date

SUMMARY OF TIME

Boring/Sample : _____hrs.	Standby : _____hrs.
Setup/Cleanup : _____ hrs.	Decon: _____hrs.
Boring No. :_____	Sheet_____ of_____

COMMENTS (i.e. materials used; visitors, problems etc.) :

INNOVEX ENVIRONMENTAL MANAGEMENT, INC.

FIELD LOG OF BORING

11-4-16

Drilling Co. : WSDOT
Drilling Rig Eq : _____
Drilling Method : Mud Rotary
Drill Diameter : 3 inch
Weather Conditions : Rain showers

Job No. : 31608 Boring No. : _____
Job Name : SR 520 @ E. Mont Lake Phase II
Logged by : G. Hayman
Location : _____
Start Date : 10/6/16 End Date : 10/6/16

Well Construction	Time	Blows/6 in.	Headspace PID/OVA	Sample ID (X = Lab Sample)	Depth (ft)	Sample Interval	USCS Code	FIELD CLASSIFICATION [Density/consistency, color, minor, MAJOR, then trace constituents; moisture ; structure; other; (Geology USCS Classification)]
					21			
							SM	
	22:35	26 45 50/5	3.4		24- 25.4			Gray silty very fine sand, very dense no odor, damp PID=3.4
	22:45	50/2	0.3		29- 29.2		SM	Well graded gravel, sand and silt, very dense, PID=0.3
								TD=29.2 ft

GROUNDWATER DATA

Water Depth	Time	Date

SUMMARY OF TIME

Boring/Sample : _____ hrs. Standby : _____ hrs.
Setup/Cleanup : _____ hrs. Decon: _____ hrs.
Boring No. : _____ Sheet _____ of _____

COMMENTS (i.e. materials used; visitors, problems etc.) :

H-5-16

INNOVEX ENVIRONMENTAL MANAGEMENT, INC.

FIELD LOG OF BORING

Drilling Co. : WSDOT
Drilling Rig Eq :
Drilling Method : Mud rotary
Drill Diameter : 3"
Weather Conditions : Rain showers

Job No. : 31005 Boring No. :
Job Name : SR520 @ E. Montlake Phase II
Logged by : G. Hayman
Location : Seattle, WA
Start Date : 10/8/16 End Date : 10/9/16

Well Construction	Time	Blows/6 in.	Headspace PID/OVA	Sample ID (X = Lab Sample)	Depth (ft)	Sample Interval	USCS Code	FIELD CLASSIFICATION [Density/consistency, color, minor, MAJOR, then trace constituents; moisture ; structure; other; (Geology USCS Classification)]
								8" Asphalt & concrete
	23:55	6 6 7	3.5		1.5-3		SM	gray silty sand w/ few gravel, moist loose, no odor PID: 3.5
	23:59	4 3 3 2	16.5		4-6			gray silty sand, few gravel, loose petroleum odor, PID = 16.5
	0:05	1 1 2	1.6		7-8.5		SM	gray silty fine sand w/ few fine gravel loose, no odor PID = 1.6
	0:10	3 4 5 8	16		9-11			gray silty sand, dense, petroleum odor, PID = 16
	0:15	3 4 5	380		12-13.5			same as above, strong petroleum odor PID = 380
	0:20	11 15 13 14	2.5		14-16		SM	Light gray silty sand, medium dense petroleum odor, PID = 2.5
	0:25	8 14 18	2.5		17-18.5			silty sand w/ few gravel, medium dense, no odor, PID = 2.5
	0:30	8 16 20 25	1.1		19-21			same as above

GROUNDWATER DATA

Water Depth	Time	Date

SUMMARY OF TIME

Boring/Sample : _____ hrs.
Standby : _____ hrs.
Setup/Cleanup : _____ hrs.
Decon: _____ hrs.
Boring No. : _____
Sheet _____ of _____

COMMENTS (i.e. materials used; visitors, problems etc.) :

INNOVEX ENVIRONMENTAL MANAGEMENT, INC.

FIELD LOG OF BORING

N-5-16

Drilling Co. : WSDOT
Drilling Rig Eq :
Drilling Method : Mud Rotary
Drill Diameter : 3"
Weather Conditions : Rain showers

Job No. : 31008 Boring No. :
Job Name : SR 520 @ E. Montlake Phase II
Logged by : G. Hayman
Location : Seattle, WA
Start Date : 10/8/16 End Date : 10/9/16

Well Construction	Time	Blows/6 in.	Headspace PID/OVA	Sample ID (X = Lab Sample)	Depth (ft)	Sample Interval	USCS Code	FIELD CLASSIFICATION [Density/consistency, color, minor, MAJOR, then trace constituents; moisture ; structure; other; (Geology USCS Classification)]
	0:35	9.0 11 12			22- 23.5		SM	gray silty Fine sand, medium dense, no odor, PID=0.4
	0:40	50/4"	0.0		24- 24.3			gray brown silty sand w/ Few gravel very dense, no odor, PID=0.0
	0:45	50/12"	0.0		24- 24.2			same as above, no odor PID=0.0.
								TD=29.2

GROUNDWATER DATA

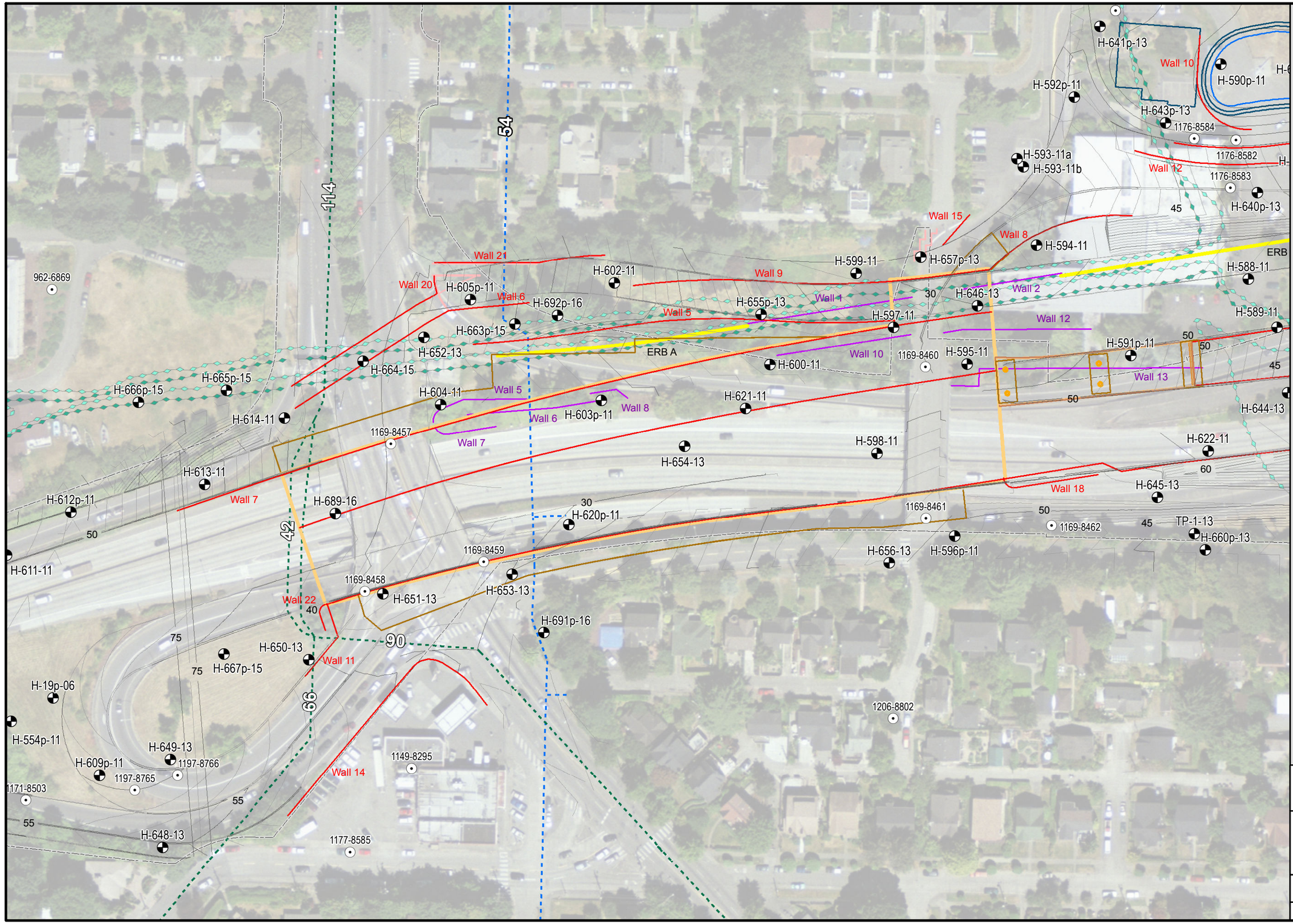
Water Depth	Time	Date

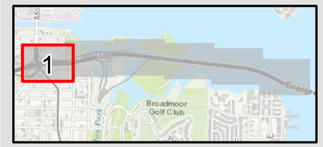
SUMMARY OF TIME

Boring/Sample : _____hrs.
Standby : _____hrs.
Setup/Cleanup : _____ hrs.
Decon: _____hrs.
Boring No. : _____
Sheet _____ of _____

COMMENTS (i.e. materials used; visitors, problems etc.) :

Appendix B
WSDOT Boring Logs and Water Level Figures





LEGEND

- RECENT EXPLORATIONS
- HISTORIC EXPLORATIONS
- 5 — Proposed Pier Location & Designation
- Proposed Alignment
- Proposed Structure
- Proposed Retaining Wall
- Proposed Bridge
- Proposed Stormwater Facility
- A — Geophysical Survey & Designation
- WSDOT ROW
- City of Seattle ROW
- Historic Lake Washington Ship Canal & Shoreline
- Historic Canal & Shoreline from WSDOT
- Landslide Area

NOTES

1. WSDOT = Washington State Department Of Transportation. ROW = Right Of Way
2. Proposed Alignment Features from WSDOT, 2014-09-08.
3. 'Historic Canal & Shoreline' digitized from WSDOT, n.d., Digitized Lake Union Plat map: AutoCAD drawing received from WSDOT May 16, 2013
4. "Historic Lake Washington Ship Canal & Shoreline" from U. S. Army, Seattle District Engineer, 1952, Realestate – Lake Washington Ship Canal and Hiram M. Chittenden Locks: 1 sheet, October 22.

N W E S

0 100

Feet

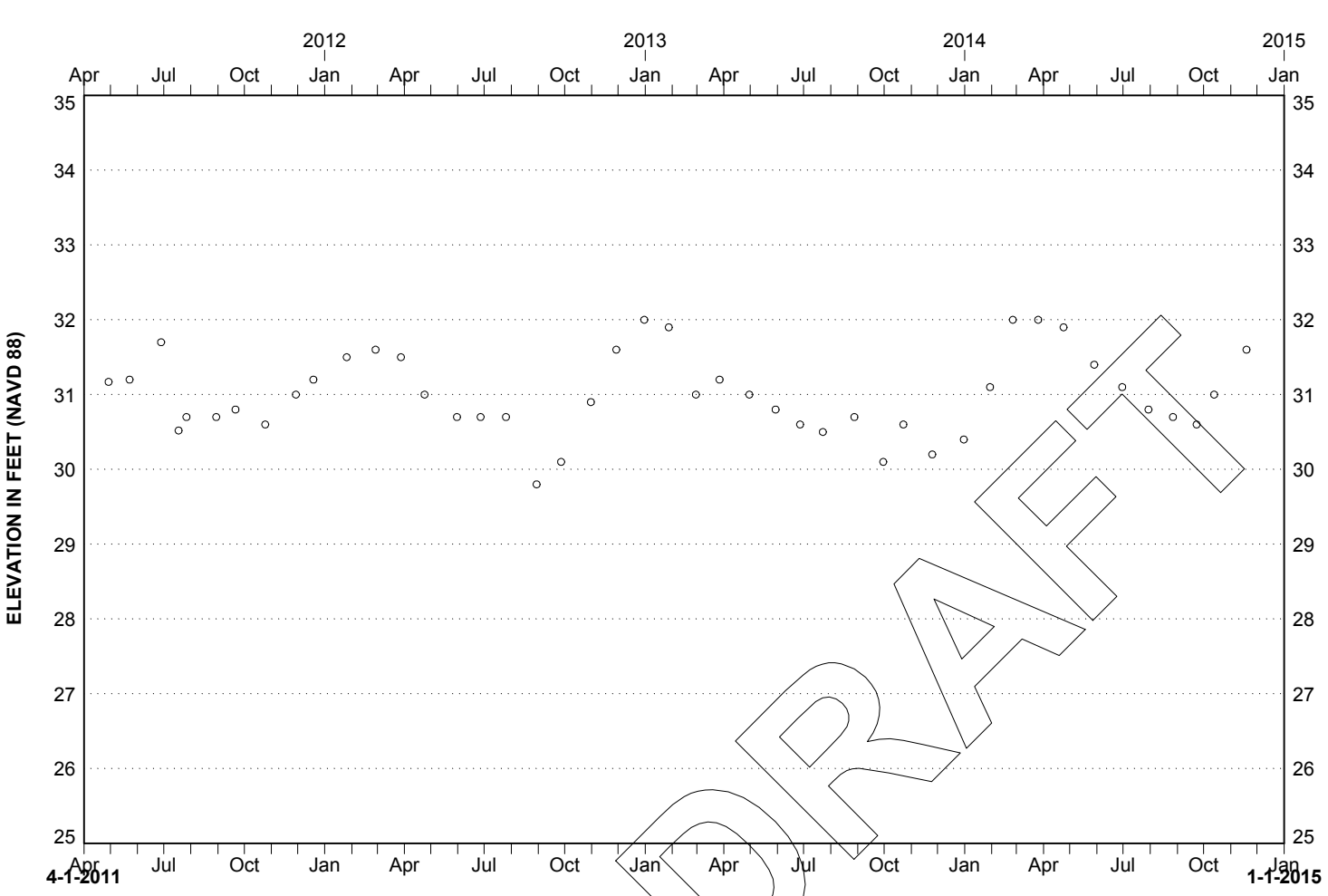
SR 520, I-5 to Medina
Westside Final Conceptual Design
Seattle, Washington

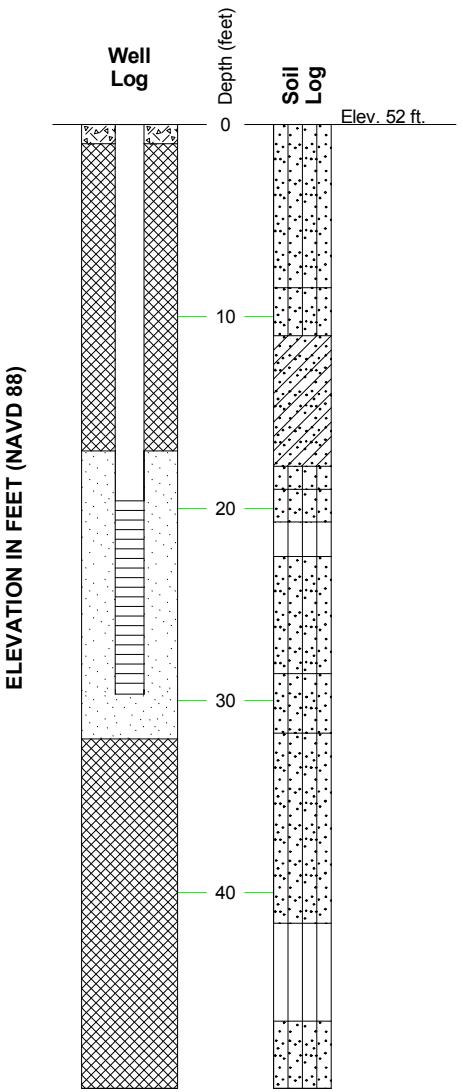
SITE AND EXPLORATION PLAN

August 2016 21-1-20624-807

SHANNON & WILSON, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

SHEET 1 of 6 **EXHIBIT 1**





Well Identification	Geologic Unit(s) in VWP or OW Depth Range	Read Point (feet) Depth	Read Point (feet) Elevation	Water Level Elevation (feet) Low	Water Level Elevation (feet) High
○ H-609p-11 OW1	Qvat, Qvd	29.5	22.5	29.8	32.0

NOTES:

1. Refer to Interpreted Geologic Units and Descriptions exhibit for more information on geologic units.
2. Read Point Depth or Elevation *(as listed in table above)* is equal to the depth or elevation of the tip of the vibrating wire pressure (VWP) transducer or the bottom of the screen of the observation well (OW). Measured groundwater elevations less than these values are considered as "Dry."
3. WSDOT collected monthly groundwater measurements from April 2011 to December 2014.
4. Well was destroyed January 2015.

SR 520 Bridge Replacement and HOV Program
Seattle Vulnerable Structures
Seattle, Washington

GROUNDWATER LEVEL MEASUREMENTS BORING H-609p-11

May 2015 21-1-20624-807

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

EXHIBIT 27

EXHIBIT 27

SR520_GW PLOT ELEV-NL 21-20624.JMW EDIT.GPJ 21-20624.GPJ 5/17/15

Instrument	Screen Bottom Elev (ft)	Geologic Unit
OW1	29.5	Hf, Qpgt

OW1
OW1 (Dry)
OW1 Manual
OW1 Manual (Dry)

Notes:
1. Groundwater data provided by WSDOT
2. Measurements are shown as dry for readings below instrument elevation of pressure transducer or bottom of screen interval
3. Refer to Shannon & Wilson boring logs for soil descriptions and well construction details

SR 520 Bridge Replacement and HOV Program
I-5 to Lake Washington
Seattle, Washington

GROUNDWATER LEVEL MEASUREMENTS
BORING H-667P-15

July 2016 21-1-22242-005

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

EXHIBIT 36

EXHIBIT 36

Instrument	Screen Bottom Elev (ft)	Geologic Unit
OW1	34.0	QPGT, QPGL

OW1
OW1 (Dry)

Notes:
1. Groundwater data provided by WSDOT
2. Measurements are shown as dry for readings below instrument elevation of pressure transducer or bottom of screen interval
3. Refer to Shannon & Wilson boring logs for soil descriptions and well construction details

SR 520 Bridge Replacement and HOV Program
I-5 to Lake Washington
Seattle, Washington

GROUNDWATER LEVEL MEASUREMENTS BORING H-691P-16

July 2016 21-1-22242-005

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

EXHIBIT 47

EXHIBIT 47

Total Depth:	50.2 ft.	Northing:	238,178 ft.	Drilling Method:	Advanced Casing	Hole Diam.:	5 in.
Top Elevation:	52 ft.	Easting:	1,277,493 ft.	Drilling Company:	WSDOT	Rod Diam.:	1 3/4-inch
Vert. Datum:	NAVD 88	Station:		Drill Rig Equipment:	CME 850 Track Rig 9C2-3	Hammer Type:	Automatic
Horiz. Datum:	NAD 83/91	Offset:		Other Comments:		Hammer ER:	88 %

SOIL DESCRIPTION

Refer to the report text for a proper understanding of the subsurface materials and drilling methods. The stratification lines represent the approximate boundaries between material types, and the transition may be gradual.

Depth, ft. | Symbol | PID, ppm | Samples | Groundwater | Depth, ft.

PENETRATION RESISTANCE (blows/foot)

▲ Hammer Wt. & Drop: *140 lbs / 30 inches*

0 20 40 60

Medium dense, gray and brown, slightly gravelly to gravelly, silty SAND; moist; trace of iron-oxide staining, scattered roots and organics above 2 feet; (Hf) SM.

8.5

Loose, gray and dark brown, slightly clayey, gravelly, silty SAND; moist; scattered silty clay pockets and wood fragments; (Hf) SM.

11.0

Very loose to medium dense, gray and dark brown, gravelly, silty, clayey SAND to soft to very stiff, trace of gravel to gravelly, sandy, silty CLAY; moist; scattered organics; (Hf) SC/CL.
Note: Blow counts may be locally artificially high due to the presence of gravel.

- Gravel layer at about 17 feet.

17.8

Loose, brown, slightly gravelly, silty SAND, trace of clay; wet; scattered organics; (Hf) SM.

19.0

PID, ppm: 0 0 0 0 0 0 0 0 0 0

Samples: 1 2 3 4 5 6 7 E 9 10

Depth, ft.: 2 4 6 8 10 12 14 16 18

CONTINUED NEXT SHEET

0 20 40 60

LEGEND

* Sample Not Recovered

E Environmental Sample Obtained

Standard Penetration Test

3" O.D. Thin-Walled Tube

Groundwater Level in Well

% Organics

◇ % Fines (<0.075mm)

● % Water Content

Plastic Limit ⊢●⊣ Liquid Limit

Natural Water Content

NOTES

1. Refer to KEY for explanation of symbols, codes, abbreviations and definitions.
2. The stratification lines represent the approximate boundaries between soil types, and the transition may be gradual.
3. Discussions in the text of the geotechnical data reports are necessary for a proper understanding of the nature of the subsurface materials.
4. Groundwater level, if indicated above, is for the date specified and may vary. Groundwater level is the highest available measurement to date. Groundwater plots contain complete data sets.
5. USCS designation is based on visual-manual classification and selected lab testing.
6. Hammer ER = hammer energy ratio (efficiency) as a percentage.

SR 520 Bridge Replacement and HOV Program
West Approach Bridge
Seattle, Washington

LOG OF BORING H-609p-11

June 2015 21-1-20624-807

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

EXHIBIT 132
Sheet 1 of 3

REV 3

SR520_MASTER_LOG_E_SMP_21-20624.GPJ SHAN_WIL.GDT 9/14/16 Log: BRC Rev: JKP Typ: CLP

Total Depth:	50.2 ft.	Northing:	238,178 ft.	Drilling Method:	Advanced Casing	Hole Diam.:	5 in.
Top Elevation:	52 ft.	Easting:	1,277,493 ft.	Drilling Company:	WSDOT	Rod Diam.:	1 3/4-inch
Vert. Datum:	NAVD 88	Station:		Drill Rig Equipment:	CME 850 Track Rig 9C2-3	Hammer Type:	Automatic
Horiz. Datum:	NAD 83/91	Offset:		Other Comments:		Hammer ER:	88 %

SOIL DESCRIPTION

Refer to the report text for a proper understanding of the subsurface materials and drilling methods. The stratification lines represent the approximate boundaries between material types, and the transition may be gradual.

Depth, ft. | Symbol | PID, ppm | Samples | Groundwater | Depth, ft.

PENETRATION RESISTANCE (blows/foot)

▲ Hammer Wt. & Drop: *140 lbs / 30 inches*

0 20 40 60

Loose, gray, slightly gravelly, silty SAND; wet; locally slightly clayey; (Qvat/Qvri) SM.

20.7

Interbedded, loose to very dense, gray-brown, sandy SILT, silty SAND and stiff to hard, slightly clayey SILT; moist; locally slightly gravelly, trace of iron-oxide staining; (Qvrl/Qvro) ML/SM.

22.5

Very dense, gray-brown, gravelly, silty SAND; moist; (Qvt) SM.

- Slightly silty sand layer at about 24 feet.

28.6

Very dense, gray, slightly gravelly, silty SAND; moist; (Qvd) SM.

31.7

Very dense, gray, slightly gravelly to gravelly, silty SAND; moist; (Qvt) SM.

11 12 13 14 15 16 17 18 19

2/25/2014

22 24 26 28 30 32 34 36 38

92/9" 50/5" 50/4" 50/2" 50/3" 50/3" 50/3"

CONTINUED NEXT SHEET

0 20 40 60

LEGEND

* Sample Not Recovered

E Environmental Sample Obtained

Standard Penetration Test

3" O.D. Thin-Walled Tube

Groundwater Level in Well

% Organics

◇ % Fines (<0.075mm)

● % Water Content

Plastic Limit ⊢●⊣ Liquid Limit

Natural Water Content

NOTES

1. Refer to KEY for explanation of symbols, codes, abbreviations and definitions.
2. The stratification lines represent the approximate boundaries between soil types, and the transition may be gradual.
3. Discussions in the text of the geotechnical data reports are necessary for a proper understanding of the nature of the subsurface materials.
4. Groundwater level, if indicated above, is for the date specified and may vary. Groundwater level is the highest available measurement to date. Groundwater plots contain complete data sets.
5. USCS designation is based on visual-manual classification and selected lab testing.
6. Hammer ER = hammer energy ratio (efficiency) as a percentage.

SR 520 Bridge Replacement and HOV Program
West Approach Bridge
Seattle, Washington

LOG OF BORING H-609p-11

June 2015 21-1-20624-807

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

EXHIBIT 132
Sheet 2 of 3

REV 3

SR520_MASTER_LOG_E_SMP 21-20624.GPJ SHAN_WIL.GDT 9/14/16 Log: BRC Rev: JKP Typ: CLP

Total Depth:	50.2 ft.	Northing:	238,178 ft.	Drilling Method:	Advanced Casing	Hole Diam.:	5 in.
Top Elevation:	52 ft.	Easting:	1,277,493 ft.	Drilling Company:	WSDOT	Rod Diam.:	1 3/4-inch
Vert. Datum:	NAVD 88	Station:		Drill Rig Equipment:	CME 850 Track Rig 9C2-3	Hammer Type:	Automatic
Horiz. Datum:	NAD 83/91	Offset:		Other Comments:		Hammer ER:	88 %

SOIL DESCRIPTION

Refer to the report text for a proper understanding of the subsurface materials and drilling methods. The stratification lines represent the approximate boundaries between material types, and the transition may be gradual.

Depth, ft. | Symbol | PID, ppm | Samples | Groundwater | Depth, ft.

PENETRATION RESISTANCE (blows/foot)

▲ Hammer Wt. & Drop: *140 lbs / 30 inches*

0 20 40 60

41.6

Very dense, gray, slightly fine gravelly, sandy SILT; moist; trace of fine organics; (Qvt) ML.

42 44 46

20

50/4"

46.7

Very dense, gray, silty, gravelly SAND; moist; trace to scattered fine organics; (Qpnf) SM.

48 50

21

85/8"

50.2

52 54 56 58

BOTTOM OF BORING
COMPLETED 3/17/2011

Notes:

(a) A 24-inch-long sampler was used for Standard Penetration Tests (SPTs). The sampler was advanced 24 inches for SPTs performed to 16 feet below ground surface. The number of blows required to cause the sampler to advance from 6 to 18 inches is reported as the N-value. From 16 feet to bottom of boring the sampler was advanced (up to) the standard 18 inches.

(b) Slug tests were performed in this borehole.

0 20 40 60

LEGEND

* Sample Not Recovered
E Environmental Sample Obtained
Standard Penetration Test
3" O.D. Thin-Walled Tube
Groundwater Level in Well

% Organics
◇ % Fines (<0.075mm)
● % Water Content
Plastic Limit — Liquid Limit
Natural Water Content

NOTES

1. Refer to KEY for explanation of symbols, codes, abbreviations and definitions.
2. The stratification lines represent the approximate boundaries between soil types, and the transition may be gradual.
3. Discussions in the text of the geotechnical data reports are necessary for a proper understanding of the nature of the subsurface materials.
4. Groundwater level, if indicated above, is for the date specified and may vary. Groundwater level is the highest available measurement to date. Groundwater plots contain complete data sets.
5. USCS designation is based on visual-manual classification and selected lab testing.
6. Hammer ER = hammer energy ratio (efficiency) as a percentage.

SR 520 Bridge Replacement and HOV Program
West Approach Bridge
Seattle, Washington

LOG OF BORING H-609p-11

June 2015 | 21-1-20624-807

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

EXHIBIT 132
Sheet 3 of 3

REV 3

SR520_MASTER_LOG_E_SMP_21-20624.GPJ SHAN_WIL.GDT 9/14/16 Log: BRC Rev: JKP Typ: CLP

Total Depth:	50.2 ft.	Northing:	238,310 ft.	Drilling Method:	Advanced Casing	Hole Diam.:	5 in.
Top Elevation:	49 ft.	Easting:	1,277,628 ft.	Drilling Company:	WSDOT	Rod Diam.:	1 3/4-inch
Vert. Datum:	NAVD 88	Station:		Drill Rig Equipment:	CME LC55 Track Rig 9C7-1	Hammer Type:	Automatic
Horiz. Datum:	NAD 83/91	Offset:		Other Comments:		Hammer ER:	81 %

SOIL DESCRIPTION

Refer to the report text for a proper understanding of the subsurface materials and drilling methods. The stratification lines represent the approximate boundaries between material types, and the transition may be gradual.

Loose, brown to gray, slightly fine gravelly to fine gravelly, silty SAND; moist to wet; scattered iron-oxide staining and charcoal; (Hf) SM.

8.0

Loose to medium dense, dark brown WOOD; variable wood-grain orientations, possible log; (Hf).

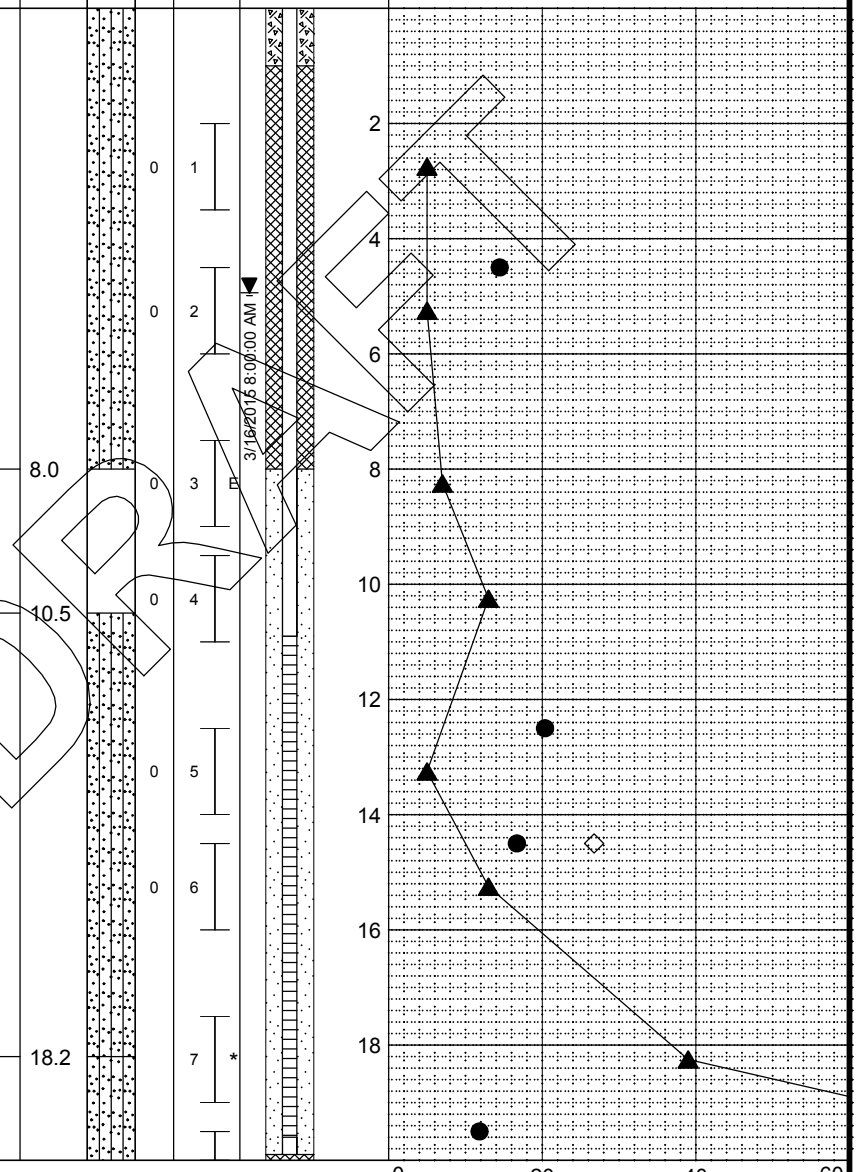
10.5

Loose to medium dense, brown and blue-gray, slightly fine gravelly, silty SAND and slightly clayey to clayey, silty, fine to medium SAND; wet; slightly clayey, fine sandy silt layers, scattered organics; (Hf) SM.

18.2

Very dense, gray-brown to gray, gravelly, silty SAND; moist; scattered silt and sandy silt layers, scattered sand pockets, diamict,

CONTINUED NEXT SHEET



LEGEND

- * Sample Not Recovered
- E Environmental Sample Obtained
- C Corrosion and/or Cation Exchange Sample Obtained
- Standard Penetration Test
- 2.5" O.D. Split Spoon Sample
- ▼ Groundwater Level in Well
- ◇ % Fines (<0.075mm)
- ● % Water Content
- Plastic Limit ⊢●⊣ Liquid Limit
- Natural Water Content

NOTES

1. Refer to KEY for explanation of symbols, codes, abbreviations and definitions.
2. The stratification lines represent the approximate boundaries between soil types, and the transition may be gradual.
3. Discussions in the text of the geotechnical data reports are necessary for a proper understanding of the nature of the subsurface materials.
4. Groundwater level, if indicated above, is for the date specified and may vary. Groundwater level is the highest available measurement to date. Groundwater plots contain complete data sets.
5. USCS designation is based on visual-manual classification and selected lab testing.
6. Hammer ER = hammer energy ratio (efficiency) as a percentage.

SR 520 Bridge Replacement and HOV Program
West Approach to Montlake Lid
Seattle, Washington

LOG OF BORING H-667p-15

September 2016 21-1-22242-002

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

EXHIBIT A-73
Sheet 1 of 3

REV 3

SR520_MASTER_LOG_E_SMP_21-20624.GPJ SHAN_WIL.GDT 9/14/16 Log: JMW Rev: DPO Typ: CLP

Total Depth:	50.2 ft.	Northing:	238,310 ft.	Drilling Method:	Advanced Casing	Hole Diam.:	5 in.
Top Elevation:	49 ft.	Easting:	1,277,628 ft.	Drilling Company:	WSDOT	Rod Diam.:	1 3/4-inch
Vert. Datum:	NAVD 88	Station:		Drill Rig Equipment:	CME LC55 Track Rig 9C7-1	Hammer Type:	Automatic
Horiz. Datum:	NAD 83/91	Offset:		Other Comments:		Hammer ER:	81 %

SOIL DESCRIPTION

Refer to the report text for a proper understanding of the subsurface materials and drilling methods. The stratification lines represent the approximate boundaries between material types, and the transition may be gradual.

Depth, ft. | Symbol | PID, ppm | Samples | Groundwater | Depth, ft.

PENETRATION RESISTANCE (blows/foot)

▲ Hammer Wt. & Drop: *140 lbs / 30 inches*

0 20 40 60

cobbles, boulders; (Qpgt) SM.

- Poor recovery in sample S-11.

- Laminated silt from about 27 to 27.5 feet.

- Silt partings at about 28.5 feet.

- Drilled through 8- to 10-inch cobble or boulder at 32.5 feet.

33.5

Hard, gray, slightly fine gravelly, silty, sandy CLAY; moist; diamict; (Qpgm) CL.

- Scattered fine to medium sand seams from 35 to 35.5 feet.

38.0

Very dense, gray, slightly gravelly to gravelly, silty SAND; moist; diamict; (Qpgt) SM.

Depth, ft.	PID, ppm	Sample	Blows/foot
	0	8	81/9"
	0	9	50/4"
22	0	10 C	Nonstandard 100/6"
	0	11	50/6"
24	0	12	50/5"
	0	13	50/5"
26	0	14	50/3"
28	0	15	50/5"
30	0	16	50/2"
32			
34	0	17	50/5"
36			
38			

CONTINUED NEXT SHEET

0 20 40 60

LEGEND

* Sample Not Recovered

E Environmental Sample Obtained

C Corrosion and/or Cation Exchange Sample Obtained

Standard Penetration Test

2.5" O.D. Split Spoon Sample

Groundwater Level in Well

◇ % Fines (<0.075mm)

● % Water Content

Plastic Limit ⊢●⊣ Liquid Limit

Natural Water Content

NOTES

1. Refer to KEY for explanation of symbols, codes, abbreviations and definitions.
2. The stratification lines represent the approximate boundaries between soil types, and the transition may be gradual.
3. Discussions in the text of the geotechnical data reports are necessary for a proper understanding of the nature of the subsurface materials.
4. Groundwater level, if indicated above, is for the date specified and may vary. Groundwater level is the highest available measurement to date. Groundwater plots contain complete data sets.
5. USCS designation is based on visual-manual classification and selected lab testing.
6. Hammer ER = hammer energy ratio (efficiency) as a percentage.

SR 520 Bridge Replacement and HOV Program
West Approach to Montlake Lid
Seattle, Washington

LOG OF BORING H-667p-15

September 2016 21-1-22242-002

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

EXHIBIT A-73
Sheet 2 of 3

REV 3

SR520_MASTER_LOG_E_SMP_21-20624.GPJ SHAN_WIL.GDT 9/14/16 Log: JMW Rev: DPO Typ: CLP

Total Depth:	50.2 ft.	Northing:	238,310 ft.	Drilling Method:	Advanced Casing	Hole Diam.:	5 in.
Top Elevation:	49 ft.	Easting:	1,277,628 ft.	Drilling Company:	WSDOT	Rod Diam.:	1 3/4-inch
Vert. Datum:	NAVD 88	Station:		Drill Rig Equipment:	CME LC55 Track Rig 9C7-1	Hammer Type:	Automatic
Horiz. Datum:	NAD 83/91	Offset:		Other Comments:		Hammer ER:	81 %

SOIL DESCRIPTION

Refer to the report text for a proper understanding of the subsurface materials and drilling methods. The stratification lines represent the approximate boundaries between material types, and the transition may be gradual.

Depth, ft. | Symbol | PID, ppm | Samples | Groundwater | Depth, ft.

PENETRATION RESISTANCE (blows/foot)

▲ Hammer Wt. & Drop: *140 lbs / 30 inches*

- Poor recovery in sample S-18.

PID, ppm: 0 (18), 0 (19), 0 (20)

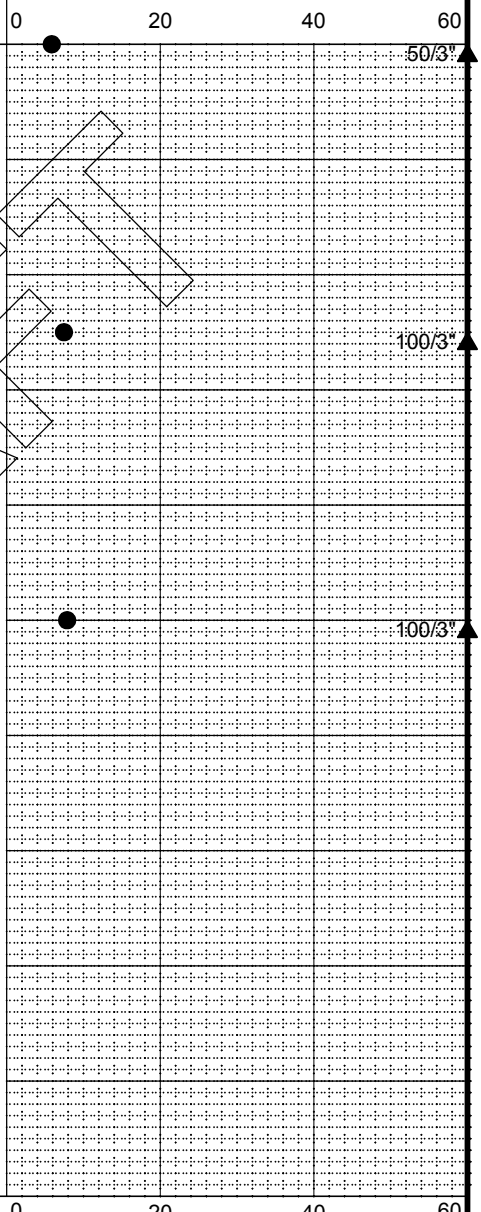
50.2

BOTTOM OF BORING
COMPLETED 2/3/2015

Notes:

(a) A 2.5-inch outside-diameter split spoon was used to perform the penetration test for sample S-10 to collect soil for corrosion and cation-exchange testing.

(b) Slight gas odor observed during well development.



LEGEND

- * Sample Not Recovered
- E Environmental Sample Obtained
- C Corrosion and/or Cation Exchange Sample Obtained
- Standard Penetration Test
- 2.5" O.D. Split Spoon Sample
- Groundwater Level in Well
- ◇ % Fines (<0.075mm)
- ● % Water Content
- Plastic Limit — Liquid Limit
- Natural Water Content

NOTES

1. Refer to KEY for explanation of symbols, codes, abbreviations and definitions.
2. The stratification lines represent the approximate boundaries between soil types, and the transition may be gradual.
3. Discussions in the text of the geotechnical data reports are necessary for a proper understanding of the nature of the subsurface materials.
4. Groundwater level, if indicated above, is for the date specified and may vary. Groundwater level is the highest available measurement to date. Groundwater plots contain complete data sets.
5. USCS designation is based on visual-manual classification and selected lab testing.
6. Hammer ER = hammer energy ratio (efficiency) as a percentage.

SR 520 Bridge Replacement and HOV Program
West Approach to Montlake Lid
Seattle, Washington

LOG OF BORING H-667p-15

September 2016 21-1-22242-002

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

EXHIBIT A-73
Sheet 3 of 3

SR520_MASTER_LOG_E_SMP 21-20624.GPJ SHAN_WIL.GDT 9/14/16 Log: JMW Rev: DPO Typ: CLP

REV 3

Total Depth:	75.5 ft.	Northing:	238,334 ft.	Drilling Method:	Advanced Casing	Hole Diam.:	4 in.
Top Elevation:	59 ft.	Easting:	1,277,977 ft.	Drilling Company:	WSDOT	Rod Diam.:	AWJ 1-3/4"
Vert. Datum:	NAVD 88	Station:		Drill Rig Equipment:	CME LC55 Track Rig 9C7-1	Hammer Type:	Automatic
Horiz. Datum:	NAD 83/91	Offset:		Other Comments:		Hammer ER:	

SOIL DESCRIPTION

Refer to the report text for a proper understanding of the subsurface materials and drilling methods. The stratification lines represent the approximate boundaries between material types, and the transition may be gradual.

Loose, brown to gray-brown, gravelly, silty SAND, trace of clay; moist; numerous fine to coarse organics, diamict, gray clasts; (Topsoil/Hf) SM.

1.5

Medium stiff, orange and light gray, slightly sandy, silty CLAY; moist; iron-oxide staining, trace of roots, weathered; (Qvrl) CH.

6.0

Dense, gray-brown, gravelly, silty SAND; wet; diamict, iron-oxide stains; (Qvat) SM.

9.0

Very dense, gray-brown, trace of gravel to slightly gravelly, silty SAND; moist to wet; diamict, sandy silt and slightly silty sand pockets; (Qpgt) SM.

14.2

Very dense, brown, slightly clayey SILT; moist; laminated; (Qpgl) ML.

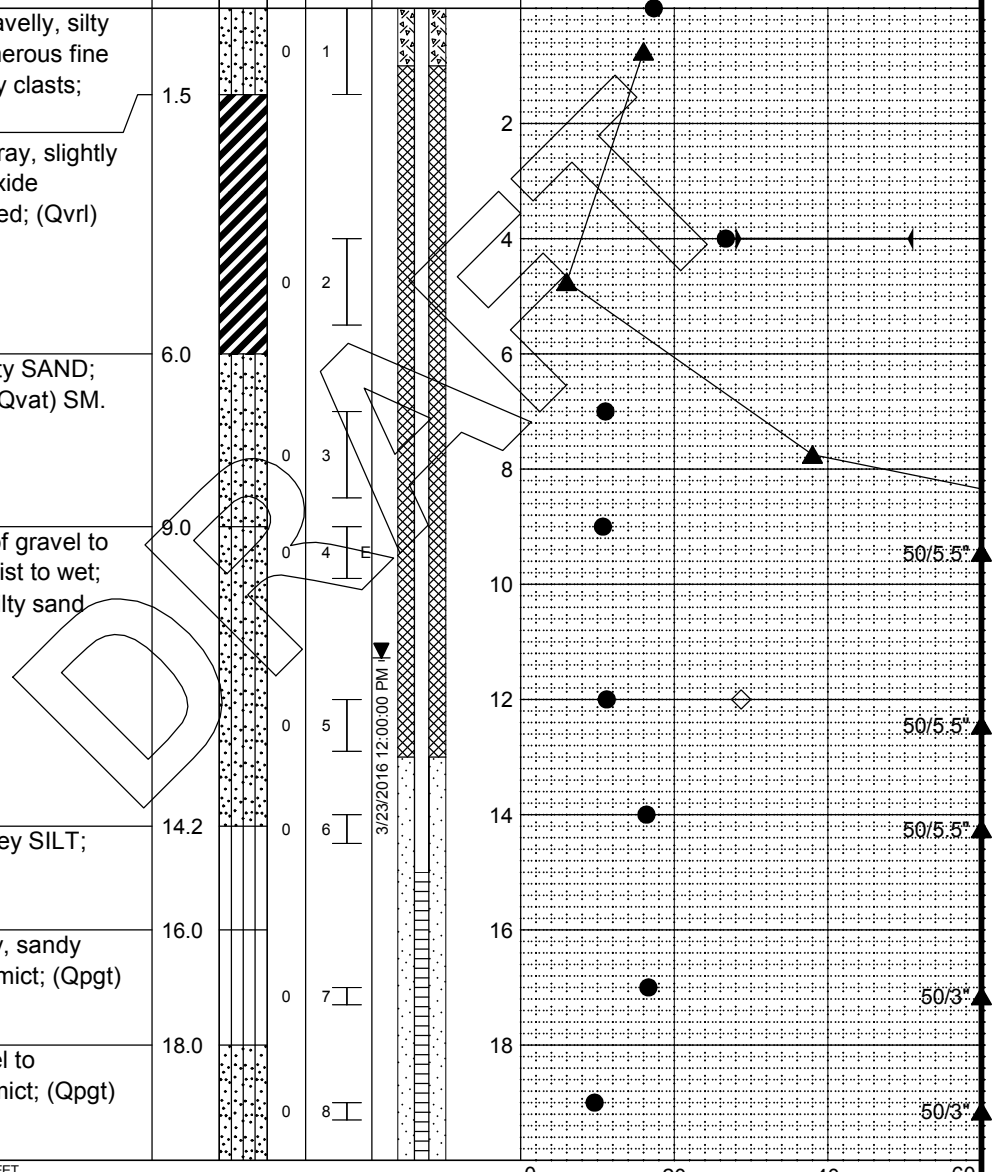
16.0

Very dense, gray, slightly clayey, sandy SILT, trace of gravel; moist; diamict; (Qpgt) ML.

18.0

Very dense, gray, trace of gravel to gravelly, silty SAND; moist; diamict; (Qpgt) SM.

CONTINUED NEXT SHEET



LEGEND

* Sample Not Recovered

E Environmental Sample Obtained

Standard Penetration Test

Groundwater Level in Well

◇ % Fines (<0.075mm)

● % Water Content

Plastic Limit ⊢●⊣ Liquid Limit

Natural Water Content

NOTES

1. Refer to KEY for explanation of symbols, codes, abbreviations and definitions.
2. The stratification lines represent the approximate boundaries between soil types, and the transition may be gradual.
3. Discussions in the text of the geotechnical data reports are necessary for a proper understanding of the nature of the subsurface materials.
4. Groundwater level, if indicated above, is for the date specified and may vary. Groundwater level is the highest available measurement to date. Groundwater plots contain complete data sets.
5. USCS designation is based on visual-manual classification and selected lab testing.
6. Hammer ER = hammer energy ratio (efficiency) as a percentage.

SR 520 Bridge Replacement and HOV Program
West Approach to Montlake Lid
Seattle, Washington

LOG OF BORING H-691p-16

September 2016 21-1-22242-002

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

EXHIBIT
Sheet 1 of 4

REV 1

SR520_MASTER_LOG_E_SMP_21-20624.GPJ SHAN_WIL.GDT 9/14/16 Log: JMW Rev: JKP Typ: JKP

Total Depth:	75.5 ft.	Northing:	238,334 ft.	Drilling Method:	Advanced Casing	Hole Diam.:	4 in.
Top Elevation:	59 ft.	Easting:	1,277,977 ft.	Drilling Company:	WSDOT	Rod Diam.:	AWJ 1-3/4"
Vert. Datum:	NAVD 88	Station:		Drill Rig Equipment:	CME LC55 Track Rig 9C7-1	Hammer Type:	Automatic
Horiz. Datum:	NAD 83/91	Offset:		Other Comments:		Hammer ER:	

SOIL DESCRIPTION

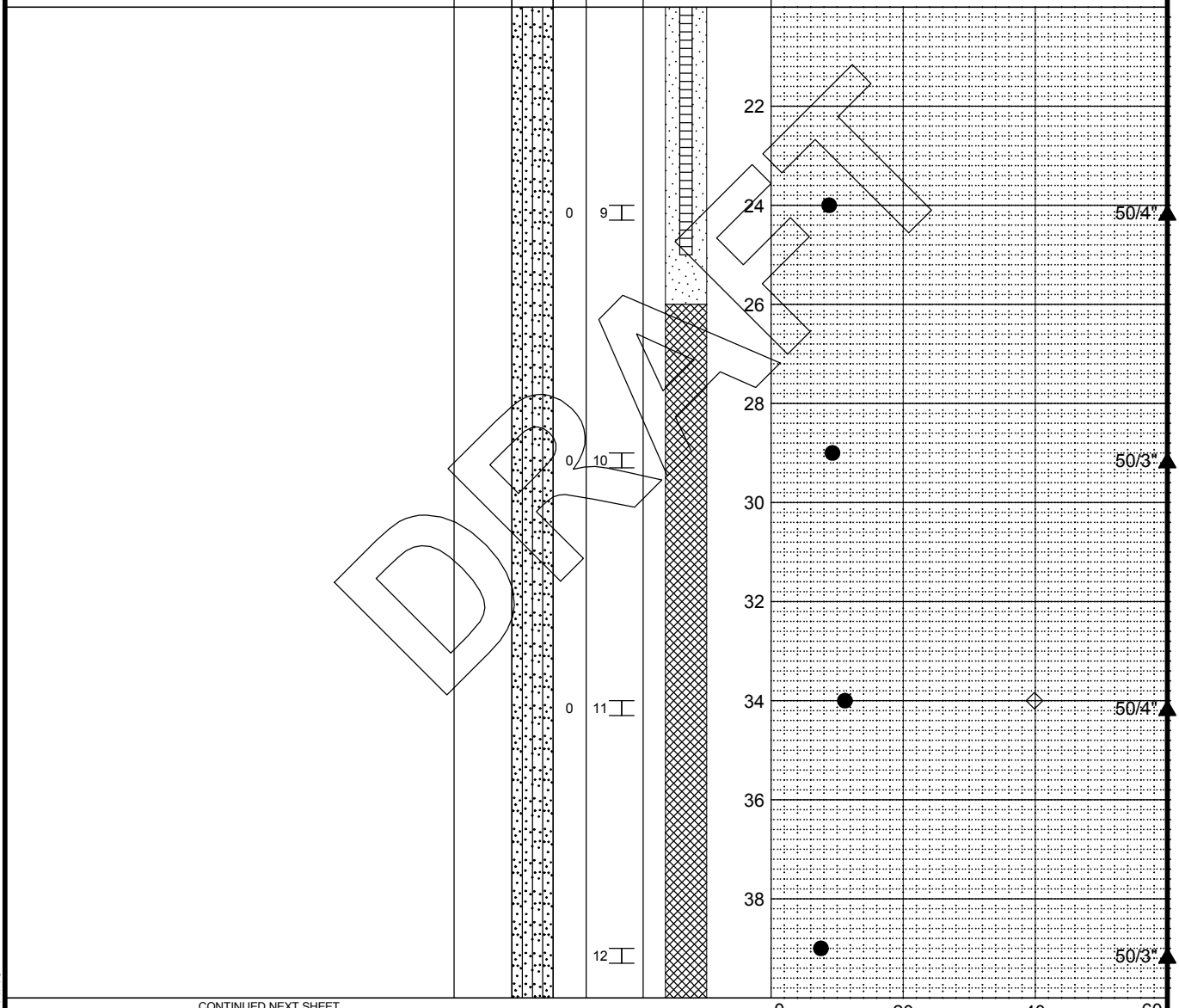
Refer to the report text for a proper understanding of the subsurface materials and drilling methods. The stratification lines represent the approximate boundaries between material types, and the transition may be gradual.

Depth, ft. | Symbol | PID, ppm | Samples | Groundwater | Depth, ft.

PENETRATION RESISTANCE (blows/foot)

▲ Hammer Wt. & Drop: *140 lbs / 30 inches*

0 20 40 60



CONTINUED NEXT SHEET

LEGEND

* Sample Not Recovered

E Environmental Sample Obtained

Standard Penetration Test

Groundwater Level in Well

◇ % Fines (<0.075mm)

● % Water Content

Plastic Limit ⊢●⊣ Liquid Limit

Natural Water Content

NOTES

1. Refer to KEY for explanation of symbols, codes, abbreviations and definitions.
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SR 520 Bridge Replacement and HOV Program
West Approach to Montlake Lid
Seattle, Washington

LOG OF BORING H-691p-16

September 2016 21-1-22242-002

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

EXHIBIT
Sheet 2 of 4

REV 1

SR520_MASTER_LOG_E_SMP_21-20624.GPJ SHAN_WIL.GDT 9/14/16 Log: JMW Rev: JKP Typ: JKP

Total Depth:	75.5 ft.	Northing:	238,334 ft.	Drilling Method:	Advanced Casing	Hole Diam.:	4 in.
Top Elevation:	59 ft.	Easting:	1,277,977 ft.	Drilling Company:	WSDOT	Rod Diam.:	AWJ 1-3/4"
Vert. Datum:	NAVD 88	Station:		Drill Rig Equipment:	CME LC55 Track Rig 9C7-1	Hammer Type:	Automatic
Horiz. Datum:	NAD 83/91	Offset:		Other Comments:		Hammer ER:	

SOIL DESCRIPTION

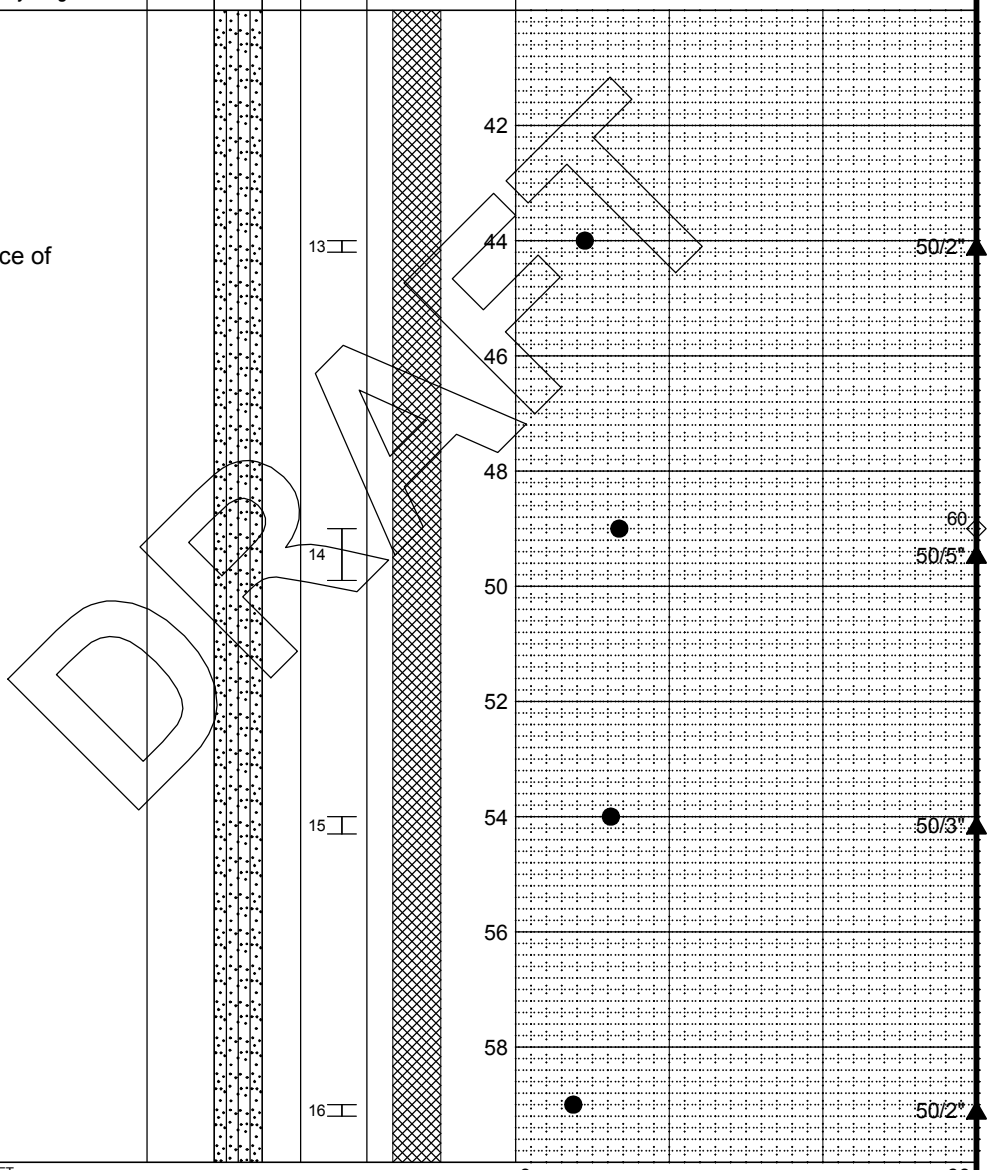
Refer to the report text for a proper understanding of the subsurface materials and drilling methods. The stratification lines represent the approximate boundaries between material types, and the transition may be gradual.

- Slightly clayey sandy SILT, trace of gravel at 44 and 49 feet.

Depth, ft. | Symbol | PID, ppm | Samples | Groundwater | Depth, ft.

PENETRATION RESISTANCE (blows/foot)

▲ Hammer Wt. & Drop: *140 lbs / 30 inches*



CONTINUED NEXT SHEET

LEGEND

* Sample Not Recovered

E Environmental Sample Obtained

Standard Penetration Test

Groundwater Level in Well

◇ % Fines (<0.075mm)

● % Water Content

Plastic Limit — Liquid Limit

Natural Water Content

NOTES

1. Refer to KEY for explanation of symbols, codes, abbreviations and definitions.
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6. Hammer ER = hammer energy ratio (efficiency) as a percentage.

SR 520 Bridge Replacement and HOV Program
West Approach to Montlake Lid
Seattle, Washington

LOG OF BORING H-691p-16

September 2016 21-1-22242-002

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

EXHIBIT
Sheet 3 of 4

REV 1

SR520_MASTER_LOG_E_SMP 21-20624.GPJ SHAN_WIL.GDT 9/14/16 Log: JMW Rev: JKP Typ: JKP

Total Depth:	75.5 ft.	Northing:	238,334 ft.	Drilling Method:	Advanced Casing	Hole Diam.:	4 in.
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Horiz. Datum:	NAD 83/91	Offset:		Other Comments:		Hammer ER:	

SOIL DESCRIPTION

Refer to the report text for a proper understanding of the subsurface materials and drilling methods. The stratification lines represent the approximate boundaries between material types, and the transition may be gradual.

Depth, ft. | Symbol | PID, ppm | Samples | Groundwater | Depth, ft.

PENETRATION RESISTANCE (blows/foot)

▲ Hammer Wt. & Drop: *140 lbs / 30 inches*

0 20 40 60

62 64 66 68 70 72 74 76 78

17 18 19

50/2" 81

Hard, gray, slightly clayey SILT, trace of sand to silty CLAY, trace of sand; moist; light gray silt partings; (Qpgl) ML/CL.

69.0

75.5

BOTTOM OF BORING
COMPLETED 3/15/2016

DRAFT

LEGEND

* Sample Not Recovered

E Environmental Sample Obtained

Standard Penetration Test

Groundwater Level in Well

◇ % Fines (<0.075mm)

● % Water Content

Plastic Limit ⊢●⊣ Liquid Limit

Natural Water Content

NOTES

1. Refer to KEY for explanation of symbols, codes, abbreviations and definitions.
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5. USCS designation is based on visual-manual classification and selected lab testing.
6. Hammer ER = hammer energy ratio (efficiency) as a percentage.

SR 520 Bridge Replacement and HOV Program
West Approach to Montlake Lid
Seattle, Washington

LOG OF BORING H-691p-16

September 2016 21-1-22242-002

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

EXHIBIT
Sheet 4 of 4

REV 1

SR520_MASTER_LOG_E_SMP 21-20624.GPJ SHAN_WIL.GDT 9/14/16 Log: JMW Rev: JKP Typ: JKP

OnSite Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

March 30, 2011

Cody Johnson
Shannon & Wilson, Inc.
400 N 34th Street, Suite 100
Seattle, WA 98103

Re: Analytical Data for Project 21-1-20624-612
Laboratory Reference No. 1103-188

Dear Cody:

Enclosed are the analytical results and associated quality control data for samples submitted on March 21, 2011.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

Date of Report: March 30, 2011
Samples Submitted: March 21, 2011
Laboratory Reference: 1103-188
Project: 21-1-20624-612

Case Narrative

Samples were collected on March 15, 17 and 19, 2011 and received by the laboratory on March 21, 2011. They were maintained at the laboratory at a temperature of 2°C to 6°C.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

Date of Report: March 30, 2011
Samples Submitted: March 21, 2011
Laboratory Reference: 1103-188
Project: 21-1-20624-612

NWTPH-HCID

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-552-11:4**					
Laboratory ID:	03-188-03					
Gasoline Range Organics	**ND**	23	NWTPH-HCID	3-21-11	3-21-11	
Diesel Range Organics	**ND**	57	NWTPH-HCID	3-21-11	3-21-11	
Lube Oil Range Organics	**ND**	110	NWTPH-HCID	3-21-11	3-21-11	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*136*	*50-150*				
Client ID:	**H-609p-11:16.7**					
Laboratory ID:	03-188-04					
Gasoline Range Organics	**ND**	24	NWTPH-HCID	3-21-11	3-21-11	
Diesel Range Organics	**ND**	61	NWTPH-HCID	3-21-11	3-21-11	
Lube Oil Range Organics	**ND**	120	NWTPH-HCID	3-21-11	3-21-11	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*128*	*50-150*				

Date of Report: March 30, 2011
Samples Submitted: March 21, 2011
Laboratory Reference: 1103-188
Project: 21-1-20624-612

NWTPH-HCID
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0321S1					
Gasoline Range Organics	**ND**	20	NWTPH-HCID	3-21-11	3-21-11	
Diesel Range Organics	**ND**	50	NWTPH-HCID	3-21-11	3-21-11	
Lube Oil Range Organics	**ND**	100	NWTPH-HCID	3-21-11	3-21-11	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*136*	*50-150*				

Date of Report: March 30, 2011
Samples Submitted: March 21, 2011
Laboratory Reference: 1103-188
Project: 21-1-20624-612

NWTPH-Dx
(with acid/silica gel clean-up)

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-536-11:8**					
Laboratory ID:	03-188-01					
Diesel Range Organics	**ND**	140	NWTPH-Dx	3-25-11	3-25-11	
Lube Oil Range Organics	**ND**	290	NWTPH-Dx	3-25-11	3-25-11	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*97*	*50-150*				
Client ID:	**H-561-11:4**					
Laboratory ID:	03-188-02					
Diesel Range Organics	**ND**	54	NWTPH-Dx	3-25-11	3-25-11	
Lube Oil	**140**	110	NWTPH-Dx	3-25-11	3-25-11	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*93*	*50-150*				

Date of Report: March 30, 2011
Samples Submitted: March 21, 2011
Laboratory Reference: 1103-188
Project: 21-1-20624-612

NWTPH-Dx
QUALITY CONTROL
(with acid/silica gel clean-up)

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0325S1					
Diesel Range Organics	**ND**	25	NWTPH-Dx	3-25-11	3-25-11	
Lube Oil Range Organics	**ND**	50	NWTPH-Dx	3-25-11	3-25-11	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*105*	*50-150*				

Analyte	Result		Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE							
Laboratory ID:	03-224-01						
	ORIG	DUP					
Diesel Range Organics	**ND**	**ND**			NA	NA	
Lube Oil	**54.4**	**53.9**			1	NA	
Surrogate:							
o-Terphenyl			*103 86*	*50-150*			

Date of Report: March 30, 2011
Samples Submitted: March 21, 2011
Laboratory Reference: 1103-188
Project: 21-1-20624-612

SEMIVOLATILES by EPA 8270D/SIM
page 1 of 2

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-536-11:8**					
Laboratory ID:	03-188-01					
n-Nitrosodimethylamine	**ND**	0.19	EPA 8270	3-28-11	3-28-11	
Pyridine	**ND**	1.9	EPA 8270	3-28-11	3-28-11	
Phenol	**ND**	0.19	EPA 8270	3-28-11	3-28-11	
Aniline	**ND**	0.19	EPA 8270	3-28-11	3-28-11	
bis(2-Chloroethyl)ether	**ND**	0.19	EPA 8270	3-28-11	3-28-11	
2-Chlorophenol	**ND**	0.19	EPA 8270	3-28-11	3-28-11	
1,3-Dichlorobenzene	**ND**	0.19	EPA 8270	3-28-11	3-28-11	
1,4-Dichlorobenzene	**ND**	0.19	EPA 8270	3-28-11	3-28-11	
Benzyl alcohol	**ND**	0.19	EPA 8270	3-28-11	3-28-11	
1,2-Dichlorobenzene	**ND**	0.19	EPA 8270	3-28-11	3-28-11	
2-Methylphenol (o-Cresol)	**ND**	0.19	EPA 8270	3-28-11	3-28-11	
bis(2-Chloroisopropyl)ether	**ND**	0.19	EPA 8270	3-28-11	3-28-11	
(3+4)-Methylphenol (m,p-Cresol)	**ND**	0.19	EPA 8270	3-28-11	3-28-11	
n-Nitroso-di-n-propylamine	**ND**	0.19	EPA 8270	3-28-11	3-28-11	
Hexachloroethane	**ND**	0.19	EPA 8270	3-28-11	3-28-11	
Nitrobenzene	**ND**	0.19	EPA 8270	3-28-11	3-28-11	
Isophorone	**ND**	0.19	EPA 8270	3-28-11	3-28-11	
2-Nitrophenol	**ND**	0.19	EPA 8270	3-28-11	3-28-11	
2,4-Dimethylphenol	**ND**	4.7	EPA 8270	3-28-11	3-28-11	
bis(2-Chloroethoxy)methane	**ND**	0.19	EPA 8270	3-28-11	3-28-11	
2,4-Dichlorophenol	**ND**	0.19	EPA 8270	3-28-11	3-28-11	
1,2,4-Trichlorobenzene	**ND**	0.19	EPA 8270	3-28-11	3-28-11	
Naphthalene	**ND**	0.038	EPA 8270/SIM	3-28-11	3-29-11	
4-Chloroaniline	**ND**	0.19	EPA 8270	3-28-11	3-28-11	
Hexachlorobutadiene	**ND**	0.19	EPA 8270	3-28-11	3-28-11	
4-Chloro-3-methylphenol	**ND**	0.19	EPA 8270	3-28-11	3-28-11	
2-Methylnaphthalene	**ND**	0.038	EPA 8270/SIM	3-28-11	3-29-11	
1-Methylnaphthalene	**ND**	0.038	EPA 8270/SIM	3-28-11	3-29-11	
Hexachlorocyclopentadiene	**ND**	0.19	EPA 8270	3-28-11	3-28-11	
2,4,6-Trichlorophenol	**ND**	0.19	EPA 8270	3-28-11	3-28-11	
2,3-Dichloroaniline	**ND**	0.19	EPA 8270	3-28-11	3-28-11	
2,4,5-Trichlorophenol	**ND**	0.19	EPA 8270	3-28-11	3-28-11	
2-Chloronaphthalene	**ND**	0.19	EPA 8270	3-28-11	3-28-11	
2-Nitroaniline	**ND**	0.19	EPA 8270	3-28-11	3-28-11	
1,4-Dinitrobenzene	**ND**	0.19	EPA 8270	3-28-11	3-28-11	
Dimethylphthalate	**ND**	0.19	EPA 8270	3-28-11	3-28-11	
1,3-Dinitrobenzene	**ND**	0.95	EPA 8270	3-28-11	3-28-11	
2,6-Dinitrotoluene	**ND**	0.19	EPA 8270	3-28-11	3-28-11	
1,2-Dinitrobenzene	**ND**	0.19	EPA 8270	3-28-11	3-28-11	
Acenaphthylene	**ND**	0.038	EPA 8270/SIM	3-28-11	3-29-11	
3-Nitroaniline	**ND**	0.19	EPA 8270	3-28-11	3-28-11	

Date of Report: March 30, 2011
Samples Submitted: March 21, 2011
Laboratory Reference: 1103-188
Project: 21-1-20624-612

SEMIVOLATILES by EPA 8270D/SIM
page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-536-11:8**					
Laboratory ID:	03-188-01					
2,4-Dinitrophenol	**ND**	0.95	EPA 8270	3-28-11	3-28-11	
Acenaphthene	**ND**	0.038	EPA 8270/SIM	3-28-11	3-29-11	
4-Nitrophenol	**ND**	0.19	EPA 8270	3-28-11	3-28-11	
2,4-Dinitrotoluene	**ND**	0.19	EPA 8270	3-28-11	3-28-11	
Dibenzofuran	**ND**	0.19	EPA 8270	3-28-11	3-28-11	
2,3,5,6-Tetrachlorophenol	**ND**	0.19	EPA 8270	3-28-11	3-28-11	
2,3,4,6-Tetrachlorophenol	**ND**	0.19	EPA 8270	3-28-11	3-28-11	
Diethylphthalate	**ND**	0.95	EPA 8270	3-28-11	3-28-11	
4-Chlorophenyl-phenylether	**ND**	0.19	EPA 8270	3-28-11	3-28-11	
4-Nitroaniline	**ND**	0.19	EPA 8270	3-28-11	3-28-11	
Fluorene	**ND**	0.038	EPA 8270/SIM	3-28-11	3-29-11	
4,6-Dinitro-2-methylphenol	**ND**	0.95	EPA 8270	3-28-11	3-28-11	
n-Nitrosodiphenylamine	**ND**	0.19	EPA 8270	3-28-11	3-28-11	
1,2-Diphenylhydrazine	**ND**	0.19	EPA 8270	3-28-11	3-28-11	
4-Bromophenyl-phenylether	**ND**	0.19	EPA 8270	3-28-11	3-28-11	
Hexachlorobenzene	**ND**	0.19	EPA 8270	3-28-11	3-28-11	
Pentachlorophenol	**ND**	0.95	EPA 8270	3-28-11	3-28-11	
Phenanthrene	**0.079**	0.038	EPA 8270/SIM	3-28-11	3-29-11	
Anthracene	**ND**	0.038	EPA 8270/SIM	3-28-11	3-29-11	
Carbazole	**ND**	0.19	EPA 8270	3-28-11	3-28-11	
Di-n-butylphthalate	**ND**	0.19	EPA 8270	3-28-11	3-28-11	
Fluoranthene	**0.10**	0.038	EPA 8270/SIM	3-28-11	3-29-11	
Benzidine	**ND**	1.9	EPA 8270	3-28-11	3-28-11	
Pyrene	**0.10**	0.038	EPA 8270/SIM	3-28-11	3-29-11	
Butylbenzylphthalate	**ND**	0.19	EPA 8270	3-28-11	3-28-11	
bis-2-Ethylhexyladipate	**ND**	0.19	EPA 8270	3-28-11	3-28-11	
3,3'-Dichlorobenzidine	**ND**	1.9	EPA 8270	3-28-11	3-28-11	
Benz[a]anthracene	**0.050**	0.038	EPA 8270/SIM	3-28-11	3-29-11	
Chrysene	**0.057**	0.038	EPA 8270/SIM	3-28-11	3-29-11	
bis(2-Ethylhexyl)phthalate	**0.44**	0.19	EPA 8270	3-28-11	3-28-11	
Di-n-octylphthalate	**ND**	0.19	EPA 8270	3-28-11	3-28-11	
Benzo(b)fluoranthene	**0.039**	0.038	EPA 8270/SIM	3-28-11	3-29-11	
Benzo(k)fluoranthene	**ND**	0.038	EPA 8270/SIM	3-28-11	3-29-11	
Benzo(a)pyrene	**0.050**	0.038	EPA 8270/SIM	3-28-11	3-29-11	
Indeno[1,2,3-cd]pyrene	**0.038**	0.038	EPA 8270/SIM	3-28-11	3-29-11	
Dibenzo(a,h)anthracene	**ND**	0.038	EPA 8270/SIM	3-28-11	3-29-11	
Benzo(ghi)perylene	**0.043**	0.038	EPA 8270/SIM	3-28-11	3-29-11	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*37*	*30 - 97*				
Phenol-d6	*54*	*40 - 104*				
D5-Nitrobenzene	*45*	*35 - 102*				
2-Fluorobiphenyl	*57*	*44 - 97*				
2,4,6-Tribromophenol	*69*	*41 - 110*				
D14-Terphenyl	*67*	*53 - 107*				

Date of Report: March 30, 2011
Samples Submitted: March 21, 2011
Laboratory Reference: 1103-188
Project: 21-1-20624-612

SEMIVOLATILES by EPA 8270D/SIM
page 1 of 2

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-561-11:4**					
Laboratory ID:	03-188-02					
n-Nitrosodimethylamine	**ND**	0.072	EPA 8270	3-28-11	3-28-11	
Pyridine	**ND**	0.72	EPA 8270	3-28-11	3-28-11	
Phenol	**ND**	0.072	EPA 8270	3-28-11	3-28-11	
Aniline	**ND**	0.072	EPA 8270	3-28-11	3-28-11	
bis(2-Chloroethyl)ether	**ND**	0.072	EPA 8270	3-28-11	3-28-11	
2-Chlorophenol	**ND**	0.072	EPA 8270	3-28-11	3-28-11	
1,3-Dichlorobenzene	**ND**	0.072	EPA 8270	3-28-11	3-28-11	
1,4-Dichlorobenzene	**ND**	0.072	EPA 8270	3-28-11	3-28-11	
Benzyl alcohol	**ND**	0.072	EPA 8270	3-28-11	3-28-11	
1,2-Dichlorobenzene	**ND**	0.072	EPA 8270	3-28-11	3-28-11	
2-Methylphenol (o-Cresol)	**ND**	0.072	EPA 8270	3-28-11	3-28-11	
bis(2-Chloroisopropyl)ether	**ND**	0.072	EPA 8270	3-28-11	3-28-11	
(3+4)-Methylphenol (m,p-Cresol)	**ND**	0.072	EPA 8270	3-28-11	3-28-11	
n-Nitroso-di-n-propylamine	**ND**	0.072	EPA 8270	3-28-11	3-28-11	
Hexachloroethane	**ND**	0.072	EPA 8270	3-28-11	3-28-11	
Nitrobenzene	**ND**	0.072	EPA 8270	3-28-11	3-28-11	
Isophorone	**ND**	0.072	EPA 8270	3-28-11	3-28-11	
2-Nitrophenol	**ND**	0.072	EPA 8270	3-28-11	3-28-11	
2,4-Dimethylphenol	**ND**	1.8	EPA 8270	3-28-11	3-28-11	
bis(2-Chloroethoxy)methane	**ND**	0.072	EPA 8270	3-28-11	3-28-11	
2,4-Dichlorophenol	**ND**	0.072	EPA 8270	3-28-11	3-28-11	
1,2,4-Trichlorobenzene	**ND**	0.072	EPA 8270	3-28-11	3-28-11	
Naphthalene	**ND**	0.014	EPA 8270/SIM	3-28-11	3-29-11	
4-Chloroaniline	**ND**	0.072	EPA 8270	3-28-11	3-28-11	
Hexachlorobutadiene	**ND**	0.072	EPA 8270	3-28-11	3-28-11	
4-Chloro-3-methylphenol	**ND**	0.072	EPA 8270	3-28-11	3-28-11	
2-Methylnaphthalene	**ND**	0.014	EPA 8270/SIM	3-28-11	3-29-11	
1-Methylnaphthalene	**ND**	0.014	EPA 8270/SIM	3-28-11	3-29-11	
Hexachlorocyclopentadiene	**ND**	0.072	EPA 8270	3-28-11	3-28-11	
2,4,6-Trichlorophenol	**ND**	0.072	EPA 8270	3-28-11	3-28-11	
2,3-Dichloroaniline	**ND**	0.072	EPA 8270	3-28-11	3-28-11	
2,4,5-Trichlorophenol	**ND**	0.072	EPA 8270	3-28-11	3-28-11	
2-Chloronaphthalene	**ND**	0.072	EPA 8270	3-28-11	3-28-11	
2-Nitroaniline	**ND**	0.072	EPA 8270	3-28-11	3-28-11	
1,4-Dinitrobenzene	**ND**	0.072	EPA 8270	3-28-11	3-28-11	
Dimethylphthalate	**ND**	0.072	EPA 8270	3-28-11	3-28-11	
1,3-Dinitrobenzene	**ND**	0.36	EPA 8270	3-28-11	3-28-11	
2,6-Dinitrotoluene	**ND**	0.072	EPA 8270	3-28-11	3-28-11	
1,2-Dinitrobenzene	**ND**	0.072	EPA 8270	3-28-11	3-28-11	
Acenaphthylene	**ND**	0.014	EPA 8270/SIM	3-28-11	3-29-11	
3-Nitroaniline	**ND**	0.072	EPA 8270	3-28-11	3-28-11	

Date of Report: March 30, 2011
Samples Submitted: March 21, 2011
Laboratory Reference: 1103-188
Project: 21-1-20624-612

SEMIVOLATILES by EPA 8270D/SIM
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-561-11:4**					
Laboratory ID:	03-188-02					
2,4-Dinitrophenol	**ND**	0.36	EPA 8270	3-28-11	3-28-11	
Acenaphthene	**ND**	0.014	EPA 8270/SIM	3-28-11	3-29-11	
4-Nitrophenol	**ND**	0.072	EPA 8270	3-28-11	3-28-11	
2,4-Dinitrotoluene	**ND**	0.072	EPA 8270	3-28-11	3-28-11	
Dibenzofuran	**ND**	0.072	EPA 8270	3-28-11	3-28-11	
2,3,5,6-Tetrachlorophenol	**ND**	0.072	EPA 8270	3-28-11	3-28-11	
2,3,4,6-Tetrachlorophenol	**ND**	0.072	EPA 8270	3-28-11	3-28-11	
Diethylphthalate	**ND**	0.36	EPA 8270	3-28-11	3-28-11	
4-Chlorophenyl-phenylether	**ND**	0.072	EPA 8270	3-28-11	3-28-11	
4-Nitroaniline	**ND**	0.072	EPA 8270	3-28-11	3-28-11	
Fluorene	**ND**	0.014	EPA 8270/SIM	3-28-11	3-29-11	
4,6-Dinitro-2-methylphenol	**ND**	0.36	EPA 8270	3-28-11	3-28-11	
n-Nitrosodiphenylamine	**ND**	0.072	EPA 8270	3-28-11	3-28-11	
1,2-Diphenylhydrazine	**ND**	0.072	EPA 8270	3-28-11	3-28-11	
4-Bromophenyl-phenylether	**ND**	0.072	EPA 8270	3-28-11	3-28-11	
Hexachlorobenzene	**ND**	0.072	EPA 8270	3-28-11	3-28-11	
Pentachlorophenol	**ND**	0.36	EPA 8270	3-28-11	3-28-11	
Phenanthrene	**0.016**	0.014	EPA 8270/SIM	3-28-11	3-29-11	
Anthracene	**ND**	0.014	EPA 8270/SIM	3-28-11	3-29-11	
Carbazole	**ND**	0.072	EPA 8270	3-28-11	3-28-11	
Di-n-butylphthalate	**ND**	0.072	EPA 8270	3-28-11	3-28-11	
Fluoranthene	**0.023**	0.014	EPA 8270/SIM	3-28-11	3-29-11	
Benzidine	**ND**	0.72	EPA 8270	3-28-11	3-28-11	
Pyrene	**0.023**	0.014	EPA 8270/SIM	3-28-11	3-29-11	
Butylbenzylphthalate	**ND**	0.072	EPA 8270	3-28-11	3-28-11	
bis-2-Ethylhexyladipate	**ND**	0.072	EPA 8270	3-28-11	3-28-11	
3,3'-Dichlorobenzidine	**ND**	0.72	EPA 8270	3-28-11	3-28-11	
Benz[a]anthracene	**ND**	0.014	EPA 8270/SIM	3-28-11	3-29-11	
Chrysene	**0.020**	0.014	EPA 8270/SIM	3-28-11	3-29-11	
bis(2-Ethylhexyl)phthalate	**0.15**	0.072	EPA 8270	3-28-11	3-28-11	
Di-n-octylphthalate	**ND**	0.072	EPA 8270	3-28-11	3-28-11	
Benzo(b)fluoranthene	**ND**	0.014	EPA 8270/SIM	3-28-11	3-29-11	
Benzo(k)fluoranthene	**ND**	0.014	EPA 8270/SIM	3-28-11	3-29-11	
Benzo(a)pyrene	**ND**	0.014	EPA 8270/SIM	3-28-11	3-29-11	
Indeno[1,2,3-cd]pyrene	**ND**	0.014	EPA 8270/SIM	3-28-11	3-29-11	
Dibenzo(a,h)anthracene	**ND**	0.014	EPA 8270/SIM	3-28-11	3-29-11	
Benzo(ghi)perylene	**0.016**	0.014	EPA 8270/SIM	3-28-11	3-29-11	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*40*	*30 - 97*				
Phenol-d6	*58*	*40 - 104*				
D5-Nitrobenzene	*54*	*35 - 102*				
2-Fluorobiphenyl	*64*	*44 - 97*				
2,4,6-Tribromophenol	*78*	*41 - 110*				
D14-Terphenyl	*72*	*53 - 107*				

Date of Report: March 30, 2011
Samples Submitted: March 21, 2011
Laboratory Reference: 1103-188
Project: 21-1-20624-612

SEMIVOLATILES by EPA 8270D/SIM
METHOD BLANK QUALITY CONTROL
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Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0328S1					
n-Nitrosodimethylamine	**ND**	0.033	EPA 8270	3-28-11	3-28-11	
Pyridine	**ND**	0.33	EPA 8270	3-28-11	3-28-11	
Phenol	**ND**	0.033	EPA 8270	3-28-11	3-28-11	
Aniline	**ND**	0.033	EPA 8270	3-28-11	3-28-11	
bis(2-Chloroethyl)ether	**ND**	0.033	EPA 8270	3-28-11	3-28-11	
2-Chlorophenol	**ND**	0.033	EPA 8270	3-28-11	3-28-11	
1,3-Dichlorobenzene	**ND**	0.033	EPA 8270	3-28-11	3-28-11	
1,4-Dichlorobenzene	**ND**	0.033	EPA 8270	3-28-11	3-28-11	
Benzyl alcohol	**ND**	0.033	EPA 8270	3-28-11	3-28-11	
1,2-Dichlorobenzene	**ND**	0.033	EPA 8270	3-28-11	3-28-11	
2-Methylphenol (o-Cresol)	**ND**	0.033	EPA 8270	3-28-11	3-28-11	
bis(2-Chloroisopropyl)ether	**ND**	0.033	EPA 8270	3-28-11	3-28-11	
(3+4)-Methylphenol (m,p-Cresol)	**ND**	0.033	EPA 8270	3-28-11	3-28-11	
n-Nitroso-di-n-propylamine	**ND**	0.033	EPA 8270	3-28-11	3-28-11	
Hexachloroethane	**ND**	0.033	EPA 8270	3-28-11	3-28-11	
Nitrobenzene	**ND**	0.033	EPA 8270	3-28-11	3-28-11	
Isophorone	**ND**	0.033	EPA 8270	3-28-11	3-28-11	
2-Nitrophenol	**ND**	0.033	EPA 8270	3-28-11	3-28-11	
2,4-Dimethylphenol	**ND**	0.83	EPA 8270	3-28-11	3-28-11	
bis(2-Chloroethoxy)methane	**ND**	0.033	EPA 8270	3-28-11	3-28-11	
2,4-Dichlorophenol	**ND**	0.033	EPA 8270	3-28-11	3-28-11	
1,2,4-Trichlorobenzene	**ND**	0.033	EPA 8270	3-28-11	3-28-11	
Naphthalene	**ND**	0.0067	EPA 8270/SIM	3-28-11	3-29-11	
4-Chloroaniline	**ND**	0.033	EPA 8270	3-28-11	3-28-11	
Hexachlorobutadiene	**ND**	0.033	EPA 8270	3-28-11	3-28-11	
4-Chloro-3-methylphenol	**ND**	0.033	EPA 8270	3-28-11	3-28-11	
2-Methylnaphthalene	**ND**	0.0067	EPA 8270/SIM	3-28-11	3-29-11	
1-Methylnaphthalene	**ND**	0.0067	EPA 8270/SIM	3-28-11	3-29-11	
Hexachlorocyclopentadiene	**ND**	0.033	EPA 8270	3-28-11	3-28-11	
2,4,6-Trichlorophenol	**ND**	0.033	EPA 8270	3-28-11	3-28-11	
2,3-Dichloroaniline	**ND**	0.033	EPA 8270	3-28-11	3-28-11	
2,4,5-Trichlorophenol	**ND**	0.033	EPA 8270	3-28-11	3-28-11	
2-Chloronaphthalene	**ND**	0.033	EPA 8270	3-28-11	3-28-11	
2-Nitroaniline	**ND**	0.033	EPA 8270	3-28-11	3-28-11	
1,4-Dinitrobenzene	**ND**	0.033	EPA 8270	3-28-11	3-28-11	
Dimethylphthalate	**ND**	0.033	EPA 8270	3-28-11	3-28-11	
1,3-Dinitrobenzene	**ND**	0.17	EPA 8270	3-28-11	3-28-11	
2,6-Dinitrotoluene	**ND**	0.033	EPA 8270	3-28-11	3-28-11	
1,2-Dinitrobenzene	**ND**	0.033	EPA 8270	3-28-11	3-28-11	
Acenaphthylene	**ND**	0.0067	EPA 8270/SIM	3-28-11	3-29-11	
3-Nitroaniline	**ND**	0.033	EPA 8270	3-28-11	3-28-11	

Date of Report: March 30, 2011
Samples Submitted: March 21, 2011
Laboratory Reference: 1103-188
Project: 21-1-20624-612

SEMIVOLATILES by EPA 8270D/SIM
METHOD BLANK QUALITY CONTROL
page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0328S1					
2,4-Dinitrophenol	**ND**	0.17	EPA 8270	3-28-11	3-28-11	
Acenaphthene	**ND**	0.0067	EPA 8270/SIM	3-28-11	3-29-11	
4-Nitrophenol	**ND**	0.033	EPA 8270	3-28-11	3-28-11	
2,4-Dinitrotoluene	**ND**	0.033	EPA 8270	3-28-11	3-28-11	
Dibenzofuran	**ND**	0.033	EPA 8270	3-28-11	3-28-11	
2,3,5,6-Tetrachlorophenol	**ND**	0.033	EPA 8270	3-28-11	3-28-11	
2,3,4,6-Tetrachlorophenol	**ND**	0.033	EPA 8270	3-28-11	3-28-11	
Diethylphthalate	**ND**	0.17	EPA 8270	3-28-11	3-28-11	
4-Chlorophenyl-phenylether	**ND**	0.033	EPA 8270	3-28-11	3-28-11	
4-Nitroaniline	**ND**	0.033	EPA 8270	3-28-11	3-28-11	
Fluorene	**ND**	0.0067	EPA 8270/SIM	3-28-11	3-29-11	
4,6-Dinitro-2-methylphenol	**ND**	0.17	EPA 8270	3-28-11	3-28-11	
n-Nitrosodiphenylamine	**ND**	0.033	EPA 8270	3-28-11	3-28-11	
1,2-Diphenylhydrazine	**ND**	0.033	EPA 8270	3-28-11	3-28-11	
4-Bromophenyl-phenylether	**ND**	0.033	EPA 8270	3-28-11	3-28-11	
Hexachlorobenzene	**ND**	0.033	EPA 8270	3-28-11	3-28-11	
Pentachlorophenol	**ND**	0.17	EPA 8270	3-28-11	3-28-11	
Phenanthrene	**ND**	0.0067	EPA 8270/SIM	3-28-11	3-29-11	
Anthracene	**ND**	0.0067	EPA 8270/SIM	3-28-11	3-29-11	
Carbazole	**ND**	0.033	EPA 8270	3-28-11	3-28-11	
Di-n-butylphthalate	**ND**	0.033	EPA 8270	3-28-11	3-28-11	
Fluoranthene	**ND**	0.0067	EPA 8270/SIM	3-28-11	3-29-11	
Benzidine	**ND**	0.33	EPA 8270	3-28-11	3-28-11	
Pyrene	**ND**	0.0067	EPA 8270/SIM	3-28-11	3-29-11	
Butylbenzylphthalate	**ND**	0.033	EPA 8270	3-28-11	3-28-11	
bis-2-Ethylhexyladipate	**ND**	0.033	EPA 8270	3-28-11	3-28-11	
3,3'-Dichlorobenzidine	**ND**	0.33	EPA 8270	3-28-11	3-28-11	
Benz[a]anthracene	**ND**	0.0067	EPA 8270/SIM	3-28-11	3-29-11	
Chrysene	**ND**	0.0067	EPA 8270/SIM	3-28-11	3-29-11	
bis(2-Ethylhexyl)phthalate	**ND**	0.033	EPA 8270	3-28-11	3-28-11	
Di-n-octylphthalate	**ND**	0.033	EPA 8270	3-28-11	3-28-11	
Benzo(b)fluoranthene	**ND**	0.0067	EPA 8270/SIM	3-28-11	3-29-11	
Benzo(k)fluoranthene	**ND**	0.0067	EPA 8270/SIM	3-28-11	3-29-11	
Benzo(a)pyrene	**ND**	0.0067	EPA 8270/SIM	3-28-11	3-29-11	
Indeno[1,2,3-cd]pyrene	**ND**	0.0067	EPA 8270/SIM	3-28-11	3-29-11	
Dibenzo(a,h)anthracene	**ND**	0.0067	EPA 8270/SIM	3-28-11	3-29-11	
Benzo(ghi)perylene	**ND**	0.0067	EPA 8270/SIM	3-28-11	3-29-11	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*49*	*30 - 97*				
Phenol-d6	*53*	*40 - 104*				
D5-Nitrobenzene	*53*	*35 - 102*				
2-Fluorobiphenyl	*58*	*44 - 97*				
2,4,6-Tribromophenol	*80*	*41 - 110*				
D14-Terphenyl	*79*	*53 - 107*				

Date of Report: March 30, 2011
Samples Submitted: March 21, 2011
Laboratory Reference: 1103-188
Project: 21-1-20624-612

SEMIVOLATILES by EPA 8270D/SIM
MS/MSD QUALITY CONTROL

Matrix: Soil
Units: mg/Kg

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
MATRIX SPIKES											
Laboratory ID:	03-191-06										
	MS	MSD	MS	MSD		MS	MSD				
Phenol	**0.985**	**1.07**	1.33	1.33	ND	74	80	41 - 106	8	29	
2-Chlorophenol	**0.987**	**1.08**	1.33	1.33	ND	74	81	43 - 104	9	36	
1,4-Dichlorobenzene	**0.410**	**0.445**	0.667	0.667	ND	61	67	25 - 94	8	40	
n-Nitroso-di-n-propylamine	**0.469**	**0.506**	0.667	0.667	ND	70	76	40 - 100	8	34	
1,2,4-Trichlorobenzene	**0.431**	**0.479**	0.667	0.667	ND	65	72	39 - 86	11	34	
4-Chloro-3-methylphenol	**1.17**	**1.19**	1.33	1.33	ND	88	89	60 - 102	2	25	
Acenaphthene	**0.522**	**0.535**	0.667	0.667	ND	78	80	54 - 94	2	23	
4-Nitrophenol	**1.18**	**1.19**	1.33	1.33	ND	89	89	30 - 133	1	25	
2,4-Dinitrotoluene	**0.630**	**0.645**	0.667	0.667	ND	94	97	46 - 107	2	26	
Pentachlorophenol	**1.24**	**1.28**	1.33	1.33	ND	93	96	54 - 111	3	29	
Pyrene	**0.704**	**0.719**	0.667	0.667	0.193	77	79	54 - 108	2	21	
Surrogate:											
2-Fluorophenol						*60*	*67*	*30 - 97*			
Phenol-d6						*69*	*74*	*40 - 104*			
D5-Nitrobenzene						*67*	*76*	*35 - 102*			
2-Fluorobiphenyl						*71*	*75*	*44 - 97*			
2,4,6-Tribromophenol						*85*	*90*	*41 - 110*			
D14-Terphenyl						*80*	*83*	*53 - 107*			

Date of Report: March 30, 2011
Samples Submitted: March 21, 2011
Laboratory Reference: 1103-188
Project: 21-1-20624-612

PCBs by EPA 8082

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-536-11:8**					
Laboratory ID:	03-188-01					
PCB-aroclor 1016	**ND**	0.28	EPA 8082	3-23-11	3-23-11	
PCB-aroclor 1221	**ND**	0.28	EPA 8082	3-23-11	3-23-11	
PCB-aroclor 1232	**ND**	0.28	EPA 8082	3-23-11	3-23-11	
PCB-aroclor 1242	**ND**	0.28	EPA 8082	3-23-11	3-23-11	
PCB-aroclor 1248	**ND**	0.28	EPA 8082	3-23-11	3-23-11	
PCB-aroclor 1254	**ND**	0.28	EPA 8082	3-23-11	3-23-11	
PCB-aroclor 1260	**ND**	0.28	EPA 8082	3-23-11	3-23-11	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*76*	*42-123*				
Client ID:	**H-561-11:4**					
Laboratory ID:	03-188-02					
PCB-aroclor 1016	**ND**	0.11	EPA 8082	3-23-11	3-23-11	
PCB-aroclor 1221	**ND**	0.11	EPA 8082	3-23-11	3-23-11	
PCB-aroclor 1232	**ND**	0.11	EPA 8082	3-23-11	3-23-11	
PCB-aroclor 1242	**ND**	0.11	EPA 8082	3-23-11	3-23-11	
PCB-aroclor 1248	**ND**	0.11	EPA 8082	3-23-11	3-23-11	
PCB-aroclor 1254	**ND**	0.11	EPA 8082	3-23-11	3-23-11	
PCB-aroclor 1260	**ND**	0.11	EPA 8082	3-23-11	3-23-11	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*75*	*42-123*				

Date of Report: March 30, 2011
Samples Submitted: March 21, 2011
Laboratory Reference: 1103-188
Project: 21-1-20624-612

PCBs by EPA 8082
QUALITY CONTROL

Matrix: Solid
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0323S1					
PCB-aroclor 1016	**ND**	0.050	EPA 8082	3-23-11	3-23-11	
PCB-aroclor 1221	**ND**	0.050	EPA 8082	3-23-11	3-23-11	
PCB-aroclor 1232	**ND**	0.050	EPA 8082	3-23-11	3-23-11	
PCB-aroclor 1242	**ND**	0.050	EPA 8082	3-23-11	3-23-11	
PCB-aroclor 1248	**ND**	0.050	EPA 8082	3-23-11	3-23-11	
PCB-aroclor 1254	**ND**	0.050	EPA 8082	3-23-11	3-23-11	
PCB-aroclor 1260	**ND**	0.050	EPA 8082	3-23-11	3-23-11	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*88*	*42-123*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
MATRIX SPIKES											
Laboratory ID:	03-191-06										
	MS	MSD	MS	MSD		MS	MSD				
PCB-aroclor 1260	**0.442**	**0.435**	0.500	0.500	ND	**88**	**87**	44-125	2	15	
Surrogate:											
DCB						*87*	*85*	*42-123*			

Date of Report: March 30, 2011
Samples Submitted: March 21, 2011
Laboratory Reference: 1103-188
Project: 21-1-20624-612

TOTAL METALS
EPA 6010B/6020/7471A

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	03-188-01					
Client ID:	**H-536-11:8**					
Arsenic	**ND**	14	6020	3-22-11	3-28-11	
Barium	**130**	14	6010B	3-22-11	3-22-11	
Cadmium	**ND**	1.4	6020	3-22-11	3-28-11	
Chromium	**66**	2.8	6010B	3-22-11	3-22-11	
Lead	**37**	28	6010B	3-22-11	3-22-11	
Mercury	**ND**	1.4	7471A	3-23-11	3-23-11	
Selenium	**ND**	14	6020	3-22-11	3-28-11	
Silver	**ND**	2.8	6010B	3-22-11	3-22-11	
Lab ID:	03-188-02					
Client ID:	**H-561-11:4**					
Arsenic	**ND**	11	6010B	3-22-11	3-22-11	
Barium	**48**	5.4	6010B	3-22-11	3-22-11	
Cadmium	**ND**	1.1	6010B	3-22-11	3-22-11	
Chromium	**32**	1.1	6010B	3-22-11	3-22-11	
Lead	**ND**	11	6010B	3-22-11	3-22-11	
Mercury	**ND**	0.54	7471A	3-23-11	3-23-11	
Selenium	**ND**	22	6010B	3-22-11	3-22-11	
Silver	**ND**	1.1	6010B	3-22-11	3-22-11	

Date of Report: March 30, 2011
Samples Submitted: March 21, 2011
Laboratory Reference: 1103-188
Project: 21-1-20624-612

TOTAL METALS
EPA 6010B/7471A

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	03-188-03					
Client ID:	**H-552-11:4**					
Arsenic	**ND**	5.7	6010B	3-22-11	3-22-11	
Barium	**47**	2.8	6010B	3-22-11	3-22-11	
Cadmium	**ND**	0.57	6010B	3-22-11	3-22-11	
Chromium	**47**	0.57	6010B	3-22-11	3-22-11	
Lead	**ND**	5.7	6010B	3-22-11	3-22-11	
Mercury	**ND**	0.28	7471A	3-23-11	3-23-11	
Selenium	**ND**	11	6010B	3-22-11	3-22-11	
Silver	**ND**	0.57	6010B	3-22-11	3-22-11	
Lab ID:	03-188-04					
Client ID:	**H-609p-11:16.7**					
Arsenic	**ND**	6.1	6010B	3-22-11	3-22-11	
Barium	**86**	3.0	6010B	3-22-11	3-22-11	
Cadmium	**ND**	0.61	6010B	3-22-11	3-22-11	
Chromium	**48**	0.61	6010B	3-22-11	3-22-11	
Lead	**28**	6.1	6010B	3-22-11	3-22-11	
Mercury	**ND**	0.30	7471A	3-23-11	3-23-11	
Selenium	**ND**	12	6010B	3-22-11	3-22-11	
Silver	**ND**	0.61	6010B	3-22-11	3-22-11	

Date of Report: March 30, 2011
Samples Submitted: March 21, 2011
Laboratory Reference: 1103-188
Project: 21-1-20624-612

TOTAL METALS
EPA 6010B/7471A
METHOD BLANK QUALITY CONTROL

Date Extracted:	3-22&23-11
Date Analyzed:	3-22&23-11
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	MB0322S2,MB0322S3&MB0323S1

Analyte	Method	Result	PQL
Arsenic	6010B	**ND**	5.0
Barium	6010B	**ND**	2.5
Cadmium	6010B	**ND**	0.50
Chromium	6010B	**ND**	0.50
Lead	6010B	**ND**	5.0
Mercury	7471A	**ND**	0.25
Selenium	6010B	**ND**	10
Silver	6010B	**ND**	0.50

Date of Report: March 30, 2011
Samples Submitted: March 21, 2011
Laboratory Reference: 1103-188
Project: 21-1-20624-612

TOTAL METALS
EPA 6010B
METHOD BLANK QUALITY CONTROL

Date Extracted:	3-22-11
Date Analyzed:	3-28-11
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	MB0322S2

Analyte	Method	Result	PQL
Arsenic	6010B	**ND**	2.5
Cadmium	6010B	**ND**	0.25
Selenium	6010B	**ND**	2.5

Date of Report: March 30, 2011
Samples Submitted: March 21, 2011
Laboratory Reference: 1103-188
Project: 21-1-20624-612

TOTAL METALS
EPA 6010B/7471A
DUPLICATE QUALITY CONTROL

Date Extracted: 3-22&23-11
Date Analyzed: 3-22&23-11

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 03-162-05

Analyte	Sample Result	Duplicate Result	RPD	PQL	Flags
Arsenic	**ND**	**ND**	NA	5.0	
Barium	**19.0**	**15.5**	20	2.5	
Cadmium	**ND**	**ND**	NA	0.50	
Chromium	**8.55**	**7.55**	12	0.50	
Lead	**ND**	**ND**	NA	5.0	
Mercury	**ND**	**ND**	NA	0.25	
Selenium	**ND**	**ND**	NA	10	
Silver	**ND**	**ND**	NA	0.50	

Date of Report: March 30, 2011
Samples Submitted: March 21, 2011
Laboratory Reference: 1103-188
Project: 21-1-20624-612

TOTAL METALS
EPA 6010B
DUPLICATE QUALITY CONTROL

Date Extracted: 3-22-11
Date Analyzed: 3-28-11

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 03-162-05

Analyte	Sample Result	Duplicate Result	RPD	PQL	Flags
Arsenic	**2.50**	**ND**	NA	2.5	
Cadmium	**ND**	**ND**	NA	0.25	
Selenium	**ND**	**ND**	NA	2.5	

Date of Report: March 30, 2011
Samples Submitted: March 21, 2011
Laboratory Reference: 1103-188
Project: 21-1-20624-612

TOTAL METALS
EPA 6010B/7471A
MS/MSD QUALITY CONTROL

Date Extracted: 3-22&23-11
Date Analyzed: 3-22&23-11

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 03-162-05

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Arsenic	100	**93.5**	93	**96.1**	96	3	
Barium	100	**121**	102	**119**	100	2	
Cadmium	50	**46.4**	93	**47.4**	95	2	
Chromium	100	**101**	93	**104**	95	2	
Lead	250	**231**	92	**237**	95	2	
Mercury	0.50	**0.528**	106	**0.513**	103	3	
Selenium	100	**93.5**	93	**96.9**	97	4	
Silver	25	**23.4**	94	**23.6**	94	1	

Date of Report: March 30, 2011
Samples Submitted: March 21, 2011
Laboratory Reference: 1103-188
Project: 21-1-20624-612

TOTAL METALS
EPA 6010B
MS/MSD QUALITY CONTROL

Date Extracted: 3-22-11
Date Analyzed: 3-28-11

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 03-162-05

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Arsenic	100	**100**	98	**101**	99	1	
Cadmium	50	**48.3**	97	**51.0**	102	6	
Selenium	100	**103**	103	**103**	103	0	

Date of Report: March 30, 2011
Samples Submitted: March 21, 2011
Laboratory Reference: 1103-188
Project: 21-1-20624-612

% MOISTURE

Date Analyzed: 3-21&23-11

Client ID	Lab ID	% Moisture
H-536-11:8	03-188-01	82
H-561-11:4	03-188-02	54
H-552-11:4	03-188-03	12
H-609p-11:16.7	03-188-04	17

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

Y - Sample extract treated with an acid/silica gel cleanup procedure.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

Chain of Custody

OnSite Environmental Inc.
Phone: (425) 883-3881 • Fax: (425) 885-4603

Company: WSDOT (via S&W)
Project Number: 21-1-20624-612
Project Name: SR520 Vulnerable Structures
Project Manager: Suzanne Wheeler / ~~Gwen~~ cc: Gwen McCullough
Sampled by:

Turnaround Request (in working days)

(Check One)

- ☐ Same Day ☐ 1 Day
- ☐ 2 Day ☐ 3 Day
- ☒ Standard (7 working days) (TPH analysis 5 working days)
- ☐ _____ (other)

Laboratory Number: 03-188

Requested Analysis

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	# of Cont.	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Dx	Volatiles by 8260B	Halogenated Volatiles by 8260B	Semivolatiles by 8270D	PAHs by 8270D / SIM	PCBs by 8082	Pesticides by 8081A	Herbicides by 8151A	Total RCRA Metals (8)	TCLP Metals	HEM by 1664	% Moisture
1	H-536-11:8	3/3/11	1016	SO	1			X			X		X			X			X
2	H-561-11:4	3/9/11	1001	↓	1			X			X		X			X			↓
3	H-552-11:4	3/15/11	855	↓	2	X										X			
4	H-609p-11:16.7	3/17/11	945	↓	2	X										X			

	Signature	Company	Date	Time
Relinquished by		S&W	3/21/11	830
Received by	Brett Perry	Speedy messenger	3/21/11	10:00 AM
Relinquished by	Brett Perry	Speedy messenger	3/21/11	12:10
Received by		OSE	3/21/11	1210
Relinquished by				
Received by				

Comments/Special Instructions:
S&W contact: Cody Johnson
Contract: GA0 01807

Reviewed by/Date

Reviewed by/Date

Chromatograms with final report ☐

DISTRIBUTION LEGEND: White - OnSite Copy Yellow - Report Copy Pink - Client Copy

OnSite Environmental Inc.

14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

February 6, 2015

Edwin Ptak
Shannon & Wilson, Inc.
400 N 34th Street, Suite 100
Seattle, WA 98103

Re: Analytical Data for Project 21-1-20624
Laboratory Reference No. 1501-213

Dear Edwin:

Enclosed are the analytical results and associated quality control data for samples submitted on January 29, 2015.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

Date of Report: February 6, 2015
Samples Submitted: January 29, 2015
Laboratory Reference: 1501-213
Project: 21-1-20624

Case Narrative

Samples were collected on January 28, 2015 and received by the laboratory on January 29, 2015. They were maintained at the laboratory at a temperature of 2°C to 6°C.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

Date of Report: February 6, 2015
Samples Submitted: January 29, 2015
Laboratory Reference: 1501-213
Project: 21-1-20624

NWTPH-HCID

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-662p-15:7.5**					
Laboratory ID:	01-213-01					
Gasoline Range Organics	**ND**	27	NWTPH-HCID	1-29-15	1-29-15	
Diesel Range Organics	**ND**	67	NWTPH-HCID	1-29-15	1-29-15	
Lube Oil Range Organics	**ND**	140	NWTPH-HCID	1-29-15	1-29-15	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*94*	*50-150*				
Client ID:	**H-667p-15:7.5**					
Laboratory ID:	01-213-02					
Gasoline Range Organics	**ND**	23	NWTPH-HCID	1-29-15	1-29-15	
Diesel Range Organics	**ND**	57	NWTPH-HCID	1-29-15	1-29-15	
Lube Oil Range Organics	**ND**	110	NWTPH-HCID	1-29-15	1-29-15	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*99*	*50-150*				

Date of Report: February 6, 2015
Samples Submitted: January 29, 2015
Laboratory Reference: 1501-213
Project: 21-1-20624

NWTPH-HCID
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0129S1					
Gasoline Range Organics	**ND**	20	NWTPH-HCID	1-29-15	1-29-15	
Diesel Range Organics	**ND**	50	NWTPH-HCID	1-29-15	1-29-15	
Lube Oil Range Organics	**ND**	100	NWTPH-HCID	1-29-15	1-29-15	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*104*	*50-150*				

Date of Report: February 6, 2015
Samples Submitted: January 29, 2015
Laboratory Reference: 1501-213
Project: 21-1-20624

TOTAL METALS
EPA 6010C/7471B

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	01-213-01					
Client ID:	**H-662p-15:7.5**					
Arsenic	**ND**	13	6010C	2-3-15	2-3-15	
Barium	**160**	3.4	6010C	2-3-15	2-3-15	
Cadmium	**ND**	0.67	6010C	2-3-15	2-3-15	
Chromium	**79**	0.67	6010C	2-3-15	2-3-15	
Lead	**ND**	6.7	6010C	2-3-15	2-3-15	
Mercury	**ND**	0.34	7471B	2-4-15	2-4-15	
Selenium	**ND**	13	6010C	2-3-15	2-3-15	
Silver	**ND**	1.3	6010C	2-3-15	2-3-15	
Lab ID:	01-213-02					
Client ID:	**H-667p-15:7.5**					
Arsenic	**ND**	11	6010C	2-3-15	2-3-15	
Barium	**49**	2.9	6010C	2-3-15	2-3-15	
Cadmium	**ND**	0.57	6010C	2-3-15	2-3-15	
Chromium	**44**	0.57	6010C	2-3-15	2-3-15	
Lead	**20**	5.7	6010C	2-3-15	2-3-15	
Mercury	**ND**	0.29	7471B	2-4-15	2-4-15	
Selenium	**ND**	11	6010C	2-3-15	2-3-15	
Silver	**ND**	1.1	6010C	2-3-15	2-3-15	

Date of Report: February 6, 2015
Samples Submitted: January 29, 2015
Laboratory Reference: 1501-213
Project: 21-1-20624

TOTAL METALS
EPA 6010C/7471B
METHOD BLANK QUALITY CONTROL

Date Extracted: 2-3&4-15
Date Analyzed: 2-3&4-15

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: MB0203SM1&MB0204S1

Analyte	Method	Result	PQL
Arsenic	6010C	**ND**	10
Barium	6010C	**ND**	2.5
Cadmium	6010C	**ND**	0.50
Chromium	6010C	**ND**	0.50
Lead	6010C	**ND**	5.0
Mercury	7471B	**ND**	0.25
Selenium	6010C	**ND**	10
Silver	6010C	**ND**	1.0

Date of Report: February 6, 2015
Samples Submitted: January 29, 2015
Laboratory Reference: 1501-213
Project: 21-1-20624

TOTAL METALS
EPA 6010C/7471B
DUPLICATE QUALITY CONTROL

Date Extracted: 2-3&4-15
Date Analyzed: 2-3&4-15

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 01-203-16

Analyte	Sample Result	Duplicate Result	RPD	PQL	Flags
Arsenic	**ND**	**ND**	NA	10	
Barium	**33.2**	**29.0**	14	2.5	
Cadmium	**ND**	**ND**	NA	0.50	
Chromium	**23.8**	**18.5**	25	0.50	
Lead	**ND**	**ND**	NA	5.0	
Mercury	**ND**	**ND**	NA	0.25	
Selenium	**ND**	**ND**	NA	10	
Silver	**ND**	**ND**	NA	1.0	

Date of Report: February 6, 2015
Samples Submitted: January 29, 2015
Laboratory Reference: 1501-213
Project: 21-1-20624

TOTAL METALS
EPA 6010C/7471B
MS/MSD QUALITY CONTROL

Date Extracted: 2-3&4-15
Date Analyzed: 2-3&4-15

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 01-203-16

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Arsenic	100	**93.1**	93	**94.4**	94	1	
Barium	100	**126**	93	**122**	89	4	
Cadmium	50.0	**46.0**	92	**45.8**	92	0	
Chromium	100	**112**	88	**109**	86	2	
Lead	250	**236**	94	**235**	94	0	
Mercury	0.500	**0.539**	108	**0.524**	105	3	
Selenium	100	**94.9**	95	**94.3**	94	1	
Silver	25.0	**21.9**	88	**21.9**	88	0	

Date of Report: February 6, 2015
Samples Submitted: January 29, 2015
Laboratory Reference: 1501-213
Project: 21-1-20624

% MOISTURE

Date Analyzed: 1-29-15

Client ID	Lab ID	% Moisture
H-662p-15:7.5	01-213-01	26
H-667p-15:7.5	01-213-02	12

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

X1- Sample extract treated with a Sulfuric acid/Silica gel cleanup procedure.

Y - The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

Chain of Custody

Page 1 of _____

OnSite Environmental Inc.
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • Fax: (425) 885-4603

Company: Shannon & Wilson
Project Number: 21-1-20624
Project Name: SR 520
Project Manager: ~~Jon~~ Ed Ptak
Sampled by: Jennifer Parker / Jeff Weiss

Turnaround Request (in working days)

(Check One)

- ☐ Same Day
- ☐ 1 Day
- ☐ 2 Day
- ☐ 3 Day
- ☒ Standard (7 working days) (TPH analysis 5 working days)
- ☐ _____ (other)

Laboratory Number: 01-213

Requested Analysis

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	# of Cont.	NWTPH-HCID	NWTPH-Gx/BTEX -	NWTPH-Dx	Volatiles by 8260B	Halogenated Volatiles by 8260B	Semivolatiles by 8270C	PAHs by 8270C / SIM	PCBs by 8082	Pesticides by 8081A	Herbicides by 8151A	Total RCRA Metals (8)	TCLP Metals	HEM by 1664	VPH	EPH	BTEX - gas	VOCs - gas			% Moisture
1	H-662p-15:7.5	1/28/15	10:30	~~diff~~ soil	5	X										X									X
2	H-667p-15:7.5	1/28	14:05	soil	5	X										X									X
	~~H-667p-15:7.5 (2)~~	~~1/28~~	~~14:10~~	~~soil~~	~~1~~																				

	Signature	Company	Date	Time
Relinquished by		SW	1/29/15	730
Received by		SPEEDY	1/29/15	844
Relinquished by		SPEEDY	1/29/15	10:14
Received by		CORE	1/29/15	1019
Relinquished by				
Received by				
Reviewed by/Date		Reviewed by/Date		

Comments/Special Instructions:

Chromatograms with final report ☒

DISTRIBUTION LEGEND: White - OnSite Copy Yellow - Report Copy Pink - Client Copy

OnSite Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

February 24, 2015

Edwin Ptak
Shannon & Wilson, Inc.
400 N 34th Street, Suite 100
Seattle, WA 98103

Re: Analytical Data for Project 21-1-20624-802
Laboratory Reference No. 1502-107

Dear Edwin:

Enclosed are the analytical results and associated quality control data for samples submitted on February 11, 2015.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

Date of Report: February 24, 2015
Samples Submitted: February 11, 2015
Laboratory Reference: 1502-107
Project: 21-1-20624-802

Case Narrative

Samples were collected on February 10, 2015 and received by the laboratory on February 11, 2015. They were maintained at the laboratory at a temperature of 2°C to 6°C.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

Date of Report: February 24, 2015
Samples Submitted: February 11, 2015
Laboratory Reference: 1502-107
Project: 21-1-20624-802

NWTPH-HCID

Matrix: Water
Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-667p-15:GW**					
Laboratory ID:	02-107-01					
Gasoline Range Organics	**Detected**	0.10	NWTPH-HCID	2-13-15	2-13-15	
Diesel Range Organics	**ND**	0.26	NWTPH-HCID	2-13-15	2-13-15	
Lube Oil Range Organics	**ND**	0.41	NWTPH-HCID	2-13-15	2-13-15	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*79*	*50-150*				

Date of Report: February 24, 2015
Samples Submitted: February 11, 2015
Laboratory Reference: 1502-107
Project: 21-1-20624-802

NWTPH-HCID
QUALITY CONTROL

Matrix: Water
Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0213W1					
Gasoline Range Organics	**ND**	0.10	NWTPH-HCID	2-13-15	2-13-15	
Diesel Range Organics	**ND**	0.25	NWTPH-HCID	2-13-15	2-13-15	
Lube Oil Range Organics	**ND**	0.40	NWTPH-HCID	2-13-15	2-13-15	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*87*	*50-150*				

Date of Report: February 24, 2015
Samples Submitted: February 11, 2015
Laboratory Reference: 1502-107
Project: 21-1-20624-802

TOTAL PP METALS
EPA 200.8/7470A

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	02-107-01					
Client ID:	**H-667p-15:GW**					
Antimony	**ND**	5.6	200.8	2-17-15	2-17-15	
Arsenic	**5.8**	3.3	200.8	2-17-15	2-17-15	
Beryllium	**ND**	11	200.8	2-17-15	2-17-15	
Cadmium	**ND**	4.4	200.8	2-17-15	2-17-15	
Chromium	**ND**	11	200.8	2-17-15	2-17-15	
Copper	**ND**	11	200.8	2-17-15	2-17-15	
Lead	**ND**	1.1	200.8	2-17-15	2-17-15	
Mercury	**ND**	0.50	7470A	2-12-15	2-12-15	
Nickel	**ND**	22	200.8	2-17-15	2-17-15	
Selenium	**ND**	5.6	200.8	2-17-15	2-17-15	
Silver	**ND**	11	200.8	2-17-15	2-17-15	
Thallium	**ND**	5.6	200.8	2-17-15	2-17-15	
Zinc	**ND**	28	200.8	2-17-15	2-17-15	

Date of Report: February 24, 2015
Samples Submitted: February 11, 2015
Laboratory Reference: 1502-107
Project: 21-1-20624-802

TOTAL PP METALS
EPA 200.8
METHOD BLANK QUALITY CONTROL

Date Extracted:	2-17-15
Date Analyzed:	2-17-15
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	MB0217WM1

Analyte	Method	Result	PQL
Antimony	200.8	**ND**	5.6
Arsenic	200.8	**ND**	3.3
Beryllium	200.8	**ND**	11
Cadmium	200.8	**ND**	4.4
Chromium	200.8	**ND**	11
Copper	200.8	**ND**	11
Lead	200.8	**ND**	1.1
Nickel	200.8	**ND**	22
Selenium	200.8	**ND**	5.6
Silver	200.8	**ND**	11
Thallium	200.8	**ND**	5.6
Zinc	200.8	**ND**	28

Date of Report: February 24, 2015
Samples Submitted: February 11, 2015
Laboratory Reference: 1502-107
Project: 21-1-20624-802

TOTAL MERCURY
EPA 7470A
METHOD BLANK QUALITY CONTROL

Date Extracted:	2-12-15
Date Analyzed:	2-12-15
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	MB0212W1

Analyte	Method	Result	PQL
Mercury	7470A	**ND**	0.50

Date of Report: February 24, 2015
Samples Submitted: February 11, 2015
Laboratory Reference: 1502-107
Project: 21-1-20624-802

TOTAL PP METALS
EPA 200.8
DUPLICATE QUALITY CONTROL

Date Extracted: 2-17-15
Date Analyzed: 2-17-15

Matrix: Water
Units: ug/L (ppb)

Lab ID: 02-055-05

Analyte	Sample Result	Duplicate Result	RPD	PQL	Flags
Antimony	**ND**	**ND**	NA	5.6	
Arsenic	**ND**	**ND**	NA	3.3	
Beryllium	**ND**	**ND**	NA	11	
Cadmium	**ND**	**ND**	NA	4.4	
Chromium	**ND**	**ND**	NA	11	
Copper	**ND**	**ND**	NA	11	
Lead	**ND**	**ND**	NA	1.1	
Nickel	**ND**	**ND**	NA	22	
Selenium	**ND**	**ND**	NA	5.6	
Silver	**ND**	**ND**	NA	11	
Thallium	**ND**	**ND**	NA	5.6	
Zinc	**ND**	**ND**	NA	28	

Date of Report: February 24, 2015
Samples Submitted: February 11, 2015
Laboratory Reference: 1502-107
Project: 21-1-20624-802

TOTAL MERCURY
EPA 7470A
DUPLICATE QUALITY CONTROL

Date Extracted: 2-12-15
Date Analyzed: 2-12-15

Matrix: Water
Units: ug/L (ppb)

Lab ID: 02-107-01

Analyte	Sample Result	Duplicate Result	RPD	PQL	Flags
Mercury	**ND**	**ND**	NA	0.50	

Date of Report: February 24, 2015
Samples Submitted: February 11, 2015
Laboratory Reference: 1502-107
Project: 21-1-20624-802

TOTAL PP METALS
EPA 200.8
MS/MSD QUALITY CONTROL

Date Extracted: 2-17-15
Date Analyzed: 2-17-15

Matrix: Water
Units: ug/L (ppb)

Lab ID: 02-055-05

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Antimony	111	**115**	104	**115**	104	0	
Arsenic	111	**115**	103	**117**	105	2	
Beryllium	111	**109**	98	**109**	98	0	
Cadmium	111	**112**	101	**113**	102	0	
Chromium	111	**103**	93	**101**	91	2	
Copper	111	**100**	90	**98.8**	89	2	
Lead	111	**107**	97	**108**	98	1	
Nickel	111	**101**	91	**104**	93	2	
Selenium	111	**118**	107	**121**	109	2	
Silver	111	**107**	96	**106**	96	0	
Thallium	111	**110**	99	**112**	100	1	
Zinc	111	**120**	108	**118**	106	1	

Date of Report: February 24, 2015
Samples Submitted: February 11, 2015
Laboratory Reference: 1502-107
Project: 21-1-20624-802

TOTAL MERCURY
EPA 7470A
MS/MSD QUALITY CONTROL

Date Extracted: 2-12-15
Date Analyzed: 2-12-15

Matrix: Water
Units: ug/L (ppb)

Lab ID: 02-107-01

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Mercury	12.5	**11.4**	91	**11.6**	93	2	

Date of Report: February 24, 2015
Samples Submitted: February 11, 2015
Laboratory Reference: 1502-107
Project: 21-1-20624-802

DISSOLVED PP METALS
EPA 200.8/7470A

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	02-107-01					
Client ID:	**H-667p-15:GW**					
Antimony	**ND**	5.0	200.8	2-11-15	2-19-15	
Arsenic	**3.4**	3.0	200.8	2-11-15	2-19-15	
Beryllium	**ND**	10	200.8	2-11-15	2-19-15	
Cadmium	**ND**	4.0	200.8	2-11-15	2-19-15	
Chromium	**ND**	10	200.8	2-11-15	2-19-15	
Copper	**ND**	10	200.8	2-11-15	2-19-15	
Lead	**ND**	1.0	200.8	2-11-15	2-19-15	
Mercury	**ND**	0.50	7470A	2-11-15	2-12-15	
Nickel	**ND**	20	200.8	2-11-15	2-19-15	
Selenium	**ND**	5.0	200.8	2-11-15	2-19-15	
Silver	**ND**	10	200.8	2-11-15	2-19-15	
Thallium	**ND**	5.0	200.8	2-11-15	2-19-15	
Zinc	**ND**	25	200.8	2-11-15	2-19-15	

Date of Report: February 24, 2015
Samples Submitted: February 11, 2015
Laboratory Reference: 1502-107
Project: 21-1-20624-802

DISSOLVED PP METALS
EPA 200.8/7470A
METHOD BLANK QUALITY CONTROL

Date Filtered:	2-11-15
Date Analyzed:	2-12&19-15
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	MB0211F1

Analyte	Method	Result	PQL
Antimony	200.8	**ND**	5.0
Arsenic	200.8	**ND**	3.0
Beryllium	200.8	**ND**	10
Cadmium	200.8	**ND**	4.0
Chromium	200.8	**ND**	10
Copper	200.8	**ND**	10
Lead	200.8	**ND**	1.0
Mercury	7470A	**ND**	0.50
Nickel	200.8	**ND**	20
Selenium	200.8	**ND**	5.0
Silver	200.8	**ND**	10
Thallium	200.8	**ND**	5.0
Zinc	200.8	**ND**	25

Date of Report: February 24, 2015
Samples Submitted: February 11, 2015
Laboratory Reference: 1502-107
Project: 21-1-20624-802

DISSOLVED PP METALS
EPA 200.8/7470A
DUPLICATE QUALITY CONTROL

Date Filtered: 2-11-15
Date Analyzed: 2-12&19-15

Matrix: Water
Units: ug/L (ppb)

Lab ID: 02-107-01

Analyte	Sample Result	Duplicate Result	RPD	PQL	Flags
Antimony	**ND**	**ND**	NA	5.0	
Arsenic	**3.36**	**3.32**	1	3.0	
Beryllium	**ND**	**ND**	NA	10	
Cadmium	**ND**	**ND**	NA	4.0	
Chromium	**ND**	**ND**	NA	10	
Copper	**ND**	**ND**	NA	10	
Lead	**ND**	**ND**	NA	1.0	
Mercury	**ND**	**ND**	NA	0.5	
Nickel	**ND**	**ND**	NA	20	
Selenium	**ND**	**ND**	NA	5.0	
Silver	**ND**	**ND**	NA	10	
Thallium	**ND**	**ND**	NA	5.0	
Zinc	**ND**	**ND**	NA	25	

Date of Report: February 24, 2015
Samples Submitted: February 11, 2015
Laboratory Reference: 1502-107
Project: 21-1-20624-802

DISSOLVED PP METALS
EPA 200.8/7470A
MS/MSD QUALITY CONTROL

Date Filtered: 2-11-15
Date Analyzed: 2-12&19-15

Matrix: Water
Units: ug/L (ppb)

Lab ID: 02-107-01

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Antimony	200	**206**	103	**211**	105	2	
Arsenic	200	**203**	100	**205**	101	1	
Beryllium	200	**199**	99	**197**	98	1	
Cadmium	200	**199**	100	**200**	100	0	
Chromium	200	**192**	96	**191**	95	1	
Copper	200	**185**	92	**186**	93	0	
Lead	200	**196**	98	**196**	98	0	
Mercury	12.5	**11.2**	89	**11.6**	93	4	
Nickel	200	**192**	96	**191**	95	1	
Selenium	200	**223**	112	**223**	111	0	
Silver	200	**174**	87	**177**	89	2	
Thallium	200	**201**	101	**202**	101	0	
Zinc	200	**205**	103	**211**	105	3	

Date of Report: February 24, 2015
Samples Submitted: February 11, 2015
Laboratory Reference: 1502-107
Project: 21-1-20624-802

NWTPH-Gx/BTEX

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-667p-15:GW**					
Laboratory ID:	02-107-01					
Benzene	**ND**	1.0	EPA 8021B	2-20-15	2-20-15	
Toluene	**ND**	1.0	EPA 8021B	2-20-15	2-20-15	
Ethyl Benzene	**ND**	1.0	EPA 8021B	2-20-15	2-20-15	
m,p-Xylene	**1.6**	1.0	EPA 8021B	2-20-15	2-20-15	
o-Xylene	**ND**	1.0	EPA 8021B	2-20-15	2-20-15	
Gasoline	**170**	100	NWTPH-Gx	2-20-15	2-20-15	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*104*	*71-113*				

Date of Report: February 24, 2015
Samples Submitted: February 11, 2015
Laboratory Reference: 1502-107
Project: 21-1-20624-802

NWTPH-Gx/BTEX
QUALITY CONTROL

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0220W1					
Benzene	**ND**	1.0	EPA 8021B	2-20-15	2-20-15	
Toluene	**ND**	1.0	EPA 8021B	2-20-15	2-20-15	
Ethyl Benzene	**ND**	1.0	EPA 8021B	2-20-15	2-20-15	
m,p-Xylene	**ND**	1.0	EPA 8021B	2-20-15	2-20-15	
o-Xylene	**ND**	1.0	EPA 8021B	2-20-15	2-20-15	
Gasoline	**ND**	100	NWTPH-Gx	2-20-15	2-20-15	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*100*	*71-113*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	02-173-05										
	ORIG	DUP									
Benzene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Toluene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Ethyl Benzene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
m,p-Xylene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
o-Xylene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Gasoline	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Surrogate:											
Fluorobenzene						*103*	*103*	*71-113*			
SPIKE BLANKS											
Laboratory ID:	SB0220W1										
	SB	SBD	SB	SBD		SB	SBD				
Benzene	**55.0**	**52.7**	50.0	50.0		**110**	**105**	80-118	4	11	
Toluene	**56.8**	**54.4**	50.0	50.0		**114**	**109**	81-119	4	11	
Ethyl Benzene	**55.7**	**53.2**	50.0	50.0		**111**	**106**	80-121	5	12	
m,p-Xylene	**56.0**	**53.7**	50.0	50.0		**112**	**107**	81-121	4	12	
o-Xylene	**54.8**	**52.7**	50.0	50.0		**110**	**105**	81-119	4	12	
Surrogate:											
Fluorobenzene						*105*	*105*	*71-113*			

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

X1- Sample extract treated with a Sulfuric acid/Silica gel cleanup procedure.

Y - The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

Chain of Custody

Page 1 of 1

OnSite Environmental Inc.
Analytical Laboratory Testing Services
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Company: Shannon & Wilson
Project Number: 21-1-20624-802
Project Name: SR 520
Project Manager: Ed Ptak
Sampled by: Jeff Weiss

Turnaround Request (in working days)

(Check One)

- ☐ Same Day ☐ 1 Day
- ☐ 2 Days ☐ 3 Days
- ☒ Standard (7 Days) (TPH analysis 5 Days)
- ☐ _____ (other)

Laboratory Number: 02-107

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx	Volatiles 8260C	Halogenated Volatiles 8260C	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A	Total priority pol Metals	Dissolved PP Metals				% Moisture
1	H-667D-15:GW	2/10/15	1600	W	9	X	X															X	X				

	Signature	Company	Date	Time
Relinquished		SW	2/11/15	700
Received		SPLoopy	2/11/15	1016
Relinquished		SPLoopy	2/11/15	1205
Received		OSE	2/11/15	1205
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

⊗ Added 2/20/15. DJ3 (STA)

Chromatograms with final report ☐

Data Package: Standard ☐ Level III ☐ Level IV ☐

Electronic Data Deliverables (EDDs) ☐ _____

OnSite Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

March 24, 2016

Edwin Ptak
Shannon & Wilson, Inc.
400 N 34th Street, Suite 100
Seattle, WA 98103

Re: Analytical Data for Project 21-1-20624-822
Laboratory Reference No. 1603-150

Dear Edwin:

Enclosed are the analytical results and associated quality control data for samples submitted on March 16, 2016.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

Date of Report: March 24, 2016
Samples Submitted: March 16, 2016
Laboratory Reference: 1603-150
Project: 21-1-20624-822

Case Narrative

Samples were collected on March 15, 2016 and received by the laboratory on March 16, 2016. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

Total Metals EPA 6010C/7471B Analysis

The duplicate RPD for Chromium is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

Any other QA/QC issues associated with this extraction and analysis will be indicated with a footnote reference and discussed in detail on the Data Qualifier page.

Date of Report: March 24, 2016
Samples Submitted: March 16, 2016
Laboratory Reference: 1603-150
Project: 21-1-20624-822

NWTPH-HCID

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-691p-16:9**					
Laboratory ID:	03-150-01					
Gasoline Range Organics	**ND**	22	NWTPH-HCID	3-17-16	3-17-16	
Diesel Range Organics	**ND**	56	NWTPH-HCID	3-17-16	3-17-16	
Lube Oil Range Organics	**ND**	110	NWTPH-HCID	3-17-16	3-17-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*119*	*50-150*				

Date of Report: March 24, 2016
Samples Submitted: March 16, 2016
Laboratory Reference: 1603-150
Project: 21-1-20624-822

NWTPH-HCID
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0317S2					
Gasoline Range Organics	**ND**	20	NWTPH-HCID	3-17-16	3-17-16	
Diesel Range Organics	**ND**	50	NWTPH-HCID	3-17-16	3-17-16	
Lube Oil Range Organics	**ND**	100	NWTPH-HCID	3-17-16	3-17-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*125*	*50-150*				

Date of Report: March 24, 2016
Samples Submitted: March 16, 2016
Laboratory Reference: 1603-150
Project: 21-1-20624-822

TOTAL METALS
EPA 6010C/7471B

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	03-150-01					
Client ID:	**H-691p-16:9**					
Arsenic	**ND**	11	6010C	3-23-16	3-23-16	
Barium	**37**	2.8	6010C	3-23-16	3-23-16	
Cadmium	**ND**	0.56	6010C	3-23-16	3-23-16	
Chromium	**32**	0.56	6010C	3-23-16	3-23-16	
Lead	**ND**	5.6	6010C	3-23-16	3-23-16	
Mercury	**ND**	0.28	7471B	3-21-16	3-21-16	
Selenium	**ND**	11	6010C	3-23-16	3-23-16	
Silver	**ND**	1.1	6010C	3-23-16	3-23-16	

Date of Report: March 24, 2016
Samples Submitted: March 16, 2016
Laboratory Reference: 1603-150
Project: 21-1-20624-822

TOTAL METALS
EPA 6010C/7471B
METHOD BLANK QUALITY CONTROL

Date Extracted: 3-21&23-16
Date Analyzed: 3-21&23-16

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: MB0323SM1&MB0321S1

Analyte	Method	Result	PQL
Arsenic	6010C	**ND**	10
Barium	6010C	**ND**	2.5
Cadmium	6010C	**ND**	0.50
Chromium	6010C	**ND**	0.50
Lead	6010C	**ND**	5.0
Mercury	7471B	**ND**	0.25
Selenium	6010C	**ND**	10
Silver	6010C	**ND**	1.0

Date of Report: March 24, 2016
Samples Submitted: March 16, 2016
Laboratory Reference: 1603-150
Project: 21-1-20624-822

TOTAL METALS
EPA 6010C/7471B
DUPLICATE QUALITY CONTROL

Date Extracted: 3-21&23-16
Date Analyzed: 3-21&23-16

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 03-150-01

Analyte	Sample Result	Duplicate Result	RPD	PQL	Flags
Arsenic	**ND**	**ND**	NA	10	
Barium	**32.9**	**30.9**	6	2.5	
Cadmium	**ND**	**ND**	NA	0.50	
Chromium	**28.3**	**36.9**	27	0.50	K
Lead	**ND**	**ND**	NA	5.0	
Mercury	**ND**	**ND**	NA	0.25	
Selenium	**ND**	**ND**	NA	10	
Silver	**ND**	**ND**	NA	1.0	

Date of Report: March 24, 2016
Samples Submitted: March 16, 2016
Laboratory Reference: 1603-150
Project: 21-1-20624-822

TOTAL METALS
EPA 6010C/7471B
MS/MSD QUALITY CONTROL

Date Extracted: 3-21&23-16
Date Analyzed: 3-21&23-16

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 03-150-01

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Arsenic	100	**100**	100	**99.0**	99	1	
Barium	100	**123**	91	**123**	90	0	
Cadmium	50.0	**48.6**	97	**48.2**	96	1	
Chromium	100	**112**	84	**112**	84	0	
Lead	250	**217**	87	**216**	86	0	
Mercury	0.500	**0.458**	92	**0.461**	92	1	
Selenium	100	**93.4**	93	**90.6**	91	3	
Silver	25.0	**22.8**	91	**22.4**	90	2	

Date of Report: March 24, 2016
Samples Submitted: March 16, 2016
Laboratory Reference: 1603-150
Project: 21-1-20624-822

% MOISTURE

Date Analyzed: 3-18-16

Client ID	Lab ID	% Moisture
H-691p-16:9	03-150-01	10

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

X1- Sample extract treated with a Sulfuric acid/Silica gel cleanup procedure.

Y - The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

Chain of Custody

OnSite Environmental Inc.
Analytical Laboratory Testing Services
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Company: Shannon & Wilson
Project Number: 21-20624-822
Project Name: SR 520
Project Manager: Ed Ptak
Sampled by: Jeff Weiss

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☒ Standard (7 Days) (TPH analysis 5 Days)
☐ _____ (other)

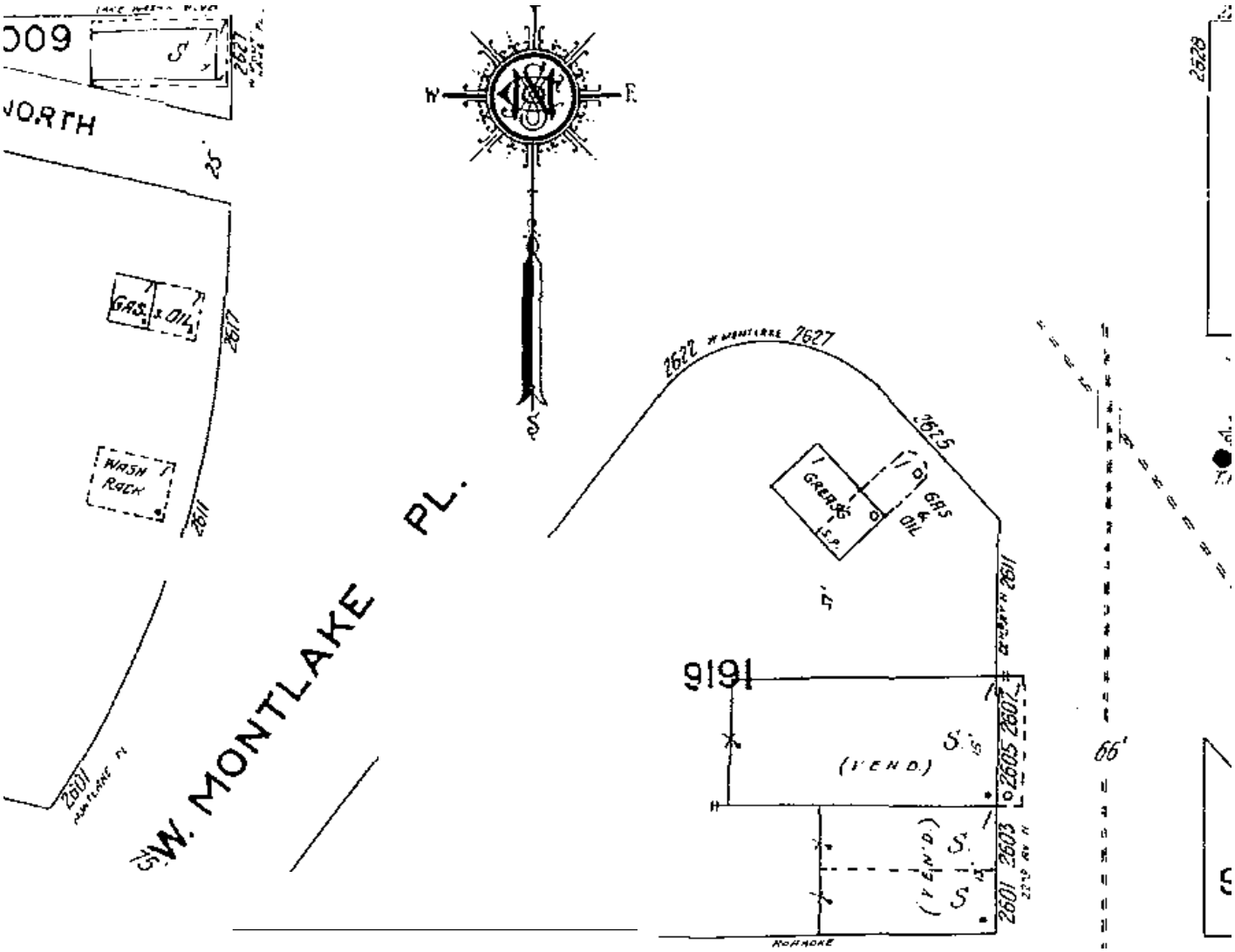
Laboratory Number: 03-150

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx	Volatiles 8260C	Halogenated Volatiles 8260C	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A						% Moisture
1	H-69lp-16:9	3/15/16	1005	S	5	X												X									X

	Signature	Company	Date	Time	Comments/Special Instructions
Relinquished	A. Beach	S&W		904	
Received		SPECTRA	3/16/16	904	
Relinquished		SPECTRA	3/16/16	1105	
Received		CSZ	3/16/16	1105	
Relinquished					
Received					
Reviewed/Date		Reviewed/Date			Chromatograms with final report ☐

Data Package: Standard ☐ Level III ☐ Level IV ☐ Electronic Data Deliverables (EDDs) ☐ _____

Appendix C
1930 Sanborn Map



Portion of 1930 Sanborn Map.

Appendix D
Analytical Reports

OnSite Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

October 17, 2016

Glenn Hayman
INNOVEX Environmental Mgt., Inc.
16310 NE 80th St., Suite 300
Redmond, WA 98052

Re: Analytical Data for Project 31008
Laboratory Reference No. 1610-071

Dear Glenn:

Enclosed are the analytical results and associated quality control data for samples submitted on October 7, 2016.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

Date of Report: October 17, 2016
Samples Submitted: October 7, 2016
Laboratory Reference: 1610-071
Project: 31008

Case Narrative

Samples were collected on October 6, 2016 and received by the laboratory on October 7, 2016. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

Volatiles EPA 8260C Analysis

The Method 5035A VOA vials provided for sample H-1-16-10 contained too much soil to perform the requested analysis. Therefore, the sample was extracted from an 8-ounce jar and analyzed. Some loss of volatiles may have occurred.

Any other QA/QC issues associated with this extraction and analysis will be indicated with a footnote reference and discussed in detail on the Data Qualifier page.

Date of Report: October 17, 2016
Samples Submitted: October 7, 2016
Laboratory Reference: 1610-071
Project: 31008

NWTPH-HCID

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-1-16-10**					
Laboratory ID:	10-071-02					
Gasoline Range Organics	**ND**	23	NWTPH-HCID	10-10-16	10-10-16	
Diesel Range Organics	**ND**	58	NWTPH-HCID	10-10-16	10-10-16	
Lube Oil Range Organics	**ND**	120	NWTPH-HCID	10-10-16	10-10-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*101*	*50-150*				

Date of Report: October 17, 2016
Samples Submitted: October 7, 2016
Laboratory Reference: 1610-071
Project: 31008

NWTPH-HCID
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1010S2					
Gasoline Range Organics	**ND**	20	NWTPH-HCID	10-10-16	10-10-16	
Diesel Range Organics	**ND**	50	NWTPH-HCID	10-10-16	10-10-16	
Lube Oil Range Organics	**ND**	100	NWTPH-HCID	10-10-16	10-10-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*84*	*50-150*				

Date of Report: October 17, 2016
Samples Submitted: October 7, 2016
Laboratory Reference: 1610-071
Project: 31008

VOLATILES EPA 8260C
page 1 of 2

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-1-16-10**					
Laboratory ID:	10-071-02					
Dichlorodifluoromethane	ND	0.0012	EPA 8260C	10-7-16	10-7-16	
Chloromethane	ND	0.0095	EPA 8260C	10-7-16	10-7-16	
Vinyl Chloride	ND	0.0019	EPA 8260C	10-7-16	10-7-16	
Bromomethane	ND	0.0015	EPA 8260C	10-7-16	10-7-16	
Chloroethane	ND	0.0097	EPA 8260C	10-7-16	10-7-16	
Trichlorofluoromethane	ND	0.0012	EPA 8260C	10-7-16	10-7-16	
1,1-Dichloroethene	ND	0.0012	EPA 8260C	10-7-16	10-7-16	
Acetone	ND	0.0083	EPA 8260C	10-7-16	10-7-16	
Iodomethane	ND	0.0058	EPA 8260C	10-7-16	10-7-16	
Carbon Disulfide	ND	0.0012	EPA 8260C	10-7-16	10-7-16	
Methylene Chloride	ND	0.0058	EPA 8260C	10-7-16	10-7-16	
(trans) 1,2-Dichloroethene	ND	0.0012	EPA 8260C	10-7-16	10-7-16	
Methyl t-Butyl Ether	ND	0.0012	EPA 8260C	10-7-16	10-7-16	
1,1-Dichloroethane	ND	0.0012	EPA 8260C	10-7-16	10-7-16	
Vinyl Acetate	ND	0.0058	EPA 8260C	10-7-16	10-7-16	
2,2-Dichloropropane	ND	0.0012	EPA 8260C	10-7-16	10-7-16	
(cis) 1,2-Dichloroethene	ND	0.0012	EPA 8260C	10-7-16	10-7-16	
2-Butanone	ND	0.0058	EPA 8260C	10-7-16	10-7-16	
Bromochloromethane	ND	0.0012	EPA 8260C	10-7-16	10-7-16	
Chloroform	ND	0.0012	EPA 8260C	10-7-16	10-7-16	
1,1,1-Trichloroethane	ND	0.0012	EPA 8260C	10-7-16	10-7-16	
Carbon Tetrachloride	ND	0.0012	EPA 8260C	10-7-16	10-7-16	
1,1-Dichloropropene	ND	0.0012	EPA 8260C	10-7-16	10-7-16	
Benzene	ND	0.0012	EPA 8260C	10-7-16	10-7-16	
1,2-Dichloroethane	ND	0.0012	EPA 8260C	10-7-16	10-7-16	
Trichloroethene	ND	0.0012	EPA 8260C	10-7-16	10-7-16	
1,2-Dichloropropane	ND	0.0012	EPA 8260C	10-7-16	10-7-16	
Dibromomethane	ND	0.0012	EPA 8260C	10-7-16	10-7-16	
Bromodichloromethane	ND	0.0012	EPA 8260C	10-7-16	10-7-16	
2-Chloroethyl Vinyl Ether	ND	0.0058	EPA 8260C	10-7-16	10-7-16	
(cis) 1,3-Dichloropropene	ND	0.0012	EPA 8260C	10-7-16	10-7-16	
Methyl Isobutyl Ketone	ND	0.0058	EPA 8260C	10-7-16	10-7-16	
Toluene	ND	0.0058	EPA 8260C	10-7-16	10-7-16	
(trans) 1,3-Dichloropropene	ND	0.0012	EPA 8260C	10-7-16	10-7-16	

Date of Report: October 17, 2016
Samples Submitted: October 7, 2016
Laboratory Reference: 1610-071
Project: 31008

VOLATILES EPA 8260C
page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-1-16-10**					
Laboratory ID:	10-071-02					
1,1,2-Trichloroethane	ND	0.0012	EPA 8260C	10-7-16	10-7-16	
Tetrachloroethene	ND	0.0012	EPA 8260C	10-7-16	10-7-16	
1,3-Dichloropropane	ND	0.0012	EPA 8260C	10-7-16	10-7-16	
2-Hexanone	ND	0.0058	EPA 8260C	10-7-16	10-7-16	
Dibromochloromethane	ND	0.0012	EPA 8260C	10-7-16	10-7-16	
1,2-Dibromoethane	ND	0.0012	EPA 8260C	10-7-16	10-7-16	
Chlorobenzene	ND	0.0012	EPA 8260C	10-7-16	10-7-16	
1,1,1,2-Tetrachloroethane	ND	0.0012	EPA 8260C	10-7-16	10-7-16	
Ethylbenzene	ND	0.0012	EPA 8260C	10-7-16	10-7-16	
m,p-Xylene	ND	0.0023	EPA 8260C	10-7-16	10-7-16	
o-Xylene	ND	0.0012	EPA 8260C	10-7-16	10-7-16	
Styrene	ND	0.0012	EPA 8260C	10-7-16	10-7-16	
Bromoform	ND	0.0012	EPA 8260C	10-7-16	10-7-16	
Isopropylbenzene	ND	0.0012	EPA 8260C	10-7-16	10-7-16	
Bromobenzene	ND	0.0012	EPA 8260C	10-7-16	10-7-16	
1,1,2,2-Tetrachloroethane	ND	0.0012	EPA 8260C	10-7-16	10-7-16	
1,2,3-Trichloropropane	ND	0.0012	EPA 8260C	10-7-16	10-7-16	
n-Propylbenzene	ND	0.0012	EPA 8260C	10-7-16	10-7-16	
2-Chlorotoluene	ND	0.0012	EPA 8260C	10-7-16	10-7-16	
4-Chlorotoluene	ND	0.0012	EPA 8260C	10-7-16	10-7-16	
1,3,5-Trimethylbenzene	ND	0.0012	EPA 8260C	10-7-16	10-7-16	
tert-Butylbenzene	ND	0.0012	EPA 8260C	10-7-16	10-7-16	
1,2,4-Trimethylbenzene	ND	0.0012	EPA 8260C	10-7-16	10-7-16	
sec-Butylbenzene	ND	0.0012	EPA 8260C	10-7-16	10-7-16	
1,3-Dichlorobenzene	ND	0.0012	EPA 8260C	10-7-16	10-7-16	
p-Isopropyltoluene	ND	0.0012	EPA 8260C	10-7-16	10-7-16	
1,4-Dichlorobenzene	ND	0.0012	EPA 8260C	10-7-16	10-7-16	
1,2-Dichlorobenzene	ND	0.0012	EPA 8260C	10-7-16	10-7-16	
n-Butylbenzene	ND	0.0012	EPA 8260C	10-7-16	10-7-16	
1,2-Dibromo-3-chloropropane	ND	0.0058	EPA 8260C	10-7-16	10-7-16	
1,2,4-Trichlorobenzene	ND	0.0012	EPA 8260C	10-7-16	10-7-16	
Hexachlorobutadiene	ND	0.0058	EPA 8260C	10-7-16	10-7-16	
Naphthalene	ND	0.0012	EPA 8260C	10-7-16	10-7-16	
1,2,3-Trichlorobenzene	ND	0.0012	EPA 8260C	10-7-16	10-7-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*99*	*76-131*				
Toluene-d8	*104*	*80-126*				
4-Bromofluorobenzene	*101*	*60-146*				

Date of Report: October 17, 2016
Samples Submitted: October 7, 2016
Laboratory Reference: 1610-071
Project: 31008

VOLATILES by EPA 8260C
METHOD BLANK QUALITY CONTROL
page 1 of 2

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB1007S1					
Dichlorodifluoromethane	ND	0.0010	EPA 8260C	10-7-16	10-7-16	
Chloromethane	ND	0.0082	EPA 8260C	10-7-16	10-7-16	
Vinyl Chloride	ND	0.0016	EPA 8260C	10-7-16	10-7-16	
Bromomethane	ND	0.0013	EPA 8260C	10-7-16	10-7-16	
Chloroethane	ND	0.0083	EPA 8260C	10-7-16	10-7-16	
Trichlorofluoromethane	ND	0.0010	EPA 8260C	10-7-16	10-7-16	
1,1-Dichloroethene	ND	0.0010	EPA 8260C	10-7-16	10-7-16	
Acetone	ND	0.0071	EPA 8260C	10-7-16	10-7-16	
Iodomethane	ND	0.0050	EPA 8260C	10-7-16	10-7-16	
Carbon Disulfide	ND	0.0010	EPA 8260C	10-7-16	10-7-16	
Methylene Chloride	ND	0.0050	EPA 8260C	10-7-16	10-7-16	
(trans) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	10-7-16	10-7-16	
Methyl t-Butyl Ether	ND	0.0010	EPA 8260C	10-7-16	10-7-16	
1,1-Dichloroethane	ND	0.0010	EPA 8260C	10-7-16	10-7-16	
Vinyl Acetate	ND	0.0050	EPA 8260C	10-7-16	10-7-16	
2,2-Dichloropropane	ND	0.0010	EPA 8260C	10-7-16	10-7-16	
(cis) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	10-7-16	10-7-16	
2-Butanone	ND	0.0050	EPA 8260C	10-7-16	10-7-16	
Bromochloromethane	ND	0.0010	EPA 8260C	10-7-16	10-7-16	
Chloroform	ND	0.0010	EPA 8260C	10-7-16	10-7-16	
1,1,1-Trichloroethane	ND	0.0010	EPA 8260C	10-7-16	10-7-16	
Carbon Tetrachloride	ND	0.0010	EPA 8260C	10-7-16	10-7-16	
1,1-Dichloropropene	ND	0.0010	EPA 8260C	10-7-16	10-7-16	
Benzene	ND	0.0010	EPA 8260C	10-7-16	10-7-16	
1,2-Dichloroethane	ND	0.0010	EPA 8260C	10-7-16	10-7-16	
Trichloroethene	ND	0.0010	EPA 8260C	10-7-16	10-7-16	
1,2-Dichloropropane	ND	0.0010	EPA 8260C	10-7-16	10-7-16	
Dibromomethane	ND	0.0010	EPA 8260C	10-7-16	10-7-16	
Bromodichloromethane	ND	0.0010	EPA 8260C	10-7-16	10-7-16	
2-Chloroethyl Vinyl Ether	ND	0.0050	EPA 8260C	10-7-16	10-7-16	
(cis) 1,3-Dichloropropene	ND	0.0010	EPA 8260C	10-7-16	10-7-16	
Methyl Isobutyl Ketone	ND	0.0050	EPA 8260C	10-7-16	10-7-16	
Toluene	ND	0.0050	EPA 8260C	10-7-16	10-7-16	
(trans) 1,3-Dichloropropene	ND	0.0010	EPA 8260C	10-7-16	10-7-16	

Date of Report: October 17, 2016
Samples Submitted: October 7, 2016
Laboratory Reference: 1610-071
Project: 31008

VOLATILES by EPA 8260C
METHOD BLANK QUALITY CONTROL
page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB1007S1					
1,1,2-Trichloroethane	ND	0.0010	EPA 8260C	10-7-16	10-7-16	
Tetrachloroethene	ND	0.0010	EPA 8260C	10-7-16	10-7-16	
1,3-Dichloropropane	ND	0.0010	EPA 8260C	10-7-16	10-7-16	
2-Hexanone	ND	0.0050	EPA 8260C	10-7-16	10-7-16	
Dibromochloromethane	ND	0.0010	EPA 8260C	10-7-16	10-7-16	
1,2-Dibromoethane	ND	0.0010	EPA 8260C	10-7-16	10-7-16	
Chlorobenzene	ND	0.0010	EPA 8260C	10-7-16	10-7-16	
1,1,1,2-Tetrachloroethane	ND	0.0010	EPA 8260C	10-7-16	10-7-16	
Ethylbenzene	ND	0.0010	EPA 8260C	10-7-16	10-7-16	
m,p-Xylene	ND	0.0020	EPA 8260C	10-7-16	10-7-16	
o-Xylene	ND	0.0010	EPA 8260C	10-7-16	10-7-16	
Styrene	ND	0.0010	EPA 8260C	10-7-16	10-7-16	
Bromoform	ND	0.0010	EPA 8260C	10-7-16	10-7-16	
Isopropylbenzene	ND	0.0010	EPA 8260C	10-7-16	10-7-16	
Bromobenzene	ND	0.0010	EPA 8260C	10-7-16	10-7-16	
1,1,2,2-Tetrachloroethane	ND	0.0010	EPA 8260C	10-7-16	10-7-16	
1,2,3-Trichloropropane	ND	0.0010	EPA 8260C	10-7-16	10-7-16	
n-Propylbenzene	ND	0.0010	EPA 8260C	10-7-16	10-7-16	
2-Chlorotoluene	ND	0.0010	EPA 8260C	10-7-16	10-7-16	
4-Chlorotoluene	ND	0.0010	EPA 8260C	10-7-16	10-7-16	
1,3,5-Trimethylbenzene	ND	0.0010	EPA 8260C	10-7-16	10-7-16	
tert-Butylbenzene	ND	0.0010	EPA 8260C	10-7-16	10-7-16	
1,2,4-Trimethylbenzene	ND	0.0010	EPA 8260C	10-7-16	10-7-16	
sec-Butylbenzene	ND	0.0010	EPA 8260C	10-7-16	10-7-16	
1,3-Dichlorobenzene	ND	0.0010	EPA 8260C	10-7-16	10-7-16	
p-Isopropyltoluene	ND	0.0010	EPA 8260C	10-7-16	10-7-16	
1,4-Dichlorobenzene	ND	0.0010	EPA 8260C	10-7-16	10-7-16	
1,2-Dichlorobenzene	ND	0.0010	EPA 8260C	10-7-16	10-7-16	
n-Butylbenzene	ND	0.0010	EPA 8260C	10-7-16	10-7-16	
1,2-Dibromo-3-chloropropane	ND	0.0050	EPA 8260C	10-7-16	10-7-16	
1,2,4-Trichlorobenzene	ND	0.0010	EPA 8260C	10-7-16	10-7-16	
Hexachlorobutadiene	ND	0.0050	EPA 8260C	10-7-16	10-7-16	
Naphthalene	ND	0.0010	EPA 8260C	10-7-16	10-7-16	
1,2,3-Trichlorobenzene	ND	0.0010	EPA 8260C	10-7-16	10-7-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*108*	*76-131*				
Toluene-d8	*111*	*80-126*				
4-Bromofluorobenzene	*108*	*60-146*				

Date of Report: October 17, 2016
Samples Submitted: October 7, 2016
Laboratory Reference: 1610-071
Project: 31008

VOLATILES by EPA 8260C
SB/SBD QUALITY CONTROL

Matrix: Soil
Units: mg/kg

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB1007S1									
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	**0.0402**	**0.0409**	0.0500	0.0500	80	82	68-126	2	15	
Benzene	**0.0488**	**0.0523**	0.0500	0.0500	98	105	70-121	7	15	
Trichloroethene	**0.0470**	**0.0494**	0.0500	0.0500	94	99	75-120	5	15	
Toluene	**0.0500**	**0.0525**	0.0500	0.0500	100	105	80-120	5	15	
Chlorobenzene	**0.0475**	**0.0502**	0.0500	0.0500	95	100	76-120	6	15	
Surrogate:										
Dibromofluoromethane					*100*	*102*	*76-131*			
Toluene-d8					*101*	*101*	*80-126*			
4-Bromofluorobenzene					*102*	*99*	*60-146*			

Date of Report: October 17, 2016
Samples Submitted: October 7, 2016
Laboratory Reference: 1610-071
Project: 31008

SEMIVOLATILES EPA 8270D/SIM
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Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-1-16-10**					
Laboratory ID:	10-071-02					
n-Nitrosodimethylamine	**ND**	0.039	EPA 8270D	10-10-16	10-11-16	
Pyridine	**ND**	0.39	EPA 8270D	10-10-16	10-11-16	
Phenol	**ND**	0.039	EPA 8270D	10-10-16	10-11-16	
Aniline	**ND**	0.19	EPA 8270D	10-10-16	10-11-16	
bis(2-Chloroethyl)ether	**ND**	0.039	EPA 8270D	10-10-16	10-11-16	
2-Chlorophenol	**ND**	0.039	EPA 8270D	10-10-16	10-11-16	
1,3-Dichlorobenzene	**ND**	0.039	EPA 8270D	10-10-16	10-11-16	
1,4-Dichlorobenzene	**ND**	0.039	EPA 8270D	10-10-16	10-11-16	
Benzyl alcohol	**ND**	0.19	EPA 8270D	10-10-16	10-11-16	
1,2-Dichlorobenzene	**ND**	0.039	EPA 8270D	10-10-16	10-11-16	
2-Methylphenol (o-Cresol)	**ND**	0.039	EPA 8270D	10-10-16	10-11-16	
bis(2-Chloroisopropyl)ether	**ND**	0.039	EPA 8270D	10-10-16	10-11-16	
(3+4)-Methylphenol (m,p-Cresol)	**ND**	0.039	EPA 8270D	10-10-16	10-11-16	
n-Nitroso-di-n-propylamine	**ND**	0.039	EPA 8270D	10-10-16	10-11-16	
Hexachloroethane	**ND**	0.039	EPA 8270D	10-10-16	10-11-16	
Nitrobenzene	**ND**	0.039	EPA 8270D	10-10-16	10-11-16	
Isophorone	**ND**	0.039	EPA 8270D	10-10-16	10-11-16	
2-Nitrophenol	**ND**	0.039	EPA 8270D	10-10-16	10-11-16	
2,4-Dimethylphenol	**ND**	0.039	EPA 8270D	10-10-16	10-11-16	
bis(2-Chloroethoxy)methane	**ND**	0.039	EPA 8270D	10-10-16	10-11-16	
2,4-Dichlorophenol	**ND**	0.039	EPA 8270D	10-10-16	10-11-16	
1,2,4-Trichlorobenzene	**ND**	0.039	EPA 8270D	10-10-16	10-11-16	
Naphthalene	**ND**	0.0077	EPA 8270D/SIM	10-10-16	10-10-16	
4-Chloroaniline	**ND**	0.19	EPA 8270D	10-10-16	10-11-16	
Hexachlorobutadiene	**ND**	0.039	EPA 8270D	10-10-16	10-11-16	
4-Chloro-3-methylphenol	**ND**	0.039	EPA 8270D	10-10-16	10-11-16	
2-Methylnaphthalene	**ND**	0.0077	EPA 8270D/SIM	10-10-16	10-10-16	
1-Methylnaphthalene	**ND**	0.0077	EPA 8270D/SIM	10-10-16	10-10-16	
Hexachlorocyclopentadiene	**ND**	0.039	EPA 8270D	10-10-16	10-11-16	
2,4,6-Trichlorophenol	**ND**	0.039	EPA 8270D	10-10-16	10-11-16	
2,3-Dichloroaniline	**ND**	0.039	EPA 8270D	10-10-16	10-11-16	
2,4,5-Trichlorophenol	**ND**	0.039	EPA 8270D	10-10-16	10-11-16	
2-Chloronaphthalene	**ND**	0.039	EPA 8270D	10-10-16	10-11-16	
2-Nitroaniline	**ND**	0.039	EPA 8270D	10-10-16	10-11-16	
1,4-Dinitrobenzene	**ND**	0.039	EPA 8270D	10-10-16	10-11-16	
Dimethylphthalate	**ND**	0.039	EPA 8270D	10-10-16	10-11-16	
1,3-Dinitrobenzene	**ND**	0.039	EPA 8270D	10-10-16	10-11-16	
2,6-Dinitrotoluene	**ND**	0.039	EPA 8270D	10-10-16	10-11-16	
1,2-Dinitrobenzene	**ND**	0.039	EPA 8270D	10-10-16	10-11-16	
Acenaphthylene	**ND**	0.0077	EPA 8270D/SIM	10-10-16	10-10-16	
3-Nitroaniline	**ND**	0.039	EPA 8270D	10-10-16	10-11-16	

Date of Report: October 17, 2016
Samples Submitted: October 7, 2016
Laboratory Reference: 1610-071
Project: 31008

SEMIVOLATILES EPA 8270D/SIM
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-1-16-10**					
Laboratory ID:	10-071-02					
2,4-Dinitrophenol	**ND**	0.19	EPA 8270D	10-10-16	10-11-16	
Acenaphthene	**ND**	0.0077	EPA 8270D/SIM	10-10-16	10-10-16	
4-Nitrophenol	**ND**	0.039	EPA 8270D	10-10-16	10-11-16	
2,4-Dinitrotoluene	**ND**	0.039	EPA 8270D	10-10-16	10-11-16	
Dibenzofuran	**ND**	0.039	EPA 8270D	10-10-16	10-11-16	
2,3,5,6-Tetrachlorophenol	**ND**	0.039	EPA 8270D	10-10-16	10-11-16	
2,3,4,6-Tetrachlorophenol	**ND**	0.039	EPA 8270D	10-10-16	10-11-16	
Diethylphthalate	**ND**	0.19	EPA 8270D	10-10-16	10-11-16	
4-Chlorophenyl-phenylether	**ND**	0.039	EPA 8270D	10-10-16	10-11-16	
4-Nitroaniline	**ND**	0.039	EPA 8270D	10-10-16	10-11-16	
Fluorene	**ND**	0.0077	EPA 8270D/SIM	10-10-16	10-10-16	
4,6-Dinitro-2-methylphenol	**ND**	0.19	EPA 8270D	10-10-16	10-11-16	
n-Nitrosodiphenylamine	**ND**	0.039	EPA 8270D	10-10-16	10-11-16	
1,2-Diphenylhydrazine	**ND**	0.039	EPA 8270D	10-10-16	10-11-16	
4-Bromophenyl-phenylether	**ND**	0.039	EPA 8270D	10-10-16	10-11-16	
Hexachlorobenzene	**ND**	0.039	EPA 8270D	10-10-16	10-11-16	
Pentachlorophenol	**ND**	0.19	EPA 8270D	10-10-16	10-11-16	
Phenanthrene	**ND**	0.0077	EPA 8270D/SIM	10-10-16	10-10-16	
Anthracene	**ND**	0.0077	EPA 8270D/SIM	10-10-16	10-10-16	
Carbazole	**ND**	0.039	EPA 8270D	10-10-16	10-11-16	
Di-n-butylphthalate	**ND**	0.19	EPA 8270D	10-10-16	10-11-16	
Fluoranthene	**ND**	0.0077	EPA 8270D/SIM	10-10-16	10-10-16	
Benzidine	**ND**	0.39	EPA 8270D	10-10-16	10-11-16	
Pyrene	**ND**	0.0077	EPA 8270D/SIM	10-10-16	10-10-16	
Butylbenzylphthalate	**ND**	0.039	EPA 8270D	10-10-16	10-11-16	
bis-2-Ethylhexyladipate	**ND**	0.039	EPA 8270D	10-10-16	10-11-16	
3,3'-Dichlorobenzidine	**ND**	0.19	EPA 8270D	10-10-16	10-11-16	
Benzo[a]anthracene	**ND**	0.0077	EPA 8270D/SIM	10-10-16	10-10-16	
Chrysene	**ND**	0.0077	EPA 8270D/SIM	10-10-16	10-10-16	
bis(2-Ethylhexyl)phthalate	**ND**	0.039	EPA 8270D	10-10-16	10-11-16	
Di-n-octylphthalate	**ND**	0.039	EPA 8270D	10-10-16	10-11-16	
Benzo[b]fluoranthene	**ND**	0.0077	EPA 8270D/SIM	10-10-16	10-10-16	
Benzo(j,k)fluoranthene	**ND**	0.0077	EPA 8270D/SIM	10-10-16	10-10-16	
Benzo[a]pyrene	**ND**	0.0077	EPA 8270D/SIM	10-10-16	10-10-16	
Indeno[1,2,3-cd]pyrene	**ND**	0.0077	EPA 8270D/SIM	10-10-16	10-10-16	
Dibenz[a,h]anthracene	**ND**	0.0077	EPA 8270D/SIM	10-10-16	10-10-16	
Benzo[g,h,i]perylene	**ND**	0.0077	EPA 8270D/SIM	10-10-16	10-10-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*57*	*24 - 117*				
Phenol-d6	*60*	*30 - 120*				
Nitrobenzene-d5	*61*	*27 - 112*				
2-Fluorobiphenyl	*62*	*35 - 113*				
2,4,6-Tribromophenol	*65*	*21 - 120*				
Terphenyl-d14	*63*	*39 - 121*				

Date of Report: October 17, 2016
Samples Submitted: October 7, 2016
Laboratory Reference: 1610-071
Project: 31008

SEMIVOLATILES EPA 8270D/SIM
METHOD BLANK QUALITY CONTROL
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Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB1010S1					
n-Nitrosodimethylamine	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
Pyridine	**ND**	0.33	EPA 8270D	10-10-16	10-11-16	
Phenol	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
Aniline	**ND**	0.17	EPA 8270D	10-10-16	10-11-16	
bis(2-Chloroethyl)ether	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
2-Chlorophenol	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
1,3-Dichlorobenzene	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
1,4-Dichlorobenzene	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
Benzyl alcohol	**ND**	0.17	EPA 8270D	10-10-16	10-11-16	
1,2-Dichlorobenzene	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
2-Methylphenol (o-Cresol)	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
bis(2-Chloroisopropyl)ether	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
(3+4)-Methylphenol (m,p-Cresol)	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
n-Nitroso-di-n-propylamine	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
Hexachloroethane	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
Nitrobenzene	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
Isophorone	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
2-Nitrophenol	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
2,4-Dimethylphenol	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
bis(2-Chloroethoxy)methane	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
2,4-Dichlorophenol	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
1,2,4-Trichlorobenzene	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
Naphthalene	**ND**	0.0067	EPA 8270D/SIM	10-10-16	10-10-16	
4-Chloroaniline	**ND**	0.17	EPA 8270D	10-10-16	10-11-16	
Hexachlorobutadiene	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
4-Chloro-3-methylphenol	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
2-Methylnaphthalene	**ND**	0.0067	EPA 8270D/SIM	10-10-16	10-10-16	
1-Methylnaphthalene	**ND**	0.0067	EPA 8270D/SIM	10-10-16	10-10-16	
Hexachlorocyclopentadiene	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
2,4,6-Trichlorophenol	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
2,3-Dichloroaniline	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
2,4,5-Trichlorophenol	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
2-Chloronaphthalene	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
2-Nitroaniline	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
1,4-Dinitrobenzene	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
Dimethylphthalate	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
1,3-Dinitrobenzene	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
2,6-Dinitrotoluene	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
1,2-Dinitrobenzene	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
Acenaphthylene	**ND**	0.0067	EPA 8270D/SIM	10-10-16	10-10-16	
3-Nitroaniline	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	

Date of Report: October 17, 2016
Samples Submitted: October 7, 2016
Laboratory Reference: 1610-071
Project: 31008

SEMIVOLATILES EPA 8270D/SIM
METHOD BLANK QUALITY CONTROL
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB1010S1					
2,4-Dinitrophenol	**ND**	0.17	EPA 8270D	10-10-16	10-11-16	
Acenaphthene	**ND**	0.0067	EPA 8270D/SIM	10-10-16	10-10-16	
4-Nitrophenol	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
2,4-Dinitrotoluene	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
Dibenzofuran	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
2,3,5,6-Tetrachlorophenol	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
2,3,4,6-Tetrachlorophenol	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
Diethylphthalate	**ND**	0.17	EPA 8270D	10-10-16	10-11-16	
4-Chlorophenyl-phenylether	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
4-Nitroaniline	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
Fluorene	**ND**	0.0067	EPA 8270D/SIM	10-10-16	10-10-16	
4,6-Dinitro-2-methylphenol	**ND**	0.17	EPA 8270D	10-10-16	10-11-16	
n-Nitrosodiphenylamine	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
1,2-Diphenylhydrazine	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
4-Bromophenyl-phenylether	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
Hexachlorobenzene	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
Pentachlorophenol	**ND**	0.17	EPA 8270D	10-10-16	10-11-16	
Phenanthrene	**ND**	0.0067	EPA 8270D/SIM	10-10-16	10-10-16	
Anthracene	**ND**	0.0067	EPA 8270D/SIM	10-10-16	10-10-16	
Carbazole	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
Di-n-butylphthalate	**ND**	0.17	EPA 8270D	10-10-16	10-11-16	
Fluoranthene	**ND**	0.0067	EPA 8270D/SIM	10-10-16	10-10-16	
Benzidine	**ND**	0.33	EPA 8270D	10-10-16	10-11-16	
Pyrene	**ND**	0.0067	EPA 8270D/SIM	10-10-16	10-10-16	
Butylbenzylphthalate	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
bis-2-Ethylhexyladipate	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
3,3'-Dichlorobenzidine	**ND**	0.17	EPA 8270D	10-10-16	10-11-16	
Benzo[a]anthracene	**ND**	0.0067	EPA 8270D/SIM	10-10-16	10-10-16	
Chrysene	**ND**	0.0067	EPA 8270D/SIM	10-10-16	10-10-16	
bis(2-Ethylhexyl)phthalate	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
Di-n-octylphthalate	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
Benzo[b]fluoranthene	**ND**	0.0067	EPA 8270D/SIM	10-10-16	10-10-16	
Benzo(j,k)fluoranthene	**ND**	0.0067	EPA 8270D/SIM	10-10-16	10-10-16	
Benzo[a]pyrene	**ND**	0.0067	EPA 8270D/SIM	10-10-16	10-10-16	
Indeno[1,2,3-cd]pyrene	**ND**	0.0067	EPA 8270D/SIM	10-10-16	10-10-16	
Dibenz[a,h]anthracene	**ND**	0.0067	EPA 8270D/SIM	10-10-16	10-10-16	
Benzo[g,h,i]perylene	**ND**	0.0067	EPA 8270D/SIM	10-10-16	10-10-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*81*	*24 - 117*				
Phenol-d6	*83*	*30 - 120*				
Nitrobenzene-d5	*85*	*27 - 112*				
2-Fluorobiphenyl	*84*	*35 - 113*				
2,4,6-Tribromophenol	*85*	*21 - 120*				
Terphenyl-d14	*85*	*39 - 121*				

Date of Report: October 17, 2016
Samples Submitted: October 7, 2016
Laboratory Reference: 1610-071
Project: 31008

SEMIVOLATILES EPA 8270D/SIM
MS/MSD QUALITY CONTROL

Matrix: Soil
Units: mg/Kg

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
MATRIX SPIKES											
Laboratory ID:	10-080-03										
	MS	MSD	MS	MSD		MS	MSD				
Phenol	**0.914**	**0.997**	1.33	1.33	ND	69	75	31 - 108	9	36	
2-Chlorophenol	**0.940**	**1.03**	1.33	1.33	ND	71	77	38 - 103	9	38	
1,4-Dichlorobenzene	**0.465**	**0.502**	0.667	0.667	ND	70	75	25 - 101	8	40	
n-Nitroso-di-n-propylamine	**0.452**	**0.494**	0.667	0.667	ND	68	74	26 - 102	9	38	
1,2,4-Trichlorobenzene	**0.451**	**0.513**	0.667	0.667	ND	68	77	27 - 101	13	40	
4-Chloro-3-methylphenol	**0.914**	**1.02**	1.33	1.33	ND	69	77	42 - 106	11	29	
Acenaphthene	**0.460**	**0.513**	0.667	0.667	ND	69	77	42 - 103	11	30	
4-Nitrophenol	**0.927**	**1.02**	1.33	1.33	ND	70	77	25 - 125	10	29	
2,4-Dinitrotoluene	**0.466**	**0.507**	0.667	0.667	ND	70	76	45 - 107	8	30	
Pentachlorophenol	**1.03**	**1.15**	1.33	1.33	ND	77	86	30 - 103	11	31	
Pyrene	**0.478**	**0.532**	0.667	0.667	ND	72	80	50 - 118	11	28	
Surrogate:											
2-Fluorophenol						*69*	*75*	*24 - 117*			
Phenol-d6						*71*	*77*	*30 - 120*			
Nitrobenzene-d5						*72*	*79*	*27 - 112*			
2-Fluorobiphenyl						*71*	*76*	*35 - 113*			
2,4,6-Tribromophenol						*75*	*81*	*21 - 120*			
Terphenyl-d14						*72*	*79*	*39 - 121*			

Date of Report: October 17, 2016
Samples Submitted: October 7, 2016
Laboratory Reference: 1610-071
Project: 31008

PCBs
EPA 8082A

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-1-16-10**					
Laboratory ID:	10-071-02					
Aroclor 1016	**ND**	0.058	EPA 8082A	10-11-16	10-11-16	
Aroclor 1221	**ND**	0.058	EPA 8082A	10-11-16	10-11-16	
Aroclor 1232	**ND**	0.058	EPA 8082A	10-11-16	10-11-16	
Aroclor 1242	**ND**	0.058	EPA 8082A	10-11-16	10-11-16	
Aroclor 1248	**ND**	0.058	EPA 8082A	10-11-16	10-11-16	
Aroclor 1254	**ND**	0.058	EPA 8082A	10-11-16	10-11-16	
Aroclor 1260	**ND**	0.058	EPA 8082A	10-11-16	10-11-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*78*	*50-139*				

Date of Report: October 17, 2016
Samples Submitted: October 7, 2016
Laboratory Reference: 1610-071
Project: 31008

PCBs EPA 8082A
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1011S1					
Aroclor 1016	**ND**	0.050	EPA 8082A	10-11-16	10-11-16	
Aroclor 1221	**ND**	0.050	EPA 8082A	10-11-16	10-11-16	
Aroclor 1232	**ND**	0.050	EPA 8082A	10-11-16	10-11-16	
Aroclor 1242	**ND**	0.050	EPA 8082A	10-11-16	10-11-16	
Aroclor 1248	**ND**	0.050	EPA 8082A	10-11-16	10-11-16	
Aroclor 1254	**ND**	0.050	EPA 8082A	10-11-16	10-11-16	
Aroclor 1260	**ND**	0.050	EPA 8082A	10-11-16	10-11-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*86*	*50-139*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
MATRIX SPIKES											
Laboratory ID:	10-080-01										
	MS	MSD	MS	MSD		MS	MSD				
Aroclor 1260	**0.389**	**0.387**	0.500	0.500	ND	**78**	**77**	49-133	1	17	
Surrogate:											
DCB						*80*	*81*	*50-139*			

Date of Report: October 17, 2016
Samples Submitted: October 7, 2016
Laboratory Reference: 1610-071
Project: 31008

TOTAL METALS
EPA 6010C/6020A/7471B

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	10-071-02					
Client ID:	**H-1-16-10**					
Antimony	**ND**	5.8	6010C	10-13-16	10-13-16	
Arsenic	**ND**	12	6010C	10-13-16	10-13-16	
Beryllium	**ND**	0.58	6010C	10-13-16	10-13-16	
Cadmium	**ND**	0.58	6010C	10-13-16	10-13-16	
Chromium	**36**	0.58	6010C	10-13-16	10-13-16	
Copper	**8.4**	1.2	6010C	10-13-16	10-13-16	
Lead	**ND**	5.8	6010C	10-13-16	10-13-16	
Mercury	**ND**	0.29	7471B	10-11-16	10-11-16	
Nickel	**27**	2.9	6010C	10-13-16	10-13-16	
Selenium	**ND**	12	6010C	10-13-16	10-13-16	
Silver	**ND**	0.58	6010C	10-13-16	10-13-16	
Thallium	**ND**	1.4	6020A	10-13-16	10-17-16	
Zinc	**20**	2.9	6010C	10-13-16	10-13-16	

Date of Report: October 17, 2016
Samples Submitted: October 7, 2016
Laboratory Reference: 1610-071
Project: 31008

TOTAL METALS
EPA 6010C/6020A/7471B
METHOD BLANK QUALITY CONTROL

Date Extracted: 10-11&13-16
Date Analyzed: 10-11,13&17-16

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: MB1013SH1&MB1011S1

Analyte	Method	Result	PQL
Antimony	6010C	**ND**	5.0
Arsenic	6010C	**ND**	10
Beryllium	6010C	**ND**	0.50
Cadmium	6010C	**ND**	0.50
Chromium	6010C	**ND**	0.50
Copper	6010C	**ND**	1.0
Lead	6010C	**ND**	5.0
Mercury	7471B	**ND**	0.25
Nickel	6010C	**ND**	2.5
Selenium	6010C	**ND**	10
Silver	6010C	**ND**	0.50
Thallium	6020A	**ND**	1.3
Zinc	6010C	**ND**	2.5

Date of Report: October 17, 2016
Samples Submitted: October 7, 2016
Laboratory Reference: 1610-071
Project: 31008

TOTAL METALS
EPA 6010C/6020A/7471B
DUPLICATE QUALITY CONTROL

Date Extracted: 10-11&13-16
Date Analyzed: 10-11,13&17-16

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 10-080-01

Analyte	Sample Result	Duplicate Result	RPD	PQL	Flags
Antimony	**ND**	**ND**	NA	5.0	
Arsenic	**ND**	**ND**	NA	10.0	
Beryllium	**ND**	**ND**	NA	0.50	
Cadmium	**ND**	**ND**	NA	0.50	
Chromium	**25.9**	**24.3**	6	0.50	
Copper	**11.7**	**10.9**	7	1.0	
Lead	**ND**	**ND**	NA	5.0	
Mercury	**ND**	**ND**	NA	0.25	
Nickel	**30.4**	**29.2**	4	2.5	
Selenium	**ND**	**ND**	NA	10	
Silver	**ND**	**ND**	NA	0.50	
Thallium	**ND**	**ND**	NA	1.3	
Zinc	**24.0**	**22.0**	9	2.5	

Date of Report: October 17, 2016
Samples Submitted: October 7, 2016
Laboratory Reference: 1610-071
Project: 31008

TOTAL METALS
EPA 6010C/6020A/7471B
MS/MSD QUALITY CONTROL

Date Extracted: 10-11&13-16
Date Analyzed: 10-11,13&17-16

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 10-080-01

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Antimony	100	**95.4**	95	**88.3**	88	8	
Arsenic	100	**101**	101	**94.3**	94	6	
Beryllium	50.0	**50.8**	102	**47.6**	95	7	
Cadmium	50.0	**49.3**	99	**47.5**	95	4	
Chromium	100	**128**	102	**119**	93	7	
Copper	50.0	**63.9**	105	**60.4**	97	6	
Lead	250	**238**	95	**232**	93	3	
Mercury	0.500	**0.499**	100	**0.546**	109	9	
Nickel	100	**127**	96	**120**	89	6	
Selenium	100	**104**	104	**99.4**	99	5	
Silver	25.0	**24.4**	97	**23.1**	92	5	
Thallium	50.0	**44.2**	88	**44.8**	90	1	
Zinc	100	**120**	96	**115**	91	4	

Date of Report: October 17, 2016
Samples Submitted: October 7, 2016
Laboratory Reference: 1610-071
Project: 31008

% MOISTURE

Date Analyzed: 10-7-16

Client ID	Lab ID	% Moisture
H-1-16-10	10-071-02	14

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

X1- Sample extract treated with a Sulfuric acid/Silica gel cleanup procedure.

Y - The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

Chain of Custody

Page 1 of 1

OnSite Environmental Inc.
Analytical Laboratory Testing Services
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Company: INNOVEX
Project Number: 31008
Project Name: SR 520 Phase II Investigation
Project Manager: Glenn Hayman
Sampled by: Jennifer Heise

Turnaround Request (in working days)

(Check One)

- ☐ Same Day
- ☐ 1 Day
- ☐ 2 Days
- ☐ 3 Days
- ☒ Standard (7 Days) (TPH analysis 5 Days)
- ☐ _____ (other)

Laboratory Number: 10-071

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx (Held)	NWTPH-Dx (☐ Acid / SG Clean-up) (Held)	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A	PP13* - 6010				% Moisture
1	H-1-16-5	161006	2152	soil	5																						
2	H-1-16-10	161006	2158	soil	5	X		X	X	X			X		X								X				X
3	H-1-16-15	161006	2204	soil	5																						
4	H-1-16-20	161006	2223	soil	5																						
5	H-1-16-25	161006	2236	soil	5																						
6	H-1-16-30	161006	2248	soil	5																						
7	H-1-16-45	161006	2330	soil	3																						
8	H-1-16-50	161006	2350	soil	3																						

	Signature	Company	Date	Time
Relinquished		INNOVEX	10/7/16	1:05 PM
Received		OSE	10/7/16	1:05 PM
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

* Priority pollutant metals
Hold all other samples until further notice

Data Package: Standard ☒ Level III ☐ Level IV ☐

Chromatograms with final report ☒ Electronic Data Deliverables (EDDs) ☒

OnSite Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

October 17, 2016

Glenn Hayman
INNOVEX Environmental Mgt., Inc.
16310 NE 80th St., Suite 300
Redmond, WA 98052

Re: Analytical Data for Project 31008
Laboratory Reference No. 1610-079

Dear Glenn:

Enclosed are the analytical results and associated quality control data for samples submitted on October 8, 2016.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

Date of Report: October 17, 2016
Samples Submitted: October 8, 2016
Laboratory Reference: 1610-079
Project: 31008

Case Narrative

Samples were collected on October 7, 2016 and received by the laboratory on October 8, 2016. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

Volatiles EPA 8260C Analysis

Per EPA Method 5035A, samples were received by the laboratory in pre-weighed 40 mL VOA vials within 48 hours of sample collection. They were stored in a freezer at between -7°C and -20°C until extraction or analysis.

Any other QA/QC issues associated with this extraction and analysis will be indicated with a footnote reference and discussed in detail on the Data Qualifier page.

Date of Report: October 17, 2016
Samples Submitted: October 8, 2016
Laboratory Reference: 1610-079
Project: 31008

NWTPH-HCID

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-2-16-13.5**					
Laboratory ID:	10-079-04					
Gasoline Range Organics	**ND**	29	NWTPH-HCID	10-10-16	10-10-16	
Diesel Range Organics	**ND**	71	NWTPH-HCID	10-10-16	10-10-16	
Lube Oil Range Organics	**ND**	140	NWTPH-HCID	10-10-16	10-10-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*94*	*50-150*				

Date of Report: October 17, 2016
Samples Submitted: October 8, 2016
Laboratory Reference: 1610-079
Project: 31008

NWTPH-HCID
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1010S2					
Gasoline Range Organics	**ND**	20	NWTPH-HCID	10-10-16	10-10-16	
Diesel Range Organics	**ND**	50	NWTPH-HCID	10-10-16	10-10-16	
Lube Oil Range Organics	**ND**	100	NWTPH-HCID	10-10-16	10-10-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*84*	*50-150*				

Date of Report: October 17, 2016
Samples Submitted: October 8, 2016
Laboratory Reference: 1610-079
Project: 31008

VOLATILES EPA 8260C
page 1 of 2

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-2-16-13.5**					
Laboratory ID:	10-079-04					
Dichlorodifluoromethane	ND	0.0011	EPA 8260C	10-10-16	10-10-16	
Chloromethane	ND	0.0054	EPA 8260C	10-10-16	10-10-16	
Vinyl Chloride	ND	0.0011	EPA 8260C	10-10-16	10-10-16	
Bromomethane	ND	0.0011	EPA 8260C	10-10-16	10-10-16	
Chloroethane	ND	0.0054	EPA 8260C	10-10-16	10-10-16	
Trichlorofluoromethane	ND	0.0011	EPA 8260C	10-10-16	10-10-16	
1,1-Dichloroethene	ND	0.0011	EPA 8260C	10-10-16	10-10-16	
Acetone	0.060	0.0054	EPA 8260C	10-10-16	10-10-16	
Iodomethane	ND	0.0054	EPA 8260C	10-10-16	10-10-16	
Carbon Disulfide	ND	0.0011	EPA 8260C	10-10-16	10-10-16	
Methylene Chloride	ND	0.0054	EPA 8260C	10-10-16	10-10-16	
(trans) 1,2-Dichloroethene	ND	0.0011	EPA 8260C	10-10-16	10-10-16	
Methyl t-Butyl Ether	ND	0.0011	EPA 8260C	10-10-16	10-10-16	
1,1-Dichloroethane	ND	0.0011	EPA 8260C	10-10-16	10-10-16	
Vinyl Acetate	ND	0.0054	EPA 8260C	10-10-16	10-10-16	
2,2-Dichloropropane	ND	0.0011	EPA 8260C	10-10-16	10-10-16	
(cis) 1,2-Dichloroethene	ND	0.0011	EPA 8260C	10-10-16	10-10-16	
2-Butanone	0.021	0.0054	EPA 8260C	10-10-16	10-10-16	
Bromochloromethane	ND	0.0011	EPA 8260C	10-10-16	10-10-16	
Chloroform	ND	0.0011	EPA 8260C	10-10-16	10-10-16	
1,1,1-Trichloroethane	ND	0.0011	EPA 8260C	10-10-16	10-10-16	
Carbon Tetrachloride	ND	0.0011	EPA 8260C	10-10-16	10-10-16	
1,1-Dichloropropene	ND	0.0011	EPA 8260C	10-10-16	10-10-16	
Benzene	0.0053	0.0011	EPA 8260C	10-10-16	10-10-16	
1,2-Dichloroethane	ND	0.0011	EPA 8260C	10-10-16	10-10-16	
Trichloroethene	ND	0.0011	EPA 8260C	10-10-16	10-10-16	
1,2-Dichloropropane	ND	0.0011	EPA 8260C	10-10-16	10-10-16	
Dibromomethane	ND	0.0011	EPA 8260C	10-10-16	10-10-16	
Bromodichloromethane	ND	0.0011	EPA 8260C	10-10-16	10-10-16	
2-Chloroethyl Vinyl Ether	ND	0.0054	EPA 8260C	10-10-16	10-10-16	
(cis) 1,3-Dichloropropene	ND	0.0011	EPA 8260C	10-10-16	10-10-16	
Methyl Isobutyl Ketone	ND	0.0054	EPA 8260C	10-10-16	10-10-16	
Toluene	ND	0.0054	EPA 8260C	10-10-16	10-10-16	
(trans) 1,3-Dichloropropene	ND	0.0011	EPA 8260C	10-10-16	10-10-16	

Date of Report: October 17, 2016
Samples Submitted: October 8, 2016
Laboratory Reference: 1610-079
Project: 31008

VOLATILES EPA 8260C
page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-2-16-13.5**					
Laboratory ID:	10-079-04					
1,1,2-Trichloroethane	ND	0.0011	EPA 8260C	10-10-16	10-10-16	
Tetrachloroethene	ND	0.0022	EPA 8260C	10-10-16	10-10-16	
1,3-Dichloropropane	ND	0.0011	EPA 8260C	10-10-16	10-10-16	
2-Hexanone	ND	0.0054	EPA 8260C	10-10-16	10-10-16	
Dibromochloromethane	ND	0.0011	EPA 8260C	10-10-16	10-10-16	
1,2-Dibromoethane	ND	0.0011	EPA 8260C	10-10-16	10-10-16	
Chlorobenzene	ND	0.0011	EPA 8260C	10-10-16	10-10-16	
1,1,1,2-Tetrachloroethane	ND	0.0011	EPA 8260C	10-10-16	10-10-16	
Ethylbenzene	ND	0.0011	EPA 8260C	10-10-16	10-10-16	
m,p-Xylene	ND	0.0022	EPA 8260C	10-10-16	10-10-16	
o-Xylene	ND	0.0011	EPA 8260C	10-10-16	10-10-16	
Styrene	ND	0.0011	EPA 8260C	10-10-16	10-10-16	
Bromoform	ND	0.0011	EPA 8260C	10-10-16	10-10-16	
Isopropylbenzene	ND	0.0011	EPA 8260C	10-10-16	10-10-16	
Bromobenzene	ND	0.0011	EPA 8260C	10-10-16	10-10-16	
1,1,2,2-Tetrachloroethane	ND	0.0011	EPA 8260C	10-10-16	10-10-16	
1,2,3-Trichloropropane	ND	0.0011	EPA 8260C	10-10-16	10-10-16	
n-Propylbenzene	ND	0.0011	EPA 8260C	10-10-16	10-10-16	
2-Chlorotoluene	ND	0.0011	EPA 8260C	10-10-16	10-10-16	
4-Chlorotoluene	ND	0.0011	EPA 8260C	10-10-16	10-10-16	
1,3,5-Trimethylbenzene	ND	0.0011	EPA 8260C	10-10-16	10-10-16	
tert-Butylbenzene	ND	0.0011	EPA 8260C	10-10-16	10-10-16	
1,2,4-Trimethylbenzene	ND	0.0011	EPA 8260C	10-10-16	10-10-16	
sec-Butylbenzene	ND	0.0011	EPA 8260C	10-10-16	10-10-16	
1,3-Dichlorobenzene	ND	0.0011	EPA 8260C	10-10-16	10-10-16	
p-Isopropyltoluene	ND	0.0011	EPA 8260C	10-10-16	10-10-16	
1,4-Dichlorobenzene	ND	0.0011	EPA 8260C	10-10-16	10-10-16	
1,2-Dichlorobenzene	ND	0.0011	EPA 8260C	10-10-16	10-10-16	
n-Butylbenzene	ND	0.0011	EPA 8260C	10-10-16	10-10-16	
1,2-Dibromo-3-chloropropane	ND	0.0054	EPA 8260C	10-10-16	10-10-16	
1,2,4-Trichlorobenzene	ND	0.0011	EPA 8260C	10-10-16	10-10-16	
Hexachlorobutadiene	ND	0.0054	EPA 8260C	10-10-16	10-10-16	
Naphthalene	ND	0.0011	EPA 8260C	10-10-16	10-10-16	
1,2,3-Trichlorobenzene	ND	0.0011	EPA 8260C	10-10-16	10-10-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*97*	*76-131*				
Toluene-d8	*98*	*80-126*				
4-Bromofluorobenzene	*87*	*60-146*				

Date of Report: October 17, 2016
Samples Submitted: October 8, 2016
Laboratory Reference: 1610-079
Project: 31008

VOLATILES by EPA 8260C
METHOD BLANK QUALITY CONTROL
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Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB1010S1					
Dichlorodifluoromethane	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
Chloromethane	ND	0.0050	EPA 8260C	10-10-16	10-10-16	
Vinyl Chloride	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
Bromomethane	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
Chloroethane	ND	0.0050	EPA 8260C	10-10-16	10-10-16	
Trichlorofluoromethane	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
1,1-Dichloroethene	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
Acetone	ND	0.0050	EPA 8260C	10-10-16	10-10-16	
Iodomethane	ND	0.0050	EPA 8260C	10-10-16	10-10-16	
Carbon Disulfide	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
Methylene Chloride	ND	0.0050	EPA 8260C	10-10-16	10-10-16	
(trans) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
Methyl t-Butyl Ether	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
1,1-Dichloroethane	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
Vinyl Acetate	ND	0.0050	EPA 8260C	10-10-16	10-10-16	
2,2-Dichloropropane	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
(cis) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
2-Butanone	ND	0.0050	EPA 8260C	10-10-16	10-10-16	
Bromochloromethane	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
Chloroform	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
1,1,1-Trichloroethane	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
Carbon Tetrachloride	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
1,1-Dichloropropene	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
Benzene	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
1,2-Dichloroethane	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
Trichloroethene	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
1,2-Dichloropropane	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
Dibromomethane	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
Bromodichloromethane	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
2-Chloroethyl Vinyl Ether	ND	0.0050	EPA 8260C	10-10-16	10-10-16	
(cis) 1,3-Dichloropropene	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
Methyl Isobutyl Ketone	ND	0.0050	EPA 8260C	10-10-16	10-10-16	
Toluene	ND	0.0050	EPA 8260C	10-10-16	10-10-16	
(trans) 1,3-Dichloropropene	ND	0.0010	EPA 8260C	10-10-16	10-10-16	

Date of Report: October 17, 2016
Samples Submitted: October 8, 2016
Laboratory Reference: 1610-079
Project: 31008

VOLATILES by EPA 8260C
METHOD BLANK QUALITY CONTROL
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB1010S1					
1,1,2-Trichloroethane	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
Tetrachloroethene	ND	0.0020	EPA 8260C	10-10-16	10-10-16	
1,3-Dichloropropane	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
2-Hexanone	ND	0.0050	EPA 8260C	10-10-16	10-10-16	
Dibromochloromethane	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
1,2-Dibromoethane	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
Chlorobenzene	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
1,1,1,2-Tetrachloroethane	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
Ethylbenzene	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
m,p-Xylene	ND	0.0020	EPA 8260C	10-10-16	10-10-16	
o-Xylene	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
Styrene	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
Bromoform	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
Isopropylbenzene	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
Bromobenzene	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
1,1,2,2-Tetrachloroethane	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
1,2,3-Trichloropropane	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
n-Propylbenzene	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
2-Chlorotoluene	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
4-Chlorotoluene	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
1,3,5-Trimethylbenzene	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
tert-Butylbenzene	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
1,2,4-Trimethylbenzene	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
sec-Butylbenzene	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
1,3-Dichlorobenzene	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
p-Isopropyltoluene	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
1,4-Dichlorobenzene	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
1,2-Dichlorobenzene	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
n-Butylbenzene	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
1,2-Dibromo-3-chloropropane	ND	0.0050	EPA 8260C	10-10-16	10-10-16	
1,2,4-Trichlorobenzene	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
Hexachlorobutadiene	ND	0.0050	EPA 8260C	10-10-16	10-10-16	
Naphthalene	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
1,2,3-Trichlorobenzene	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*98*	*76-131*				
Toluene-d8	*103*	*80-126*				
4-Bromofluorobenzene	*102*	*60-146*				

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Samples Submitted: October 8, 2016
Laboratory Reference: 1610-079
Project: 31008

VOLATILES by EPA 8260C
SB/SBD QUALITY CONTROL

Matrix: Soil
Units: mg/kg

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB1010S1									
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	**0.0457**	**0.0490**	0.0500	0.0500	91	98	68-126	7	15	
Benzene	**0.0461**	**0.0480**	0.0500	0.0500	92	96	70-121	4	15	
Trichloroethene	**0.0455**	**0.0476**	0.0500	0.0500	91	95	75-120	5	15	
Toluene	**0.0468**	**0.0495**	0.0500	0.0500	94	99	80-120	6	15	
Chlorobenzene	**0.0475**	**0.0490**	0.0500	0.0500	95	98	76-120	3	15	
Surrogate:										
Dibromofluoromethane					*94*	*94*	*76-131*			
Toluene-d8					*94*	*100*	*80-126*			
4-Bromofluorobenzene					*96*	*96*	*60-146*			

Date of Report: October 17, 2016
Samples Submitted: October 8, 2016
Laboratory Reference: 1610-079
Project: 31008

SEMIVOLATILES EPA 8270D/SIM
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Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-2-16-13.5**					
Laboratory ID:	10-079-04					
n-Nitrosodimethylamine	**ND**	0.048	EPA 8270D	10-10-16	10-11-16	
Pyridine	**ND**	0.48	EPA 8270D	10-10-16	10-11-16	
Phenol	**ND**	0.048	EPA 8270D	10-10-16	10-11-16	
Aniline	**ND**	0.24	EPA 8270D	10-10-16	10-11-16	
bis(2-Chloroethyl)ether	**ND**	0.048	EPA 8270D	10-10-16	10-11-16	
2-Chlorophenol	**ND**	0.048	EPA 8270D	10-10-16	10-11-16	
1,3-Dichlorobenzene	**ND**	0.048	EPA 8270D	10-10-16	10-11-16	
1,4-Dichlorobenzene	**ND**	0.048	EPA 8270D	10-10-16	10-11-16	
Benzyl alcohol	**ND**	0.24	EPA 8270D	10-10-16	10-11-16	
1,2-Dichlorobenzene	**ND**	0.048	EPA 8270D	10-10-16	10-11-16	
2-Methylphenol (o-Cresol)	**ND**	0.048	EPA 8270D	10-10-16	10-11-16	
bis(2-Chloroisopropyl)ether	**ND**	0.048	EPA 8270D	10-10-16	10-11-16	
(3+4)-Methylphenol (m,p-Cresol)	**ND**	0.048	EPA 8270D	10-10-16	10-11-16	
n-Nitroso-di-n-propylamine	**ND**	0.048	EPA 8270D	10-10-16	10-11-16	
Hexachloroethane	**ND**	0.048	EPA 8270D	10-10-16	10-11-16	
Nitrobenzene	**ND**	0.048	EPA 8270D	10-10-16	10-11-16	
Isophorone	**ND**	0.048	EPA 8270D	10-10-16	10-11-16	
2-Nitrophenol	**ND**	0.048	EPA 8270D	10-10-16	10-11-16	
2,4-Dimethylphenol	**ND**	0.048	EPA 8270D	10-10-16	10-11-16	
bis(2-Chloroethoxy)methane	**ND**	0.048	EPA 8270D	10-10-16	10-11-16	
2,4-Dichlorophenol	**ND**	0.048	EPA 8270D	10-10-16	10-11-16	
1,2,4-Trichlorobenzene	**ND**	0.048	EPA 8270D	10-10-16	10-11-16	
Naphthalene	**0.0096**	0.0095	EPA 8270D/SIM	10-10-16	10-10-16	
4-Chloroaniline	**ND**	0.24	EPA 8270D	10-10-16	10-11-16	
Hexachlorobutadiene	**ND**	0.048	EPA 8270D	10-10-16	10-11-16	
4-Chloro-3-methylphenol	**ND**	0.048	EPA 8270D	10-10-16	10-11-16	
2-Methylnaphthalene	**ND**	0.0095	EPA 8270D/SIM	10-10-16	10-10-16	
1-Methylnaphthalene	**ND**	0.0095	EPA 8270D/SIM	10-10-16	10-10-16	
Hexachlorocyclopentadiene	**ND**	0.048	EPA 8270D	10-10-16	10-11-16	
2,4,6-Trichlorophenol	**ND**	0.048	EPA 8270D	10-10-16	10-11-16	
2,3-Dichloroaniline	**ND**	0.048	EPA 8270D	10-10-16	10-11-16	
2,4,5-Trichlorophenol	**ND**	0.048	EPA 8270D	10-10-16	10-11-16	
2-Chloronaphthalene	**ND**	0.048	EPA 8270D	10-10-16	10-11-16	
2-Nitroaniline	**ND**	0.048	EPA 8270D	10-10-16	10-11-16	
1,4-Dinitrobenzene	**ND**	0.048	EPA 8270D	10-10-16	10-11-16	
Dimethylphthalate	**ND**	0.048	EPA 8270D	10-10-16	10-11-16	
1,3-Dinitrobenzene	**ND**	0.048	EPA 8270D	10-10-16	10-11-16	
2,6-Dinitrotoluene	**ND**	0.048	EPA 8270D	10-10-16	10-11-16	
1,2-Dinitrobenzene	**ND**	0.048	EPA 8270D	10-10-16	10-11-16	
Acenaphthylene	**ND**	0.0095	EPA 8270D/SIM	10-10-16	10-10-16	
3-Nitroaniline	**ND**	0.048	EPA 8270D	10-10-16	10-11-16	

Date of Report: October 17, 2016
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-2-16-13.5**					
Laboratory ID:	10-079-04					
2,4-Dinitrophenol	**ND**	0.24	EPA 8270D	10-10-16	10-11-16	
Acenaphthene	**ND**	0.0095	EPA 8270D/SIM	10-10-16	10-10-16	
4-Nitrophenol	**ND**	0.048	EPA 8270D	10-10-16	10-11-16	
2,4-Dinitrotoluene	**ND**	0.048	EPA 8270D	10-10-16	10-11-16	
Dibenzofuran	**ND**	0.048	EPA 8270D	10-10-16	10-11-16	
2,3,5,6-Tetrachlorophenol	**ND**	0.048	EPA 8270D	10-10-16	10-11-16	
2,3,4,6-Tetrachlorophenol	**ND**	0.048	EPA 8270D	10-10-16	10-11-16	
Diethylphthalate	**ND**	0.24	EPA 8270D	10-10-16	10-11-16	
4-Chlorophenyl-phenylether	**ND**	0.048	EPA 8270D	10-10-16	10-11-16	
4-Nitroaniline	**ND**	0.048	EPA 8270D	10-10-16	10-11-16	
Fluorene	**ND**	0.0095	EPA 8270D/SIM	10-10-16	10-10-16	
4,6-Dinitro-2-methylphenol	**ND**	0.24	EPA 8270D	10-10-16	10-11-16	
n-Nitrosodiphenylamine	**ND**	0.048	EPA 8270D	10-10-16	10-11-16	
1,2-Diphenylhydrazine	**ND**	0.048	EPA 8270D	10-10-16	10-11-16	
4-Bromophenyl-phenylether	**ND**	0.048	EPA 8270D	10-10-16	10-11-16	
Hexachlorobenzene	**ND**	0.048	EPA 8270D	10-10-16	10-11-16	
Pentachlorophenol	**ND**	0.24	EPA 8270D	10-10-16	10-11-16	
Phenanthrene	**ND**	0.0095	EPA 8270D/SIM	10-10-16	10-10-16	
Anthracene	**ND**	0.0095	EPA 8270D/SIM	10-10-16	10-10-16	
Carbazole	**ND**	0.048	EPA 8270D	10-10-16	10-11-16	
Di-n-butylphthalate	**ND**	0.24	EPA 8270D	10-10-16	10-11-16	
Fluoranthene	**ND**	0.0095	EPA 8270D/SIM	10-10-16	10-10-16	
Benzidine	**ND**	0.48	EPA 8270D	10-10-16	10-11-16	
Pyrene	**ND**	0.0095	EPA 8270D/SIM	10-10-16	10-10-16	
Butylbenzylphthalate	**ND**	0.048	EPA 8270D	10-10-16	10-11-16	
bis-2-Ethylhexyladipate	**ND**	0.048	EPA 8270D	10-10-16	10-11-16	
3,3'-Dichlorobenzidine	**ND**	0.24	EPA 8270D	10-10-16	10-11-16	
Benzo[a]anthracene	**ND**	0.0095	EPA 8270D/SIM	10-10-16	10-10-16	
Chrysene	**ND**	0.0095	EPA 8270D/SIM	10-10-16	10-10-16	
bis(2-Ethylhexyl)phthalate	**ND**	0.048	EPA 8270D	10-10-16	10-11-16	
Di-n-octylphthalate	**ND**	0.048	EPA 8270D	10-10-16	10-11-16	
Benzo[b]fluoranthene	**ND**	0.0095	EPA 8270D/SIM	10-10-16	10-10-16	
Benzo(j,k)fluoranthene	**ND**	0.0095	EPA 8270D/SIM	10-10-16	10-10-16	
Benzo[a]pyrene	**ND**	0.0095	EPA 8270D/SIM	10-10-16	10-10-16	
Indeno[1,2,3-cd]pyrene	**ND**	0.0095	EPA 8270D/SIM	10-10-16	10-10-16	
Dibenz[a,h]anthracene	**ND**	0.0095	EPA 8270D/SIM	10-10-16	10-10-16	
Benzo[g,h,i]perylene	**ND**	0.0095	EPA 8270D/SIM	10-10-16	10-10-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*64*	*24 - 117*				
Phenol-d6	*66*	*30 - 120*				
Nitrobenzene-d5	*69*	*27 - 112*				
2-Fluorobiphenyl	*70*	*35 - 113*				
2,4,6-Tribromophenol	*75*	*21 - 120*				
Terphenyl-d14	*70*	*39 - 121*				

Date of Report: October 17, 2016
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SEMIVOLATILES EPA 8270D/SIM
METHOD BLANK QUALITY CONTROL
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Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB1010S1					
n-Nitrosodimethylamine	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
Pyridine	**ND**	0.33	EPA 8270D	10-10-16	10-11-16	
Phenol	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
Aniline	**ND**	0.17	EPA 8270D	10-10-16	10-11-16	
bis(2-Chloroethyl)ether	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
2-Chlorophenol	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
1,3-Dichlorobenzene	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
1,4-Dichlorobenzene	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
Benzyl alcohol	**ND**	0.17	EPA 8270D	10-10-16	10-11-16	
1,2-Dichlorobenzene	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
2-Methylphenol (o-Cresol)	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
bis(2-Chloroisopropyl)ether	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
(3+4)-Methylphenol (m,p-Cresol)	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
n-Nitroso-di-n-propylamine	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
Hexachloroethane	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
Nitrobenzene	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
Isophorone	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
2-Nitrophenol	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
2,4-Dimethylphenol	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
bis(2-Chloroethoxy)methane	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
2,4-Dichlorophenol	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
1,2,4-Trichlorobenzene	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
Naphthalene	**ND**	0.0067	EPA 8270D/SIM	10-10-16	10-10-16	
4-Chloroaniline	**ND**	0.17	EPA 8270D	10-10-16	10-11-16	
Hexachlorobutadiene	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
4-Chloro-3-methylphenol	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
2-Methylnaphthalene	**ND**	0.0067	EPA 8270D/SIM	10-10-16	10-10-16	
1-Methylnaphthalene	**ND**	0.0067	EPA 8270D/SIM	10-10-16	10-10-16	
Hexachlorocyclopentadiene	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
2,4,6-Trichlorophenol	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
2,3-Dichloroaniline	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
2,4,5-Trichlorophenol	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
2-Chloronaphthalene	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
2-Nitroaniline	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
1,4-Dinitrobenzene	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
Dimethylphthalate	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
1,3-Dinitrobenzene	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
2,6-Dinitrotoluene	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
1,2-Dinitrobenzene	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
Acenaphthylene	**ND**	0.0067	EPA 8270D/SIM	10-10-16	10-10-16	
3-Nitroaniline	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	

Date of Report: October 17, 2016
Samples Submitted: October 8, 2016
Laboratory Reference: 1610-079
Project: 31008

SEMIVOLATILES EPA 8270D/SIM
METHOD BLANK QUALITY CONTROL
page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB1010S1					
2,4-Dinitrophenol	**ND**	0.17	EPA 8270D	10-10-16	10-11-16	
Acenaphthene	**ND**	0.0067	EPA 8270D/SIM	10-10-16	10-10-16	
4-Nitrophenol	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
2,4-Dinitrotoluene	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
Dibenzofuran	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
2,3,5,6-Tetrachlorophenol	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
2,3,4,6-Tetrachlorophenol	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
Diethylphthalate	**ND**	0.17	EPA 8270D	10-10-16	10-11-16	
4-Chlorophenyl-phenylether	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
4-Nitroaniline	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
Fluorene	**ND**	0.0067	EPA 8270D/SIM	10-10-16	10-10-16	
4,6-Dinitro-2-methylphenol	**ND**	0.17	EPA 8270D	10-10-16	10-11-16	
n-Nitrosodiphenylamine	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
1,2-Diphenylhydrazine	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
4-Bromophenyl-phenylether	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
Hexachlorobenzene	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
Pentachlorophenol	**ND**	0.17	EPA 8270D	10-10-16	10-11-16	
Phenanthrene	**ND**	0.0067	EPA 8270D/SIM	10-10-16	10-10-16	
Anthracene	**ND**	0.0067	EPA 8270D/SIM	10-10-16	10-10-16	
Carbazole	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
Di-n-butylphthalate	**ND**	0.17	EPA 8270D	10-10-16	10-11-16	
Fluoranthene	**ND**	0.0067	EPA 8270D/SIM	10-10-16	10-10-16	
Benzidine	**ND**	0.33	EPA 8270D	10-10-16	10-11-16	
Pyrene	**ND**	0.0067	EPA 8270D/SIM	10-10-16	10-10-16	
Butylbenzylphthalate	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
bis-2-Ethylhexyladipate	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
3,3'-Dichlorobenzidine	**ND**	0.17	EPA 8270D	10-10-16	10-11-16	
Benzo[a]anthracene	**ND**	0.0067	EPA 8270D/SIM	10-10-16	10-10-16	
Chrysene	**ND**	0.0067	EPA 8270D/SIM	10-10-16	10-10-16	
bis(2-Ethylhexyl)phthalate	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
Di-n-octylphthalate	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
Benzo[b]fluoranthene	**ND**	0.0067	EPA 8270D/SIM	10-10-16	10-10-16	
Benzo(j,k)fluoranthene	**ND**	0.0067	EPA 8270D/SIM	10-10-16	10-10-16	
Benzo[a]pyrene	**ND**	0.0067	EPA 8270D/SIM	10-10-16	10-10-16	
Indeno[1,2,3-cd]pyrene	**ND**	0.0067	EPA 8270D/SIM	10-10-16	10-10-16	
Dibenz[a,h]anthracene	**ND**	0.0067	EPA 8270D/SIM	10-10-16	10-10-16	
Benzo[g,h,i]perylene	**ND**	0.0067	EPA 8270D/SIM	10-10-16	10-10-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*81*	*24 - 117*				
Phenol-d6	*83*	*30 - 120*				
Nitrobenzene-d5	*85*	*27 - 112*				
2-Fluorobiphenyl	*84*	*35 - 113*				
2,4,6-Tribromophenol	*85*	*21 - 120*				
Terphenyl-d14	*85*	*39 - 121*				

Date of Report: October 17, 2016
Samples Submitted: October 8, 2016
Laboratory Reference: 1610-079
Project: 31008

SEMIVOLATILES EPA 8270D/SIM
MS/MSD QUALITY CONTROL

Matrix: Soil
Units: mg/Kg

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
MATRIX SPIKES											
Laboratory ID:	10-080-03										
	MS	MSD	MS	MSD		MS	MSD				
Phenol	**0.914**	**0.997**	1.33	1.33	ND	69	75	31 - 108	9	36	
2-Chlorophenol	**0.940**	**1.03**	1.33	1.33	ND	71	77	38 - 103	9	38	
1,4-Dichlorobenzene	**0.465**	**0.502**	0.667	0.667	ND	70	75	25 - 101	8	40	
n-Nitroso-di-n-propylamine	**0.452**	**0.494**	0.667	0.667	ND	68	74	26 - 102	9	38	
1,2,4-Trichlorobenzene	**0.451**	**0.513**	0.667	0.667	ND	68	77	27 - 101	13	40	
4-Chloro-3-methylphenol	**0.914**	**1.02**	1.33	1.33	ND	69	77	42 - 106	11	29	
Acenaphthene	**0.460**	**0.513**	0.667	0.667	ND	69	77	42 - 103	11	30	
4-Nitrophenol	**0.927**	**1.02**	1.33	1.33	ND	70	77	25 - 125	10	29	
2,4-Dinitrotoluene	**0.466**	**0.507**	0.667	0.667	ND	70	76	45 - 107	8	30	
Pentachlorophenol	**1.03**	**1.15**	1.33	1.33	ND	77	86	30 - 103	11	31	
Pyrene	**0.478**	**0.532**	0.667	0.667	ND	72	80	50 - 118	11	28	
Surrogate:											
2-Fluorophenol						*69*	*75*	*24 - 117*			
Phenol-d6						*71*	*77*	*30 - 120*			
Nitrobenzene-d5						*72*	*79*	*27 - 112*			
2-Fluorobiphenyl						*71*	*76*	*35 - 113*			
2,4,6-Tribromophenol						*75*	*81*	*21 - 120*			
Terphenyl-d14						*72*	*79*	*39 - 121*			

Date of Report: October 17, 2016
Samples Submitted: October 8, 2016
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Project: 31008

PCBs
EPA 8082A

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-2-16-13.5**					
Laboratory ID:	10-079-04					
Aroclor 1016	**ND**	0.071	EPA 8082A	10-11-16	10-11-16	
Aroclor 1221	**ND**	0.071	EPA 8082A	10-11-16	10-11-16	
Aroclor 1232	**ND**	0.071	EPA 8082A	10-11-16	10-11-16	
Aroclor 1242	**ND**	0.071	EPA 8082A	10-11-16	10-11-16	
Aroclor 1248	**ND**	0.071	EPA 8082A	10-11-16	10-11-16	
Aroclor 1254	**ND**	0.071	EPA 8082A	10-11-16	10-11-16	
Aroclor 1260	**ND**	0.071	EPA 8082A	10-11-16	10-11-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*73*	*50-139*				

Date of Report: October 17, 2016
Samples Submitted: October 8, 2016
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Project: 31008

PCBs EPA 8082A
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1011S1					
Aroclor 1016	**ND**	0.050	EPA 8082A	10-11-16	10-11-16	
Aroclor 1221	**ND**	0.050	EPA 8082A	10-11-16	10-11-16	
Aroclor 1232	**ND**	0.050	EPA 8082A	10-11-16	10-11-16	
Aroclor 1242	**ND**	0.050	EPA 8082A	10-11-16	10-11-16	
Aroclor 1248	**ND**	0.050	EPA 8082A	10-11-16	10-11-16	
Aroclor 1254	**ND**	0.050	EPA 8082A	10-11-16	10-11-16	
Aroclor 1260	**ND**	0.050	EPA 8082A	10-11-16	10-11-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*86*	*50-139*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
MATRIX SPIKES											
Laboratory ID:	10-080-01										
	MS	MSD	MS	MSD		MS	MSD				
Aroclor 1260	**0.389**	**0.387**	0.500	0.500	ND	**78**	**77**	49-133	1	17	
Surrogate:											
DCB						*80*	*81*	*50-139*			

Date of Report: October 17, 2016
Samples Submitted: October 8, 2016
Laboratory Reference: 1610-079
Project: 31008

TOTAL METALS
EPA 6010C/6020A/7471B

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	10-079-04					
Client ID:	**H-2-16-13.5**					
Antimony	**ND**	7.1	6010C	10-13-16	10-13-16	
Arsenic	**ND**	14	6010C	10-13-16	10-13-16	
Beryllium	**ND**	0.71	6010C	10-13-16	10-13-16	
Cadmium	**ND**	0.71	6010C	10-13-16	10-13-16	
Chromium	**37**	0.71	6010C	10-13-16	10-13-16	
Copper	**24**	1.4	6010C	10-13-16	10-13-16	
Lead	**11**	7.1	6010C	10-13-16	10-13-16	
Mercury	**ND**	0.36	7471B	10-11-16	10-11-16	
Nickel	**36**	3.6	6010C	10-13-16	10-13-16	
Selenium	**ND**	14	6010C	10-13-16	10-13-16	
Silver	**ND**	0.71	6010C	10-13-16	10-13-16	
Thallium	**ND**	1.8	6020A	10-13-16	10-17-16	
Zinc	**56**	3.6	6010C	10-13-16	10-13-16	

Date of Report: October 17, 2016
Samples Submitted: October 8, 2016
Laboratory Reference: 1610-079
Project: 31008

TOTAL METALS
EPA 6010C/6020A/7471B
METHOD BLANK QUALITY CONTROL

Date Extracted: 10-11&13-16
Date Analyzed: 10-11,13&17-16

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: MB1013SH1&MB1011S1

Analyte	Method	Result	PQL
Antimony	6010C	**ND**	5.0
Arsenic	6010C	**ND**	10
Beryllium	6010C	**ND**	0.50
Cadmium	6010C	**ND**	0.50
Chromium	6010C	**ND**	0.50
Copper	6010C	**ND**	1.0
Lead	6010C	**ND**	5.0
Mercury	7471B	**ND**	0.25
Nickel	6010C	**ND**	2.5
Selenium	6010C	**ND**	10
Silver	6010C	**ND**	0.50
Thallium	6020A	**ND**	1.3
Zinc	6010C	**ND**	2.5

Date of Report: October 17, 2016
Samples Submitted: October 8, 2016
Laboratory Reference: 1610-079
Project: 31008

TOTAL METALS
EPA 6010C/6020A/7471B
DUPLICATE QUALITY CONTROL

Date Extracted: 10-11&13-16
Date Analyzed: 10-11,13&17-16

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 10-080-01

Analyte	Sample Result	Duplicate Result	RPD	PQL	Flags
Antimony	**ND**	**ND**	NA	5.0	
Arsenic	**ND**	**ND**	NA	10.0	
Beryllium	**ND**	**ND**	NA	0.50	
Cadmium	**ND**	**ND**	NA	0.50	
Chromium	**25.9**	**24.3**	6	0.50	
Copper	**11.7**	**10.9**	7	1.0	
Lead	**ND**	**ND**	NA	5.0	
Mercury	**ND**	**ND**	NA	0.25	
Nickel	**30.4**	**29.2**	4	2.5	
Selenium	**ND**	**ND**	NA	10	
Silver	**ND**	**ND**	NA	0.50	
Thallium	**ND**	**ND**	NA	1.3	
Zinc	**24.0**	**22.0**	9	2.5	

Date of Report: October 17, 2016
Samples Submitted: October 8, 2016
Laboratory Reference: 1610-079
Project: 31008

TOTAL METALS
EPA 6010C/6020A/7471B
MS/MSD QUALITY CONTROL

Date Extracted: 10-11&13-16
Date Analyzed: 10-11,13&17-16

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 10-080-01

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Antimony	100	**95.4**	95	**88.3**	88	8	
Arsenic	100	**101**	101	**94.3**	94	6	
Beryllium	50.0	**50.8**	102	**47.6**	95	7	
Cadmium	50.0	**49.3**	99	**47.5**	95	4	
Chromium	100	**128**	102	**119**	93	7	
Copper	50.0	**63.9**	105	**60.4**	97	6	
Lead	250	**238**	95	**232**	93	3	
Mercury	0.500	**0.499**	100	**0.546**	109	9	
Nickel	100	**127**	96	**120**	89	6	
Selenium	100	**104**	104	**99.4**	99	5	
Silver	25.0	**24.4**	97	**23.1**	92	5	
Thallium	50.0	**44.2**	88	**44.8**	90	1	
Zinc	100	**120**	96	**115**	91	4	

Date of Report: October 17, 2016
Samples Submitted: October 8, 2016
Laboratory Reference: 1610-079
Project: 31008

% MOISTURE

Date Analyzed: 10-10-16

Client ID	Lab ID	% Moisture
H-2-16-13.5	10-079-04	30

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

X1- Sample extract treated with a Sulfuric acid/Silica gel cleanup procedure.

Y - The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

Chain of Custody

OnSite Environmental Inc.
Analytical Laboratory Testing Services
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Company: INNOVEX
Project Number: 31008
Project Name: SR520
Project Manager: Glenn Hayman
Sampled by: Andrea Winder

Turnaround Request (in working days)

(Check One)

- ☐ Same Day
- ☐ 1 Day
- ☐ 2 Days
- ☐ 3 Days
- ☒ Standard (7 Days) (TPH analysis 5 Days)
- ☐ _____ (other)

Laboratory Number: 10-079

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx*	NWTPH-Dx (☐ Acid / SG Clean-up*)	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A	DP13-6010				% Moisture
1	H-2-16-3	10/7/16	2120	S	5																						
2	H-2-16-8.5		2135																								
3	H-2-16-11		2140																								
4	H-2-16-13.5		2145			X				X			X		X								X				X
5	H-2-16-16		2150																								
6	H-2-16-18.5		2155																								
7	H-2-16-19.4		2200																								
8	H-2-16-25		2205																								

	Signature	Company	Date	Time
Relinquished		INNOVEX	10/8/16	0215
Received		INNOVEX	10/8/16	0215
Relinquished		INNOVEX	10/8/16	10:20
Received			10/8/16	1020
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

* Follow-w/ appropriate TPH Analysis

Data Package: Standard ☐ Level III ☐ Level IV ☐

Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐

OnSite Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

October 17, 2016

Glenn Hayman
INNOVEX Environmental Mgt., Inc.
16310 NE 80th St., Suite 300
Redmond, WA 98052

Re: Analytical Data for Project 31008
Laboratory Reference No. 1610-080

Dear Glenn:

Enclosed are the analytical results and associated quality control data for samples submitted on October 8, 2016.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

Date of Report: October 17, 2016
Samples Submitted: October 8, 2016
Laboratory Reference: 1610-080
Project: 31008

Case Narrative

Samples were collected on October 7, 2016 and received by the laboratory on October 8, 2016. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

Volatiles EPA 8260C Analysis

Per EPA Method 5035A, samples were received by the laboratory in pre-weighed 40 mL VOA vials within 48 hours of sample collection. They were stored in a freezer at between -7°C and -20°C until extraction or analysis.

All four Internal Standards did not meet acceptance criteria for samples H-3-16-6 and H-3-16-8.5. The samples were re-analyzed with similar results. Leaks in the sealed VOA environment caused by grit between the VOA lip and VOA cap septum have been shown to cause low internal standard recovery. The samples were consequently extracted from their respective 8-ounce jars, analyzed, and reported. Some loss of volatiles may have occurred, and common laboratory solvents Acetone and Methylene Chloride may have been introduced during sample preparation.

Any other QA/QC issues associated with this extraction and analysis will be indicated with a footnote reference and discussed in detail on the Data Qualifier page.

Date of Report: October 17, 2016
Samples Submitted: October 8, 2016
Laboratory Reference: 1610-080
Project: 31008

NWTPH-HCID

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-3-16-3**					
Laboratory ID:	10-080-01					
Gasoline Range Organics	**ND**	22	NWTPH-HCID	10-10-16	10-10-16	
Diesel Range Organics	**ND**	55	NWTPH-HCID	10-10-16	10-10-16	
Lube Oil Range Organics	**ND**	110	NWTPH-HCID	10-10-16	10-10-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*122*	*50-150*				
Client ID:	**H-3-16-6**					
Laboratory ID:	10-080-02					
Gasoline Range Organics	**ND**	23	NWTPH-HCID	10-10-16	10-10-16	
Diesel Range Organics	**ND**	57	NWTPH-HCID	10-10-16	10-10-16	
Lube Oil Range Organics	**ND**	110	NWTPH-HCID	10-10-16	10-10-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*128*	*50-150*				
Client ID:	**H-3-16-8.5**					
Laboratory ID:	10-080-03					
Gasoline Range Organics	**ND**	24	NWTPH-HCID	10-10-16	10-10-16	
Diesel Range Organics	**ND**	59	NWTPH-HCID	10-10-16	10-10-16	
Lube Oil Range Organics	**ND**	120	NWTPH-HCID	10-10-16	10-10-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*119*	*50-150*				

Date of Report: October 17, 2016
Samples Submitted: October 8, 2016
Laboratory Reference: 1610-080
Project: 31008

NWTPH-HCID
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1010S2					
Gasoline Range Organics	**ND**	20	NWTPH-HCID	10-10-16	10-10-16	
Diesel Range Organics	**ND**	50	NWTPH-HCID	10-10-16	10-10-16	
Lube Oil Range Organics	**ND**	100	NWTPH-HCID	10-10-16	10-10-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*84*	*50-150*				

Date of Report: October 17, 2016
Samples Submitted: October 8, 2016
Laboratory Reference: 1610-080
Project: 31008

VOLATILES EPA 8260C
page 1 of 2

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-3-16-3**					
Laboratory ID:	10-080-01					
Dichlorodifluoromethane	ND	0.00090	EPA 8260C	10-10-16	10-10-16	
Chloromethane	ND	0.0045	EPA 8260C	10-10-16	10-10-16	
Vinyl Chloride	ND	0.00090	EPA 8260C	10-10-16	10-10-16	
Bromomethane	ND	0.00090	EPA 8260C	10-10-16	10-10-16	
Chloroethane	ND	0.0045	EPA 8260C	10-10-16	10-10-16	
Trichlorofluoromethane	ND	0.00090	EPA 8260C	10-10-16	10-10-16	
1,1-Dichloroethene	ND	0.00090	EPA 8260C	10-10-16	10-10-16	
Acetone	ND	0.0045	EPA 8260C	10-10-16	10-10-16	
Iodomethane	ND	0.0045	EPA 8260C	10-10-16	10-10-16	
Carbon Disulfide	ND	0.00090	EPA 8260C	10-10-16	10-10-16	
Methylene Chloride	ND	0.0045	EPA 8260C	10-10-16	10-10-16	
(trans) 1,2-Dichloroethene	ND	0.00090	EPA 8260C	10-10-16	10-10-16	
Methyl t-Butyl Ether	ND	0.00090	EPA 8260C	10-10-16	10-10-16	
1,1-Dichloroethane	ND	0.00090	EPA 8260C	10-10-16	10-10-16	
Vinyl Acetate	ND	0.0045	EPA 8260C	10-10-16	10-10-16	
2,2-Dichloropropane	ND	0.00090	EPA 8260C	10-10-16	10-10-16	
(cis) 1,2-Dichloroethene	ND	0.00090	EPA 8260C	10-10-16	10-10-16	
2-Butanone	ND	0.0045	EPA 8260C	10-10-16	10-10-16	
Bromochloromethane	ND	0.00090	EPA 8260C	10-10-16	10-10-16	
Chloroform	ND	0.00090	EPA 8260C	10-10-16	10-10-16	
1,1,1-Trichloroethane	ND	0.00090	EPA 8260C	10-10-16	10-10-16	
Carbon Tetrachloride	ND	0.00090	EPA 8260C	10-10-16	10-10-16	
1,1-Dichloropropene	ND	0.00090	EPA 8260C	10-10-16	10-10-16	
Benzene	0.0055	0.00090	EPA 8260C	10-10-16	10-10-16	
1,2-Dichloroethane	ND	0.00090	EPA 8260C	10-10-16	10-10-16	
Trichloroethene	ND	0.00090	EPA 8260C	10-10-16	10-10-16	
1,2-Dichloropropane	ND	0.00090	EPA 8260C	10-10-16	10-10-16	
Dibromomethane	ND	0.00090	EPA 8260C	10-10-16	10-10-16	
Bromodichloromethane	ND	0.00090	EPA 8260C	10-10-16	10-10-16	
2-Chloroethyl Vinyl Ether	ND	0.0045	EPA 8260C	10-10-16	10-10-16	
(cis) 1,3-Dichloropropene	ND	0.00090	EPA 8260C	10-10-16	10-10-16	
Methyl Isobutyl Ketone	ND	0.0045	EPA 8260C	10-10-16	10-10-16	
Toluene	ND	0.0045	EPA 8260C	10-10-16	10-10-16	
(trans) 1,3-Dichloropropene	ND	0.00090	EPA 8260C	10-10-16	10-10-16	

Date of Report: October 17, 2016
Samples Submitted: October 8, 2016
Laboratory Reference: 1610-080
Project: 31008

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-3-16-3**					
Laboratory ID:	10-080-01					
1,1,2-Trichloroethane	ND	0.00090	EPA 8260C	10-10-16	10-10-16	
Tetrachloroethene	ND	0.0018	EPA 8260C	10-10-16	10-10-16	
1,3-Dichloropropane	ND	0.00090	EPA 8260C	10-10-16	10-10-16	
2-Hexanone	ND	0.0045	EPA 8260C	10-10-16	10-10-16	
Dibromochloromethane	ND	0.00090	EPA 8260C	10-10-16	10-10-16	
1,2-Dibromoethane	ND	0.00090	EPA 8260C	10-10-16	10-10-16	
Chlorobenzene	ND	0.00090	EPA 8260C	10-10-16	10-10-16	
1,1,1,2-Tetrachloroethane	ND	0.00090	EPA 8260C	10-10-16	10-10-16	
Ethylbenzene	ND	0.00090	EPA 8260C	10-10-16	10-10-16	
m,p-Xylene	ND	0.0018	EPA 8260C	10-10-16	10-10-16	
o-Xylene	ND	0.00090	EPA 8260C	10-10-16	10-10-16	
Styrene	ND	0.00090	EPA 8260C	10-10-16	10-10-16	
Bromoform	ND	0.00090	EPA 8260C	10-10-16	10-10-16	
Isopropylbenzene	ND	0.00090	EPA 8260C	10-10-16	10-10-16	
Bromobenzene	ND	0.00090	EPA 8260C	10-10-16	10-10-16	
1,1,2,2-Tetrachloroethane	ND	0.00090	EPA 8260C	10-10-16	10-10-16	
1,2,3-Trichloropropane	ND	0.00090	EPA 8260C	10-10-16	10-10-16	
n-Propylbenzene	ND	0.00090	EPA 8260C	10-10-16	10-10-16	
2-Chlorotoluene	ND	0.00090	EPA 8260C	10-10-16	10-10-16	
4-Chlorotoluene	ND	0.00090	EPA 8260C	10-10-16	10-10-16	
1,3,5-Trimethylbenzene	ND	0.00090	EPA 8260C	10-10-16	10-10-16	
tert-Butylbenzene	ND	0.00090	EPA 8260C	10-10-16	10-10-16	
1,2,4-Trimethylbenzene	ND	0.00090	EPA 8260C	10-10-16	10-10-16	
sec-Butylbenzene	ND	0.00090	EPA 8260C	10-10-16	10-10-16	
1,3-Dichlorobenzene	ND	0.00090	EPA 8260C	10-10-16	10-10-16	
p-Isopropyltoluene	ND	0.00090	EPA 8260C	10-10-16	10-10-16	
1,4-Dichlorobenzene	ND	0.00090	EPA 8260C	10-10-16	10-10-16	
1,2-Dichlorobenzene	ND	0.00090	EPA 8260C	10-10-16	10-10-16	
n-Butylbenzene	ND	0.00090	EPA 8260C	10-10-16	10-10-16	
1,2-Dibromo-3-chloropropane	ND	0.0045	EPA 8260C	10-10-16	10-10-16	
1,2,4-Trichlorobenzene	ND	0.00090	EPA 8260C	10-10-16	10-10-16	
Hexachlorobutadiene	ND	0.0045	EPA 8260C	10-10-16	10-10-16	
Naphthalene	ND	0.00090	EPA 8260C	10-10-16	10-10-16	
1,2,3-Trichlorobenzene	ND	0.00090	EPA 8260C	10-10-16	10-10-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*99*	*76-131*				
Toluene-d8	*100*	*80-126*				
4-Bromofluorobenzene	*99*	*60-146*				

Date of Report: October 17, 2016
Samples Submitted: October 8, 2016
Laboratory Reference: 1610-080
Project: 31008

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Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-3-16-6**					
Laboratory ID:	10-080-02					
Dichlorodifluoromethane	ND	0.0011	EPA 8260C	10-11-16	10-11-16	
Chloromethane	ND	0.0057	EPA 8260C	10-11-16	10-11-16	
Vinyl Chloride	ND	0.0011	EPA 8260C	10-11-16	10-11-16	
Bromomethane	ND	0.0011	EPA 8260C	10-11-16	10-11-16	
Chloroethane	ND	0.0057	EPA 8260C	10-11-16	10-11-16	
Trichlorofluoromethane	ND	0.0011	EPA 8260C	10-11-16	10-11-16	
1,1-Dichloroethene	ND	0.0011	EPA 8260C	10-11-16	10-11-16	
Acetone	0.023	0.0057	EPA 8260C	10-11-16	10-11-16	H
Iodomethane	ND	0.0057	EPA 8260C	10-11-16	10-11-16	
Carbon Disulfide	ND	0.0011	EPA 8260C	10-11-16	10-11-16	
Methylene Chloride	0.053	0.0057	EPA 8260C	10-11-16	10-11-16	H
(trans) 1,2-Dichloroethene	ND	0.0011	EPA 8260C	10-11-16	10-11-16	
Methyl t-Butyl Ether	ND	0.0011	EPA 8260C	10-11-16	10-11-16	
1,1-Dichloroethane	ND	0.0011	EPA 8260C	10-11-16	10-11-16	
Vinyl Acetate	ND	0.0057	EPA 8260C	10-11-16	10-11-16	
2,2-Dichloropropane	ND	0.0011	EPA 8260C	10-11-16	10-11-16	
(cis) 1,2-Dichloroethene	ND	0.0011	EPA 8260C	10-11-16	10-11-16	
2-Butanone	ND	0.0057	EPA 8260C	10-11-16	10-11-16	
Bromochloromethane	ND	0.0011	EPA 8260C	10-11-16	10-11-16	
Chloroform	ND	0.0011	EPA 8260C	10-11-16	10-11-16	
1,1,1-Trichloroethane	ND	0.0011	EPA 8260C	10-11-16	10-11-16	
Carbon Tetrachloride	ND	0.0011	EPA 8260C	10-11-16	10-11-16	
1,1-Dichloropropene	ND	0.0011	EPA 8260C	10-11-16	10-11-16	
Benzene	ND	0.0011	EPA 8260C	10-11-16	10-11-16	
1,2-Dichloroethane	ND	0.0011	EPA 8260C	10-11-16	10-11-16	
Trichloroethene	ND	0.0011	EPA 8260C	10-11-16	10-11-16	
1,2-Dichloropropane	ND	0.0011	EPA 8260C	10-11-16	10-11-16	
Dibromomethane	ND	0.0011	EPA 8260C	10-11-16	10-11-16	
Bromodichloromethane	ND	0.0011	EPA 8260C	10-11-16	10-11-16	
2-Chloroethyl Vinyl Ether	ND	0.0057	EPA 8260C	10-11-16	10-11-16	
(cis) 1,3-Dichloropropene	ND	0.0011	EPA 8260C	10-11-16	10-11-16	
Methyl Isobutyl Ketone	ND	0.0057	EPA 8260C	10-11-16	10-11-16	
Toluene	ND	0.0057	EPA 8260C	10-11-16	10-11-16	
(trans) 1,3-Dichloropropene	ND	0.0011	EPA 8260C	10-11-16	10-11-16	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-3-16-6**					
Laboratory ID:	10-080-02					
1,1,2-Trichloroethane	ND	0.0011	EPA 8260C	10-11-16	10-11-16	
Tetrachloroethene	ND	0.0023	EPA 8260C	10-11-16	10-11-16	
1,3-Dichloropropane	ND	0.0011	EPA 8260C	10-11-16	10-11-16	
2-Hexanone	ND	0.0057	EPA 8260C	10-11-16	10-11-16	
Dibromochloromethane	ND	0.0011	EPA 8260C	10-11-16	10-11-16	
1,2-Dibromoethane	ND	0.0011	EPA 8260C	10-11-16	10-11-16	
Chlorobenzene	ND	0.0011	EPA 8260C	10-11-16	10-11-16	
1,1,1,2-Tetrachloroethane	ND	0.0011	EPA 8260C	10-11-16	10-11-16	
Ethylbenzene	ND	0.0011	EPA 8260C	10-11-16	10-11-16	
m,p-Xylene	ND	0.0023	EPA 8260C	10-11-16	10-11-16	
o-Xylene	ND	0.0011	EPA 8260C	10-11-16	10-11-16	
Styrene	ND	0.0011	EPA 8260C	10-11-16	10-11-16	
Bromoform	ND	0.0011	EPA 8260C	10-11-16	10-11-16	
Isopropylbenzene	ND	0.0011	EPA 8260C	10-11-16	10-11-16	
Bromobenzene	ND	0.0011	EPA 8260C	10-11-16	10-11-16	
1,1,2,2-Tetrachloroethane	ND	0.0011	EPA 8260C	10-11-16	10-11-16	
1,2,3-Trichloropropane	ND	0.0011	EPA 8260C	10-11-16	10-11-16	
n-Propylbenzene	ND	0.0011	EPA 8260C	10-11-16	10-11-16	
2-Chlorotoluene	ND	0.0011	EPA 8260C	10-11-16	10-11-16	
4-Chlorotoluene	ND	0.0011	EPA 8260C	10-11-16	10-11-16	
1,3,5-Trimethylbenzene	ND	0.0011	EPA 8260C	10-11-16	10-11-16	
tert-Butylbenzene	ND	0.0011	EPA 8260C	10-11-16	10-11-16	
1,2,4-Trimethylbenzene	ND	0.0011	EPA 8260C	10-11-16	10-11-16	
sec-Butylbenzene	ND	0.0011	EPA 8260C	10-11-16	10-11-16	
1,3-Dichlorobenzene	ND	0.0011	EPA 8260C	10-11-16	10-11-16	
p-Isopropyltoluene	ND	0.0011	EPA 8260C	10-11-16	10-11-16	
1,4-Dichlorobenzene	ND	0.0011	EPA 8260C	10-11-16	10-11-16	
1,2-Dichlorobenzene	ND	0.0011	EPA 8260C	10-11-16	10-11-16	
n-Butylbenzene	ND	0.0011	EPA 8260C	10-11-16	10-11-16	
1,2-Dibromo-3-chloropropane	ND	0.0057	EPA 8260C	10-11-16	10-11-16	
1,2,4-Trichlorobenzene	ND	0.0011	EPA 8260C	10-11-16	10-11-16	
Hexachlorobutadiene	ND	0.0057	EPA 8260C	10-11-16	10-11-16	
Naphthalene	ND	0.0011	EPA 8260C	10-11-16	10-11-16	
1,2,3-Trichlorobenzene	ND	0.0011	EPA 8260C	10-11-16	10-11-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*100*	*76-131*				
Toluene-d8	*96*	*80-126*				
4-Bromofluorobenzene	*100*	*60-146*				

Date of Report: October 17, 2016
Samples Submitted: October 8, 2016
Laboratory Reference: 1610-080
Project: 31008

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Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-3-16-8.5**					
Laboratory ID:	10-080-03					
Dichlorodifluoromethane	ND	0.0012	EPA 8260C	10-11-16	10-11-16	
Chloromethane	ND	0.0058	EPA 8260C	10-11-16	10-11-16	
Vinyl Chloride	ND	0.0012	EPA 8260C	10-11-16	10-11-16	
Bromomethane	ND	0.0012	EPA 8260C	10-11-16	10-11-16	
Chloroethane	ND	0.0058	EPA 8260C	10-11-16	10-11-16	
Trichlorofluoromethane	ND	0.0012	EPA 8260C	10-11-16	10-11-16	
1,1-Dichloroethene	ND	0.0012	EPA 8260C	10-11-16	10-11-16	
Acetone	ND	0.0058	EPA 8260C	10-11-16	10-11-16	
Iodomethane	ND	0.0058	EPA 8260C	10-11-16	10-11-16	
Carbon Disulfide	ND	0.0012	EPA 8260C	10-11-16	10-11-16	
Methylene Chloride	0.022	0.0058	EPA 8260C	10-11-16	10-11-16	H
(trans) 1,2-Dichloroethene	ND	0.0012	EPA 8260C	10-11-16	10-11-16	
Methyl t-Butyl Ether	ND	0.0012	EPA 8260C	10-11-16	10-11-16	
1,1-Dichloroethane	ND	0.0012	EPA 8260C	10-11-16	10-11-16	
Vinyl Acetate	ND	0.0058	EPA 8260C	10-11-16	10-11-16	
2,2-Dichloropropane	ND	0.0012	EPA 8260C	10-11-16	10-11-16	
(cis) 1,2-Dichloroethene	ND	0.0012	EPA 8260C	10-11-16	10-11-16	
2-Butanone	ND	0.0058	EPA 8260C	10-11-16	10-11-16	
Bromochloromethane	ND	0.0012	EPA 8260C	10-11-16	10-11-16	
Chloroform	ND	0.0012	EPA 8260C	10-11-16	10-11-16	
1,1,1-Trichloroethane	ND	0.0012	EPA 8260C	10-11-16	10-11-16	
Carbon Tetrachloride	ND	0.0012	EPA 8260C	10-11-16	10-11-16	
1,1-Dichloropropene	ND	0.0012	EPA 8260C	10-11-16	10-11-16	
Benzene	0.038	0.0012	EPA 8260C	10-11-16	10-11-16	
1,2-Dichloroethane	ND	0.0012	EPA 8260C	10-11-16	10-11-16	
Trichloroethene	ND	0.0012	EPA 8260C	10-11-16	10-11-16	
1,2-Dichloropropane	ND	0.0012	EPA 8260C	10-11-16	10-11-16	
Dibromomethane	ND	0.0012	EPA 8260C	10-11-16	10-11-16	
Bromodichloromethane	ND	0.0012	EPA 8260C	10-11-16	10-11-16	
2-Chloroethyl Vinyl Ether	ND	0.0058	EPA 8260C	10-11-16	10-11-16	
(cis) 1,3-Dichloropropene	ND	0.0012	EPA 8260C	10-11-16	10-11-16	
Methyl Isobutyl Ketone	ND	0.0058	EPA 8260C	10-11-16	10-11-16	
Toluene	ND	0.0058	EPA 8260C	10-11-16	10-11-16	
(trans) 1,3-Dichloropropene	ND	0.0012	EPA 8260C	10-11-16	10-11-16	

Date of Report: October 17, 2016
Samples Submitted: October 8, 2016
Laboratory Reference: 1610-080
Project: 31008

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-3-16-8.5**					
Laboratory ID:	10-080-03					
1,1,2-Trichloroethane	ND	0.0012	EPA 8260C	10-11-16	10-11-16	
Tetrachloroethene	ND	0.0023	EPA 8260C	10-11-16	10-11-16	
1,3-Dichloropropane	ND	0.0012	EPA 8260C	10-11-16	10-11-16	
2-Hexanone	ND	0.0058	EPA 8260C	10-11-16	10-11-16	
Dibromochloromethane	ND	0.0012	EPA 8260C	10-11-16	10-11-16	
1,2-Dibromoethane	ND	0.0012	EPA 8260C	10-11-16	10-11-16	
Chlorobenzene	ND	0.0012	EPA 8260C	10-11-16	10-11-16	
1,1,1,2-Tetrachloroethane	ND	0.0012	EPA 8260C	10-11-16	10-11-16	
Ethylbenzene	0.0050	0.0012	EPA 8260C	10-11-16	10-11-16	
m,p-Xylene	0.014	0.0023	EPA 8260C	10-11-16	10-11-16	
o-Xylene	0.0026	0.0012	EPA 8260C	10-11-16	10-11-16	
Styrene	ND	0.0012	EPA 8260C	10-11-16	10-11-16	
Bromoform	ND	0.0012	EPA 8260C	10-11-16	10-11-16	
Isopropylbenzene	0.0018	0.0012	EPA 8260C	10-11-16	10-11-16	
Bromobenzene	ND	0.0012	EPA 8260C	10-11-16	10-11-16	
1,1,2,2-Tetrachloroethane	ND	0.0012	EPA 8260C	10-11-16	10-11-16	
1,2,3-Trichloropropane	ND	0.0012	EPA 8260C	10-11-16	10-11-16	
n-Propylbenzene	0.0032	0.0012	EPA 8260C	10-11-16	10-11-16	
2-Chlorotoluene	ND	0.0012	EPA 8260C	10-11-16	10-11-16	
4-Chlorotoluene	ND	0.0012	EPA 8260C	10-11-16	10-11-16	
1,3,5-Trimethylbenzene	0.0015	0.0012	EPA 8260C	10-11-16	10-11-16	
tert-Butylbenzene	ND	0.0012	EPA 8260C	10-11-16	10-11-16	
1,2,4-Trimethylbenzene	0.0018	0.0012	EPA 8260C	10-11-16	10-11-16	
sec-Butylbenzene	0.0013	0.0012	EPA 8260C	10-11-16	10-11-16	
1,3-Dichlorobenzene	ND	0.0012	EPA 8260C	10-11-16	10-11-16	
p-Isopropyltoluene	0.0020	0.0012	EPA 8260C	10-11-16	10-11-16	
1,4-Dichlorobenzene	ND	0.0012	EPA 8260C	10-11-16	10-11-16	
1,2-Dichlorobenzene	ND	0.0012	EPA 8260C	10-11-16	10-11-16	
n-Butylbenzene	ND	0.0012	EPA 8260C	10-11-16	10-11-16	
1,2-Dibromo-3-chloropropane	ND	0.0058	EPA 8260C	10-11-16	10-11-16	
1,2,4-Trichlorobenzene	ND	0.0012	EPA 8260C	10-11-16	10-11-16	
Hexachlorobutadiene	ND	0.0058	EPA 8260C	10-11-16	10-11-16	
Naphthalene	ND	0.0012	EPA 8260C	10-11-16	10-11-16	
1,2,3-Trichlorobenzene	ND	0.0012	EPA 8260C	10-11-16	10-11-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*87*	*76-131*				
Toluene-d8	*89*	*80-126*				
4-Bromofluorobenzene	*83*	*60-146*				

Date of Report: October 17, 2016
Samples Submitted: October 8, 2016
Laboratory Reference: 1610-080
Project: 31008

VOLATILES by EPA 8260C
METHOD BLANK QUALITY CONTROL
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Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB1010S1					
Dichlorodifluoromethane	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
Chloromethane	ND	0.0050	EPA 8260C	10-10-16	10-10-16	
Vinyl Chloride	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
Bromomethane	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
Chloroethane	ND	0.0050	EPA 8260C	10-10-16	10-10-16	
Trichlorofluoromethane	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
1,1-Dichloroethene	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
Acetone	ND	0.0050	EPA 8260C	10-10-16	10-10-16	
Iodomethane	ND	0.0050	EPA 8260C	10-10-16	10-10-16	
Carbon Disulfide	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
Methylene Chloride	ND	0.0050	EPA 8260C	10-10-16	10-10-16	
(trans) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
Methyl t-Butyl Ether	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
1,1-Dichloroethane	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
Vinyl Acetate	ND	0.0050	EPA 8260C	10-10-16	10-10-16	
2,2-Dichloropropane	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
(cis) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
2-Butanone	ND	0.0050	EPA 8260C	10-10-16	10-10-16	
Bromochloromethane	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
Chloroform	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
1,1,1-Trichloroethane	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
Carbon Tetrachloride	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
1,1-Dichloropropene	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
Benzene	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
1,2-Dichloroethane	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
Trichloroethene	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
1,2-Dichloropropane	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
Dibromomethane	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
Bromodichloromethane	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
2-Chloroethyl Vinyl Ether	ND	0.0050	EPA 8260C	10-10-16	10-10-16	
(cis) 1,3-Dichloropropene	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
Methyl Isobutyl Ketone	ND	0.0050	EPA 8260C	10-10-16	10-10-16	
Toluene	ND	0.0050	EPA 8260C	10-10-16	10-10-16	
(trans) 1,3-Dichloropropene	ND	0.0010	EPA 8260C	10-10-16	10-10-16	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB1010S1					
1,1,2-Trichloroethane	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
Tetrachloroethene	ND	0.0020	EPA 8260C	10-10-16	10-10-16	
1,3-Dichloropropane	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
2-Hexanone	ND	0.0050	EPA 8260C	10-10-16	10-10-16	
Dibromochloromethane	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
1,2-Dibromoethane	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
Chlorobenzene	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
1,1,1,2-Tetrachloroethane	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
Ethylbenzene	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
m,p-Xylene	ND	0.0020	EPA 8260C	10-10-16	10-10-16	
o-Xylene	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
Styrene	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
Bromoform	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
Isopropylbenzene	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
Bromobenzene	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
1,1,2,2-Tetrachloroethane	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
1,2,3-Trichloropropane	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
n-Propylbenzene	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
2-Chlorotoluene	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
4-Chlorotoluene	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
1,3,5-Trimethylbenzene	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
tert-Butylbenzene	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
1,2,4-Trimethylbenzene	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
sec-Butylbenzene	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
1,3-Dichlorobenzene	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
p-Isopropyltoluene	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
1,4-Dichlorobenzene	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
1,2-Dichlorobenzene	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
n-Butylbenzene	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
1,2-Dibromo-3-chloropropane	ND	0.0050	EPA 8260C	10-10-16	10-10-16	
1,2,4-Trichlorobenzene	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
Hexachlorobutadiene	ND	0.0050	EPA 8260C	10-10-16	10-10-16	
Naphthalene	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
1,2,3-Trichlorobenzene	ND	0.0010	EPA 8260C	10-10-16	10-10-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*98*	*76-131*				
Toluene-d8	*103*	*80-126*				
4-Bromofluorobenzene	*102*	*60-146*				

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Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB1011S1					
Dichlorodifluoromethane	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
Chloromethane	ND	0.0050	EPA 8260C	10-11-16	10-11-16	
Vinyl Chloride	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
Bromomethane	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
Chloroethane	ND	0.0050	EPA 8260C	10-11-16	10-11-16	
Trichlorofluoromethane	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
1,1-Dichloroethene	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
Acetone	ND	0.0050	EPA 8260C	10-11-16	10-11-16	
Iodomethane	ND	0.0050	EPA 8260C	10-11-16	10-11-16	
Carbon Disulfide	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
Methylene Chloride	ND	0.0050	EPA 8260C	10-11-16	10-11-16	
(trans) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
Methyl t-Butyl Ether	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
1,1-Dichloroethane	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
Vinyl Acetate	ND	0.0050	EPA 8260C	10-11-16	10-11-16	
2,2-Dichloropropane	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
(cis) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
2-Butanone	ND	0.0050	EPA 8260C	10-11-16	10-11-16	
Bromochloromethane	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
Chloroform	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
1,1,1-Trichloroethane	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
Carbon Tetrachloride	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
1,1-Dichloropropene	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
Benzene	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
1,2-Dichloroethane	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
Trichloroethene	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
1,2-Dichloropropane	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
Dibromomethane	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
Bromodichloromethane	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
2-Chloroethyl Vinyl Ether	ND	0.0050	EPA 8260C	10-11-16	10-11-16	
(cis) 1,3-Dichloropropene	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
Methyl Isobutyl Ketone	ND	0.0050	EPA 8260C	10-11-16	10-11-16	
Toluene	ND	0.0050	EPA 8260C	10-11-16	10-11-16	
(trans) 1,3-Dichloropropene	ND	0.0010	EPA 8260C	10-11-16	10-11-16	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB1011S1					
1,1,2-Trichloroethane	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
Tetrachloroethene	ND	0.0020	EPA 8260C	10-11-16	10-11-16	
1,3-Dichloropropane	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
2-Hexanone	ND	0.0050	EPA 8260C	10-11-16	10-11-16	
Dibromochloromethane	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
1,2-Dibromoethane	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
Chlorobenzene	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
1,1,1,2-Tetrachloroethane	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
Ethylbenzene	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
m,p-Xylene	ND	0.0020	EPA 8260C	10-11-16	10-11-16	
o-Xylene	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
Styrene	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
Bromoform	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
Isopropylbenzene	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
Bromobenzene	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
1,1,2,2-Tetrachloroethane	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
1,2,3-Trichloropropane	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
n-Propylbenzene	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
2-Chlorotoluene	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
4-Chlorotoluene	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
1,3,5-Trimethylbenzene	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
tert-Butylbenzene	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
1,2,4-Trimethylbenzene	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
sec-Butylbenzene	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
1,3-Dichlorobenzene	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
p-Isopropyltoluene	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
1,4-Dichlorobenzene	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
1,2-Dichlorobenzene	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
n-Butylbenzene	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
1,2-Dibromo-3-chloropropane	ND	0.0050	EPA 8260C	10-11-16	10-11-16	
1,2,4-Trichlorobenzene	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
Hexachlorobutadiene	ND	0.0050	EPA 8260C	10-11-16	10-11-16	
Naphthalene	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
1,2,3-Trichlorobenzene	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*104*	*76-131*				
Toluene-d8	*107*	*80-126*				
4-Bromofluorobenzene	*102*	*60-146*				

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Project: 31008

VOLATILES by EPA 8260C
SB/SBD QUALITY CONTROL

Matrix: Soil
Units: mg/kg

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB1010S1									
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	**0.0457**	**0.0490**	0.0500	0.0500	91	98	68-126	7	15	
Benzene	**0.0461**	**0.0480**	0.0500	0.0500	92	96	70-121	4	15	
Trichloroethene	**0.0455**	**0.0476**	0.0500	0.0500	91	95	75-120	5	15	
Toluene	**0.0468**	**0.0495**	0.0500	0.0500	94	99	80-120	6	15	
Chlorobenzene	**0.0475**	**0.0490**	0.0500	0.0500	95	98	76-120	3	15	
Surrogate:										
Dibromofluoromethane					*94*	*94*	*76-131*			
Toluene-d8					*94*	*100*	*80-126*			
4-Bromofluorobenzene					*96*	*96*	*60-146*			

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Project: 31008

VOLATILES by EPA 8260C
SB/SBD QUALITY CONTROL

Matrix: Soil
Units: mg/kg

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB1011S1									
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	**0.0472**	**0.0496**	0.0500	0.0500	94	99	68-126	5	15	
Benzene	**0.0473**	**0.0487**	0.0500	0.0500	95	97	70-121	3	15	
Trichloroethene	**0.0440**	**0.0462**	0.0500	0.0500	88	92	75-120	5	15	
Toluene	**0.0459**	**0.0487**	0.0500	0.0500	92	97	80-120	6	15	
Chlorobenzene	**0.0474**	**0.0478**	0.0500	0.0500	95	96	76-120	1	15	
Surrogate:										
Dibromofluoromethane					*98*	*99*	*76-131*			
Toluene-d8					*98*	*100*	*80-126*			
4-Bromofluorobenzene					*100*	*101*	*60-146*			

Date of Report: October 17, 2016
Samples Submitted: October 8, 2016
Laboratory Reference: 1610-080
Project: 31008

SEMIVOLATILES EPA 8270D/SIM
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Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-3-16-3**					
Laboratory ID:	10-080-01					
n-Nitrosodimethylamine	**ND**	0.037	EPA 8270D	10-10-16	10-12-16	
Pyridine	**ND**	0.37	EPA 8270D	10-10-16	10-12-16	
Phenol	**ND**	0.037	EPA 8270D	10-10-16	10-12-16	
Aniline	**ND**	0.18	EPA 8270D	10-10-16	10-12-16	
bis(2-Chloroethyl)ether	**ND**	0.037	EPA 8270D	10-10-16	10-12-16	
2-Chlorophenol	**ND**	0.037	EPA 8270D	10-10-16	10-12-16	
1,3-Dichlorobenzene	**ND**	0.037	EPA 8270D	10-10-16	10-12-16	
1,4-Dichlorobenzene	**ND**	0.037	EPA 8270D	10-10-16	10-12-16	
Benzyl alcohol	**ND**	0.18	EPA 8270D	10-10-16	10-12-16	
1,2-Dichlorobenzene	**ND**	0.037	EPA 8270D	10-10-16	10-12-16	
2-Methylphenol (o-Cresol)	**ND**	0.037	EPA 8270D	10-10-16	10-12-16	
bis(2-Chloroisopropyl)ether	**ND**	0.037	EPA 8270D	10-10-16	10-12-16	
(3+4)-Methylphenol (m,p-Cresol)	**ND**	0.037	EPA 8270D	10-10-16	10-12-16	
n-Nitroso-di-n-propylamine	**ND**	0.037	EPA 8270D	10-10-16	10-12-16	
Hexachloroethane	**ND**	0.037	EPA 8270D	10-10-16	10-12-16	
Nitrobenzene	**ND**	0.037	EPA 8270D	10-10-16	10-12-16	
Isophorone	**ND**	0.037	EPA 8270D	10-10-16	10-12-16	
2-Nitrophenol	**ND**	0.037	EPA 8270D	10-10-16	10-12-16	
2,4-Dimethylphenol	**ND**	0.037	EPA 8270D	10-10-16	10-12-16	
bis(2-Chloroethoxy)methane	**ND**	0.037	EPA 8270D	10-10-16	10-12-16	
2,4-Dichlorophenol	**ND**	0.037	EPA 8270D	10-10-16	10-12-16	
1,2,4-Trichlorobenzene	**ND**	0.037	EPA 8270D	10-10-16	10-12-16	
Naphthalene	**ND**	0.0073	EPA 8270D/SIM	10-10-16	10-10-16	
4-Chloroaniline	**ND**	0.18	EPA 8270D	10-10-16	10-12-16	
Hexachlorobutadiene	**ND**	0.037	EPA 8270D	10-10-16	10-12-16	
4-Chloro-3-methylphenol	**ND**	0.037	EPA 8270D	10-10-16	10-12-16	
2-Methylnaphthalene	**ND**	0.0073	EPA 8270D/SIM	10-10-16	10-10-16	
1-Methylnaphthalene	**ND**	0.0073	EPA 8270D/SIM	10-10-16	10-10-16	
Hexachlorocyclopentadiene	**ND**	0.037	EPA 8270D	10-10-16	10-12-16	
2,4,6-Trichlorophenol	**ND**	0.037	EPA 8270D	10-10-16	10-12-16	
2,3-Dichloroaniline	**ND**	0.037	EPA 8270D	10-10-16	10-12-16	
2,4,5-Trichlorophenol	**ND**	0.037	EPA 8270D	10-10-16	10-12-16	
2-Chloronaphthalene	**ND**	0.037	EPA 8270D	10-10-16	10-12-16	
2-Nitroaniline	**ND**	0.037	EPA 8270D	10-10-16	10-12-16	
1,4-Dinitrobenzene	**ND**	0.037	EPA 8270D	10-10-16	10-12-16	
Dimethylphthalate	**ND**	0.037	EPA 8270D	10-10-16	10-12-16	
1,3-Dinitrobenzene	**ND**	0.037	EPA 8270D	10-10-16	10-12-16	
2,6-Dinitrotoluene	**ND**	0.037	EPA 8270D	10-10-16	10-12-16	
1,2-Dinitrobenzene	**ND**	0.037	EPA 8270D	10-10-16	10-12-16	
Acenaphthylene	**ND**	0.0073	EPA 8270D/SIM	10-10-16	10-10-16	
3-Nitroaniline	**ND**	0.037	EPA 8270D	10-10-16	10-12-16	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-3-16-3**					
Laboratory ID:	10-080-01					
2,4-Dinitrophenol	**ND**	0.18	EPA 8270D	10-10-16	10-12-16	
Acenaphthene	**ND**	0.0073	EPA 8270D/SIM	10-10-16	10-10-16	
4-Nitrophenol	**ND**	0.037	EPA 8270D	10-10-16	10-12-16	
2,4-Dinitrotoluene	**ND**	0.037	EPA 8270D	10-10-16	10-12-16	
Dibenzofuran	**ND**	0.037	EPA 8270D	10-10-16	10-12-16	
2,3,5,6-Tetrachlorophenol	**ND**	0.037	EPA 8270D	10-10-16	10-12-16	
2,3,4,6-Tetrachlorophenol	**ND**	0.037	EPA 8270D	10-10-16	10-12-16	
Diethylphthalate	**ND**	0.18	EPA 8270D	10-10-16	10-12-16	
4-Chlorophenyl-phenylether	**ND**	0.037	EPA 8270D	10-10-16	10-12-16	
4-Nitroaniline	**ND**	0.037	EPA 8270D	10-10-16	10-12-16	
Fluorene	**ND**	0.0073	EPA 8270D/SIM	10-10-16	10-10-16	
4,6-Dinitro-2-methylphenol	**ND**	0.18	EPA 8270D	10-10-16	10-12-16	
n-Nitrosodiphenylamine	**ND**	0.037	EPA 8270D	10-10-16	10-12-16	
1,2-Diphenylhydrazine	**ND**	0.037	EPA 8270D	10-10-16	10-12-16	
4-Bromophenyl-phenylether	**ND**	0.037	EPA 8270D	10-10-16	10-12-16	
Hexachlorobenzene	**ND**	0.037	EPA 8270D	10-10-16	10-12-16	
Pentachlorophenol	**ND**	0.18	EPA 8270D	10-10-16	10-12-16	
Phenanthrene	**ND**	0.0073	EPA 8270D/SIM	10-10-16	10-10-16	
Anthracene	**ND**	0.0073	EPA 8270D/SIM	10-10-16	10-10-16	
Carbazole	**ND**	0.037	EPA 8270D	10-10-16	10-12-16	
Di-n-butylphthalate	**ND**	0.18	EPA 8270D	10-10-16	10-12-16	
Fluoranthene	**ND**	0.0073	EPA 8270D/SIM	10-10-16	10-10-16	
Benzidine	**ND**	0.37	EPA 8270D	10-10-16	10-12-16	
Pyrene	**ND**	0.0073	EPA 8270D/SIM	10-10-16	10-10-16	
Butylbenzylphthalate	**ND**	0.037	EPA 8270D	10-10-16	10-12-16	
bis-2-Ethylhexyladipate	**ND**	0.037	EPA 8270D	10-10-16	10-12-16	
3,3'-Dichlorobenzidine	**ND**	0.18	EPA 8270D	10-10-16	10-12-16	
Benzo[a]anthracene	**ND**	0.0073	EPA 8270D/SIM	10-10-16	10-10-16	
Chrysene	**ND**	0.0073	EPA 8270D/SIM	10-10-16	10-10-16	
bis(2-Ethylhexyl)phthalate	**ND**	0.037	EPA 8270D	10-10-16	10-12-16	
Di-n-octylphthalate	**ND**	0.037	EPA 8270D	10-10-16	10-12-16	
Benzo[b]fluoranthene	**ND**	0.0073	EPA 8270D/SIM	10-10-16	10-10-16	
Benzo(j,k)fluoranthene	**ND**	0.0073	EPA 8270D/SIM	10-10-16	10-10-16	
Benzo[a]pyrene	**ND**	0.0073	EPA 8270D/SIM	10-10-16	10-10-16	
Indeno[1,2,3-cd]pyrene	**ND**	0.0073	EPA 8270D/SIM	10-10-16	10-10-16	
Dibenz[a,h]anthracene	**ND**	0.0073	EPA 8270D/SIM	10-10-16	10-10-16	
Benzo[g,h,i]perylene	**ND**	0.0073	EPA 8270D/SIM	10-10-16	10-10-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*57*	*24 - 117*				
Phenol-d6	*61*	*30 - 120*				
Nitrobenzene-d5	*61*	*27 - 112*				
2-Fluorobiphenyl	*62*	*35 - 113*				
2,4,6-Tribromophenol	*67*	*21 - 120*				
Terphenyl-d14	*65*	*39 - 121*				

Date of Report: October 17, 2016
Samples Submitted: October 8, 2016
Laboratory Reference: 1610-080
Project: 31008

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Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-3-16-6**					
Laboratory ID:	10-080-02					
n-Nitrosodimethylamine	**ND**	0.038	EPA 8270D	10-10-16	10-11-16	
Pyridine	**ND**	0.38	EPA 8270D	10-10-16	10-11-16	
Phenol	**ND**	0.038	EPA 8270D	10-10-16	10-11-16	
Aniline	**ND**	0.19	EPA 8270D	10-10-16	10-11-16	
bis(2-Chloroethyl)ether	**ND**	0.038	EPA 8270D	10-10-16	10-11-16	
2-Chlorophenol	**ND**	0.038	EPA 8270D	10-10-16	10-11-16	
1,3-Dichlorobenzene	**ND**	0.038	EPA 8270D	10-10-16	10-11-16	
1,4-Dichlorobenzene	**ND**	0.038	EPA 8270D	10-10-16	10-11-16	
Benzyl alcohol	**ND**	0.19	EPA 8270D	10-10-16	10-11-16	
1,2-Dichlorobenzene	**ND**	0.038	EPA 8270D	10-10-16	10-11-16	
2-Methylphenol (o-Cresol)	**ND**	0.038	EPA 8270D	10-10-16	10-11-16	
bis(2-Chloroisopropyl)ether	**ND**	0.038	EPA 8270D	10-10-16	10-11-16	
(3+4)-Methylphenol (m,p-Cresol)	**ND**	0.038	EPA 8270D	10-10-16	10-11-16	
n-Nitroso-di-n-propylamine	**ND**	0.038	EPA 8270D	10-10-16	10-11-16	
Hexachloroethane	**ND**	0.038	EPA 8270D	10-10-16	10-11-16	
Nitrobenzene	**ND**	0.038	EPA 8270D	10-10-16	10-11-16	
Isophorone	**ND**	0.038	EPA 8270D	10-10-16	10-11-16	
2-Nitrophenol	**ND**	0.038	EPA 8270D	10-10-16	10-11-16	
2,4-Dimethylphenol	**ND**	0.038	EPA 8270D	10-10-16	10-11-16	
bis(2-Chloroethoxy)methane	**ND**	0.038	EPA 8270D	10-10-16	10-11-16	
2,4-Dichlorophenol	**ND**	0.038	EPA 8270D	10-10-16	10-11-16	
1,2,4-Trichlorobenzene	**ND**	0.038	EPA 8270D	10-10-16	10-11-16	
Naphthalene	**ND**	0.0076	EPA 8270D/SIM	10-10-16	10-10-16	
4-Chloroaniline	**ND**	0.19	EPA 8270D	10-10-16	10-11-16	
Hexachlorobutadiene	**ND**	0.038	EPA 8270D	10-10-16	10-11-16	
4-Chloro-3-methylphenol	**ND**	0.038	EPA 8270D	10-10-16	10-11-16	
2-Methylnaphthalene	**ND**	0.0076	EPA 8270D/SIM	10-10-16	10-10-16	
1-Methylnaphthalene	**ND**	0.0076	EPA 8270D/SIM	10-10-16	10-10-16	
Hexachlorocyclopentadiene	**ND**	0.038	EPA 8270D	10-10-16	10-11-16	
2,4,6-Trichlorophenol	**ND**	0.038	EPA 8270D	10-10-16	10-11-16	
2,3-Dichloroaniline	**ND**	0.038	EPA 8270D	10-10-16	10-11-16	
2,4,5-Trichlorophenol	**ND**	0.038	EPA 8270D	10-10-16	10-11-16	
2-Chloronaphthalene	**ND**	0.038	EPA 8270D	10-10-16	10-11-16	
2-Nitroaniline	**ND**	0.038	EPA 8270D	10-10-16	10-11-16	
1,4-Dinitrobenzene	**ND**	0.038	EPA 8270D	10-10-16	10-11-16	
Dimethylphthalate	**ND**	0.038	EPA 8270D	10-10-16	10-11-16	
1,3-Dinitrobenzene	**ND**	0.038	EPA 8270D	10-10-16	10-11-16	
2,6-Dinitrotoluene	**ND**	0.038	EPA 8270D	10-10-16	10-11-16	
1,2-Dinitrobenzene	**ND**	0.038	EPA 8270D	10-10-16	10-11-16	
Acenaphthylene	**ND**	0.0076	EPA 8270D/SIM	10-10-16	10-10-16	
3-Nitroaniline	**ND**	0.038	EPA 8270D	10-10-16	10-11-16	

Date of Report: October 17, 2016
Samples Submitted: October 8, 2016
Laboratory Reference: 1610-080
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-3-16-6**					
Laboratory ID:	10-080-02					
2,4-Dinitrophenol	**ND**	0.19	EPA 8270D	10-10-16	10-11-16	
Acenaphthene	**ND**	0.0076	EPA 8270D/SIM	10-10-16	10-10-16	
4-Nitrophenol	**ND**	0.038	EPA 8270D	10-10-16	10-11-16	
2,4-Dinitrotoluene	**ND**	0.038	EPA 8270D	10-10-16	10-11-16	
Dibenzofuran	**ND**	0.038	EPA 8270D	10-10-16	10-11-16	
2,3,5,6-Tetrachlorophenol	**ND**	0.038	EPA 8270D	10-10-16	10-11-16	
2,3,4,6-Tetrachlorophenol	**ND**	0.038	EPA 8270D	10-10-16	10-11-16	
Diethylphthalate	**ND**	0.19	EPA 8270D	10-10-16	10-11-16	
4-Chlorophenyl-phenylether	**ND**	0.038	EPA 8270D	10-10-16	10-11-16	
4-Nitroaniline	**ND**	0.038	EPA 8270D	10-10-16	10-11-16	
Fluorene	**ND**	0.0076	EPA 8270D/SIM	10-10-16	10-10-16	
4,6-Dinitro-2-methylphenol	**ND**	0.19	EPA 8270D	10-10-16	10-11-16	
n-Nitrosodiphenylamine	**ND**	0.038	EPA 8270D	10-10-16	10-11-16	
1,2-Diphenylhydrazine	**ND**	0.038	EPA 8270D	10-10-16	10-11-16	
4-Bromophenyl-phenylether	**ND**	0.038	EPA 8270D	10-10-16	10-11-16	
Hexachlorobenzene	**ND**	0.038	EPA 8270D	10-10-16	10-11-16	
Pentachlorophenol	**ND**	0.19	EPA 8270D	10-10-16	10-11-16	
Phenanthrene	**ND**	0.0076	EPA 8270D/SIM	10-10-16	10-10-16	
Anthracene	**ND**	0.0076	EPA 8270D/SIM	10-10-16	10-10-16	
Carbazole	**ND**	0.038	EPA 8270D	10-10-16	10-11-16	
Di-n-butylphthalate	**ND**	0.19	EPA 8270D	10-10-16	10-11-16	
Fluoranthene	**ND**	0.0076	EPA 8270D/SIM	10-10-16	10-10-16	
Benzidine	**ND**	0.38	EPA 8270D	10-10-16	10-11-16	
Pyrene	**ND**	0.0076	EPA 8270D/SIM	10-10-16	10-10-16	
Butylbenzylphthalate	**ND**	0.038	EPA 8270D	10-10-16	10-11-16	
bis-2-Ethylhexyladipate	**ND**	0.038	EPA 8270D	10-10-16	10-11-16	
3,3'-Dichlorobenzidine	**ND**	0.19	EPA 8270D	10-10-16	10-11-16	
Benzo[a]anthracene	**ND**	0.0076	EPA 8270D/SIM	10-10-16	10-10-16	
Chrysene	**ND**	0.0076	EPA 8270D/SIM	10-10-16	10-10-16	
bis(2-Ethylhexyl)phthalate	**ND**	0.038	EPA 8270D	10-10-16	10-11-16	
Di-n-octylphthalate	**ND**	0.038	EPA 8270D	10-10-16	10-11-16	
Benzo[b]fluoranthene	**ND**	0.0076	EPA 8270D/SIM	10-10-16	10-10-16	
Benzo(j,k)fluoranthene	**ND**	0.0076	EPA 8270D/SIM	10-10-16	10-10-16	
Benzo[a]pyrene	**ND**	0.0076	EPA 8270D/SIM	10-10-16	10-10-16	
Indeno[1,2,3-cd]pyrene	**ND**	0.0076	EPA 8270D/SIM	10-10-16	10-10-16	
Dibenz[a,h]anthracene	**ND**	0.0076	EPA 8270D/SIM	10-10-16	10-10-16	
Benzo[g,h,i]perylene	**ND**	0.0076	EPA 8270D/SIM	10-10-16	10-10-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*71*	*24 - 117*				
Phenol-d6	*75*	*30 - 120*				
Nitrobenzene-d5	*77*	*27 - 112*				
2-Fluorobiphenyl	*76*	*35 - 113*				
2,4,6-Tribromophenol	*79*	*21 - 120*				
Terphenyl-d14	*78*	*39 - 121*				

Date of Report: October 17, 2016
Samples Submitted: October 8, 2016
Laboratory Reference: 1610-080
Project: 31008

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Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-3-16-8.5**					
Laboratory ID:	10-080-03					
n-Nitrosodimethylamine	**ND**	0.039	EPA 8270D	10-10-16	10-12-16	
Pyridine	**ND**	0.39	EPA 8270D	10-10-16	10-12-16	
Phenol	**ND**	0.039	EPA 8270D	10-10-16	10-12-16	
Aniline	**ND**	0.20	EPA 8270D	10-10-16	10-12-16	
bis(2-Chloroethyl)ether	**ND**	0.039	EPA 8270D	10-10-16	10-12-16	
2-Chlorophenol	**ND**	0.039	EPA 8270D	10-10-16	10-12-16	
1,3-Dichlorobenzene	**ND**	0.039	EPA 8270D	10-10-16	10-12-16	
1,4-Dichlorobenzene	**ND**	0.039	EPA 8270D	10-10-16	10-12-16	
Benzyl alcohol	**ND**	0.20	EPA 8270D	10-10-16	10-12-16	
1,2-Dichlorobenzene	**ND**	0.039	EPA 8270D	10-10-16	10-12-16	
2-Methylphenol (o-Cresol)	**ND**	0.039	EPA 8270D	10-10-16	10-12-16	
bis(2-Chloroisopropyl)ether	**ND**	0.039	EPA 8270D	10-10-16	10-12-16	
(3+4)-Methylphenol (m,p-Cresol)	**ND**	0.039	EPA 8270D	10-10-16	10-12-16	
n-Nitroso-di-n-propylamine	**ND**	0.039	EPA 8270D	10-10-16	10-12-16	
Hexachloroethane	**ND**	0.039	EPA 8270D	10-10-16	10-12-16	
Nitrobenzene	**ND**	0.039	EPA 8270D	10-10-16	10-12-16	
Isophorone	**ND**	0.039	EPA 8270D	10-10-16	10-12-16	
2-Nitrophenol	**ND**	0.039	EPA 8270D	10-10-16	10-12-16	
2,4-Dimethylphenol	**ND**	0.039	EPA 8270D	10-10-16	10-12-16	
bis(2-Chloroethoxy)methane	**ND**	0.039	EPA 8270D	10-10-16	10-12-16	
2,4-Dichlorophenol	**ND**	0.039	EPA 8270D	10-10-16	10-12-16	
1,2,4-Trichlorobenzene	**ND**	0.039	EPA 8270D	10-10-16	10-12-16	
Naphthalene	**ND**	0.0078	EPA 8270D/SIM	10-10-16	10-10-16	
4-Chloroaniline	**ND**	0.20	EPA 8270D	10-10-16	10-12-16	
Hexachlorobutadiene	**ND**	0.039	EPA 8270D	10-10-16	10-12-16	
4-Chloro-3-methylphenol	**ND**	0.039	EPA 8270D	10-10-16	10-12-16	
2-Methylnaphthalene	**0.018**	0.0078	EPA 8270D/SIM	10-10-16	10-10-16	
1-Methylnaphthalene	**0.013**	0.0078	EPA 8270D/SIM	10-10-16	10-10-16	
Hexachlorocyclopentadiene	**ND**	0.039	EPA 8270D	10-10-16	10-12-16	
2,4,6-Trichlorophenol	**ND**	0.039	EPA 8270D	10-10-16	10-12-16	
2,3-Dichloroaniline	**ND**	0.039	EPA 8270D	10-10-16	10-12-16	
2,4,5-Trichlorophenol	**ND**	0.039	EPA 8270D	10-10-16	10-12-16	
2-Chloronaphthalene	**ND**	0.039	EPA 8270D	10-10-16	10-12-16	
2-Nitroaniline	**ND**	0.039	EPA 8270D	10-10-16	10-12-16	
1,4-Dinitrobenzene	**ND**	0.039	EPA 8270D	10-10-16	10-12-16	
Dimethylphthalate	**ND**	0.039	EPA 8270D	10-10-16	10-12-16	
1,3-Dinitrobenzene	**ND**	0.039	EPA 8270D	10-10-16	10-12-16	
2,6-Dinitrotoluene	**ND**	0.039	EPA 8270D	10-10-16	10-12-16	
1,2-Dinitrobenzene	**ND**	0.039	EPA 8270D	10-10-16	10-12-16	
Acenaphthylene	**ND**	0.0078	EPA 8270D/SIM	10-10-16	10-10-16	
3-Nitroaniline	**ND**	0.039	EPA 8270D	10-10-16	10-12-16	

Date of Report: October 17, 2016
Samples Submitted: October 8, 2016
Laboratory Reference: 1610-080
Project: 31008

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-3-16-8.5**					
Laboratory ID:	10-080-03					
2,4-Dinitrophenol	**ND**	0.20	EPA 8270D	10-10-16	10-12-16	
Acenaphthene	**ND**	0.0078	EPA 8270D/SIM	10-10-16	10-10-16	
4-Nitrophenol	**ND**	0.039	EPA 8270D	10-10-16	10-12-16	
2,4-Dinitrotoluene	**ND**	0.039	EPA 8270D	10-10-16	10-12-16	
Dibenzofuran	**ND**	0.039	EPA 8270D	10-10-16	10-12-16	
2,3,5,6-Tetrachlorophenol	**ND**	0.039	EPA 8270D	10-10-16	10-12-16	
2,3,4,6-Tetrachlorophenol	**ND**	0.039	EPA 8270D	10-10-16	10-12-16	
Diethylphthalate	**ND**	0.20	EPA 8270D	10-10-16	10-12-16	
4-Chlorophenyl-phenylether	**ND**	0.039	EPA 8270D	10-10-16	10-12-16	
4-Nitroaniline	**ND**	0.039	EPA 8270D	10-10-16	10-12-16	
Fluorene	**ND**	0.0078	EPA 8270D/SIM	10-10-16	10-10-16	
4,6-Dinitro-2-methylphenol	**ND**	0.20	EPA 8270D	10-10-16	10-12-16	
n-Nitrosodiphenylamine	**ND**	0.039	EPA 8270D	10-10-16	10-12-16	
1,2-Diphenylhydrazine	**ND**	0.039	EPA 8270D	10-10-16	10-12-16	
4-Bromophenyl-phenylether	**ND**	0.039	EPA 8270D	10-10-16	10-12-16	
Hexachlorobenzene	**ND**	0.039	EPA 8270D	10-10-16	10-12-16	
Pentachlorophenol	**ND**	0.20	EPA 8270D	10-10-16	10-12-16	
Phenanthrene	**ND**	0.0078	EPA 8270D/SIM	10-10-16	10-10-16	
Anthracene	**ND**	0.0078	EPA 8270D/SIM	10-10-16	10-10-16	
Carbazole	**ND**	0.039	EPA 8270D	10-10-16	10-12-16	
Di-n-butylphthalate	**ND**	0.20	EPA 8270D	10-10-16	10-12-16	
Fluoranthene	**ND**	0.0078	EPA 8270D/SIM	10-10-16	10-10-16	
Benzidine	**ND**	0.39	EPA 8270D	10-10-16	10-12-16	
Pyrene	**ND**	0.0078	EPA 8270D/SIM	10-10-16	10-10-16	
Butylbenzylphthalate	**ND**	0.039	EPA 8270D	10-10-16	10-12-16	
bis-2-Ethylhexyladipate	**ND**	0.039	EPA 8270D	10-10-16	10-12-16	
3,3'-Dichlorobenzidine	**ND**	0.20	EPA 8270D	10-10-16	10-12-16	
Benzo[a]anthracene	**ND**	0.0078	EPA 8270D/SIM	10-10-16	10-10-16	
Chrysene	**ND**	0.0078	EPA 8270D/SIM	10-10-16	10-10-16	
bis(2-Ethylhexyl)phthalate	**ND**	0.039	EPA 8270D	10-10-16	10-12-16	
Di-n-octylphthalate	**ND**	0.039	EPA 8270D	10-10-16	10-12-16	
Benzo[b]fluoranthene	**ND**	0.0078	EPA 8270D/SIM	10-10-16	10-10-16	
Benzo(j,k)fluoranthene	**ND**	0.0078	EPA 8270D/SIM	10-10-16	10-10-16	
Benzo[a]pyrene	**ND**	0.0078	EPA 8270D/SIM	10-10-16	10-10-16	
Indeno[1,2,3-cd]pyrene	**ND**	0.0078	EPA 8270D/SIM	10-10-16	10-10-16	
Dibenz[a,h]anthracene	**ND**	0.0078	EPA 8270D/SIM	10-10-16	10-10-16	
Benzo[g,h,i]perylene	**ND**	0.0078	EPA 8270D/SIM	10-10-16	10-10-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*69*	*24 - 117*				
Phenol-d6	*71*	*30 - 120*				
Nitrobenzene-d5	*70*	*27 - 112*				
2-Fluorobiphenyl	*71*	*35 - 113*				
2,4,6-Tribromophenol	*77*	*21 - 120*				
Terphenyl-d14	*73*	*39 - 121*				

Date of Report: October 17, 2016
Samples Submitted: October 8, 2016
Laboratory Reference: 1610-080
Project: 31008

SEMIVOLATILES EPA 8270D/SIM
METHOD BLANK QUALITY CONTROL
page 1 of 2

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB1010S1					
n-Nitrosodimethylamine	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
Pyridine	**ND**	0.33	EPA 8270D	10-10-16	10-11-16	
Phenol	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
Aniline	**ND**	0.17	EPA 8270D	10-10-16	10-11-16	
bis(2-Chloroethyl)ether	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
2-Chlorophenol	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
1,3-Dichlorobenzene	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
1,4-Dichlorobenzene	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
Benzyl alcohol	**ND**	0.17	EPA 8270D	10-10-16	10-11-16	
1,2-Dichlorobenzene	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
2-Methylphenol (o-Cresol)	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
bis(2-Chloroisopropyl)ether	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
(3+4)-Methylphenol (m,p-Cresol)	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
n-Nitroso-di-n-propylamine	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
Hexachloroethane	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
Nitrobenzene	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
Isophorone	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
2-Nitrophenol	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
2,4-Dimethylphenol	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
bis(2-Chloroethoxy)methane	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
2,4-Dichlorophenol	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
1,2,4-Trichlorobenzene	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
Naphthalene	**ND**	0.0067	EPA 8270D/SIM	10-10-16	10-10-16	
4-Chloroaniline	**ND**	0.17	EPA 8270D	10-10-16	10-11-16	
Hexachlorobutadiene	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
4-Chloro-3-methylphenol	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
2-Methylnaphthalene	**ND**	0.0067	EPA 8270D/SIM	10-10-16	10-10-16	
1-Methylnaphthalene	**ND**	0.0067	EPA 8270D/SIM	10-10-16	10-10-16	
Hexachlorocyclopentadiene	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
2,4,6-Trichlorophenol	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
2,3-Dichloroaniline	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
2,4,5-Trichlorophenol	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
2-Chloronaphthalene	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
2-Nitroaniline	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
1,4-Dinitrobenzene	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
Dimethylphthalate	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
1,3-Dinitrobenzene	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
2,6-Dinitrotoluene	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
1,2-Dinitrobenzene	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
Acenaphthylene	**ND**	0.0067	EPA 8270D/SIM	10-10-16	10-10-16	
3-Nitroaniline	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	

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SEMIVOLATILES EPA 8270D/SIM
METHOD BLANK QUALITY CONTROL
page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB1010S1					
2,4-Dinitrophenol	**ND**	0.17	EPA 8270D	10-10-16	10-11-16	
Acenaphthene	**ND**	0.0067	EPA 8270D/SIM	10-10-16	10-10-16	
4-Nitrophenol	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
2,4-Dinitrotoluene	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
Dibenzofuran	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
2,3,5,6-Tetrachlorophenol	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
2,3,4,6-Tetrachlorophenol	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
Diethylphthalate	**ND**	0.17	EPA 8270D	10-10-16	10-11-16	
4-Chlorophenyl-phenylether	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
4-Nitroaniline	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
Fluorene	**ND**	0.0067	EPA 8270D/SIM	10-10-16	10-10-16	
4,6-Dinitro-2-methylphenol	**ND**	0.17	EPA 8270D	10-10-16	10-11-16	
n-Nitrosodiphenylamine	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
1,2-Diphenylhydrazine	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
4-Bromophenyl-phenylether	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
Hexachlorobenzene	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
Pentachlorophenol	**ND**	0.17	EPA 8270D	10-10-16	10-11-16	
Phenanthrene	**ND**	0.0067	EPA 8270D/SIM	10-10-16	10-10-16	
Anthracene	**ND**	0.0067	EPA 8270D/SIM	10-10-16	10-10-16	
Carbazole	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
Di-n-butylphthalate	**ND**	0.17	EPA 8270D	10-10-16	10-11-16	
Fluoranthene	**ND**	0.0067	EPA 8270D/SIM	10-10-16	10-10-16	
Benzidine	**ND**	0.33	EPA 8270D	10-10-16	10-11-16	
Pyrene	**ND**	0.0067	EPA 8270D/SIM	10-10-16	10-10-16	
Butylbenzylphthalate	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
bis-2-Ethylhexyladipate	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
3,3'-Dichlorobenzidine	**ND**	0.17	EPA 8270D	10-10-16	10-11-16	
Benzo[a]anthracene	**ND**	0.0067	EPA 8270D/SIM	10-10-16	10-10-16	
Chrysene	**ND**	0.0067	EPA 8270D/SIM	10-10-16	10-10-16	
bis(2-Ethylhexyl)phthalate	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
Di-n-octylphthalate	**ND**	0.033	EPA 8270D	10-10-16	10-11-16	
Benzo[b]fluoranthene	**ND**	0.0067	EPA 8270D/SIM	10-10-16	10-10-16	
Benzo(j,k)fluoranthene	**ND**	0.0067	EPA 8270D/SIM	10-10-16	10-10-16	
Benzo[a]pyrene	**ND**	0.0067	EPA 8270D/SIM	10-10-16	10-10-16	
Indeno[1,2,3-cd]pyrene	**ND**	0.0067	EPA 8270D/SIM	10-10-16	10-10-16	
Dibenz[a,h]anthracene	**ND**	0.0067	EPA 8270D/SIM	10-10-16	10-10-16	
Benzo[g,h,i]perylene	**ND**	0.0067	EPA 8270D/SIM	10-10-16	10-10-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*81*	*24 - 117*				
Phenol-d6	*83*	*30 - 120*				
Nitrobenzene-d5	*85*	*27 - 112*				
2-Fluorobiphenyl	*84*	*35 - 113*				
2,4,6-Tribromophenol	*85*	*21 - 120*				
Terphenyl-d14	*85*	*39 - 121*				

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SEMIVOLATILES EPA 8270D/SIM
MS/MSD QUALITY CONTROL

Matrix: Soil
Units: mg/Kg

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
MATRIX SPIKES											
Laboratory ID:	10-080-03										
	MS	MSD	MS	MSD		MS	MSD				
Phenol	**0.914**	**0.997**	1.33	1.33	ND	69	75	31 - 108	9	36	
2-Chlorophenol	**0.940**	**1.03**	1.33	1.33	ND	71	77	38 - 103	9	38	
1,4-Dichlorobenzene	**0.465**	**0.502**	0.667	0.667	ND	70	75	25 - 101	8	40	
n-Nitroso-di-n-propylamine	**0.452**	**0.494**	0.667	0.667	ND	68	74	26 - 102	9	38	
1,2,4-Trichlorobenzene	**0.451**	**0.513**	0.667	0.667	ND	68	77	27 - 101	13	40	
4-Chloro-3-methylphenol	**0.914**	**1.02**	1.33	1.33	ND	69	77	42 - 106	11	29	
Acenaphthene	**0.460**	**0.513**	0.667	0.667	ND	69	77	42 - 103	11	30	
4-Nitrophenol	**0.927**	**1.02**	1.33	1.33	ND	70	77	25 - 125	10	29	
2,4-Dinitrotoluene	**0.466**	**0.507**	0.667	0.667	ND	70	76	45 - 107	8	30	
Pentachlorophenol	**1.03**	**1.15**	1.33	1.33	ND	77	86	30 - 103	11	31	
Pyrene	**0.478**	**0.532**	0.667	0.667	ND	72	80	50 - 118	11	28	
Surrogate:											
2-Fluorophenol						*69*	*75*	*24 - 117*			
Phenol-d6						*71*	*77*	*30 - 120*			
Nitrobenzene-d5						*72*	*79*	*27 - 112*			
2-Fluorobiphenyl						*71*	*76*	*35 - 113*			
2,4,6-Tribromophenol						*75*	*81*	*21 - 120*			
Terphenyl-d14						*72*	*79*	*39 - 121*			

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PCBs
EPA 8082A

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-3-16-3**					
Laboratory ID:	10-080-01					
Aroclor 1016	**ND**	0.055	EPA 8082A	10-11-16	10-11-16	
Aroclor 1221	**ND**	0.055	EPA 8082A	10-11-16	10-11-16	
Aroclor 1232	**ND**	0.055	EPA 8082A	10-11-16	10-11-16	
Aroclor 1242	**ND**	0.055	EPA 8082A	10-11-16	10-11-16	
Aroclor 1248	**ND**	0.055	EPA 8082A	10-11-16	10-11-16	
Aroclor 1254	**ND**	0.055	EPA 8082A	10-11-16	10-11-16	
Aroclor 1260	**ND**	0.055	EPA 8082A	10-11-16	10-11-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*82*	*50-139*				
Client ID:	**H-3-16-6**					
Laboratory ID:	10-080-02					
Aroclor 1016	**ND**	0.057	EPA 8082A	10-11-16	10-11-16	
Aroclor 1221	**ND**	0.057	EPA 8082A	10-11-16	10-11-16	
Aroclor 1232	**ND**	0.057	EPA 8082A	10-11-16	10-11-16	
Aroclor 1242	**ND**	0.057	EPA 8082A	10-11-16	10-11-16	
Aroclor 1248	**ND**	0.057	EPA 8082A	10-11-16	10-11-16	
Aroclor 1254	**ND**	0.057	EPA 8082A	10-11-16	10-11-16	
Aroclor 1260	**ND**	0.057	EPA 8082A	10-11-16	10-11-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*77*	*50-139*				
Client ID:	**H-3-16-8.5**					
Laboratory ID:	10-080-03					
Aroclor 1016	**ND**	0.059	EPA 8082A	10-11-16	10-11-16	
Aroclor 1221	**ND**	0.059	EPA 8082A	10-11-16	10-11-16	
Aroclor 1232	**ND**	0.059	EPA 8082A	10-11-16	10-11-16	
Aroclor 1242	**ND**	0.059	EPA 8082A	10-11-16	10-11-16	
Aroclor 1248	**ND**	0.059	EPA 8082A	10-11-16	10-11-16	
Aroclor 1254	**ND**	0.059	EPA 8082A	10-11-16	10-11-16	
Aroclor 1260	**ND**	0.059	EPA 8082A	10-11-16	10-11-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*70*	*50-139*				

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PCBs EPA 8082A
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1011S1					
Aroclor 1016	**ND**	0.050	EPA 8082A	10-11-16	10-11-16	
Aroclor 1221	**ND**	0.050	EPA 8082A	10-11-16	10-11-16	
Aroclor 1232	**ND**	0.050	EPA 8082A	10-11-16	10-11-16	
Aroclor 1242	**ND**	0.050	EPA 8082A	10-11-16	10-11-16	
Aroclor 1248	**ND**	0.050	EPA 8082A	10-11-16	10-11-16	
Aroclor 1254	**ND**	0.050	EPA 8082A	10-11-16	10-11-16	
Aroclor 1260	**ND**	0.050	EPA 8082A	10-11-16	10-11-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*86*	*50-139*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
MATRIX SPIKES											
Laboratory ID:	10-080-01										
	MS	MSD	MS	MSD		MS	MSD				
Aroclor 1260	**0.389**	**0.387**	0.500	0.500	ND	**78**	**77**	49-133	1	17	
Surrogate:											
DCB						*80*	*81*	*50-139*			

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Samples Submitted: October 8, 2016
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Project: 31008

TOTAL METALS
EPA 6010C/6020A/7471B

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	10-080-01					
Client ID:	**H-3-16-3**					
Antimony	**ND**	5.5	6010C	10-13-16	10-13-16	
Arsenic	**ND**	11	6010C	10-13-16	10-13-16	
Beryllium	**ND**	0.55	6010C	10-13-16	10-13-16	
Cadmium	**ND**	0.55	6010C	10-13-16	10-13-16	
Chromium	**28**	0.55	6010C	10-13-16	10-13-16	
Copper	**13**	1.1	6010C	10-13-16	10-13-16	
Lead	**ND**	5.5	6010C	10-13-16	10-13-16	
Mercury	**ND**	0.28	7471B	10-11-16	10-11-16	
Nickel	**33**	2.8	6010C	10-13-16	10-13-16	
Selenium	**ND**	11	6010C	10-13-16	10-13-16	
Silver	**ND**	0.55	6010C	10-13-16	10-13-16	
Thallium	**ND**	1.4	6020A	10-13-16	10-17-16	
Zinc	**26**	2.8	6010C	10-13-16	10-13-16	

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TOTAL METALS
EPA 6010C/6020A/7471B

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	10-080-02					
Client ID:	**H-3-16-6**					
Antimony	**ND**	5.7	6010C	10-13-16	10-13-16	
Arsenic	**ND**	11	6010C	10-13-16	10-13-16	
Beryllium	**ND**	0.57	6010C	10-13-16	10-13-16	
Cadmium	**ND**	0.57	6010C	10-13-16	10-13-16	
Chromium	**27**	0.57	6010C	10-13-16	10-13-16	
Copper	**11**	1.1	6010C	10-13-16	10-13-16	
Lead	**ND**	5.7	6010C	10-13-16	10-13-16	
Mercury	**ND**	0.29	7471B	10-11-16	10-11-16	
Nickel	**30**	2.9	6010C	10-13-16	10-13-16	
Selenium	**ND**	11	6010C	10-13-16	10-13-16	
Silver	**ND**	0.57	6010C	10-13-16	10-13-16	
Thallium	**ND**	1.4	6020A	10-13-16	10-17-16	
Zinc	**24**	2.9	6010C	10-13-16	10-13-16	

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TOTAL METALS
EPA 6010C/6020A/7471B

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	10-080-03					
Client ID:	**H-3-16-8.5**					
Antimony	**ND**	5.9	6010C	10-13-16	10-13-16	
Arsenic	**ND**	12	6010C	10-13-16	10-13-16	
Beryllium	**ND**	0.59	6010C	10-13-16	10-13-16	
Cadmium	**ND**	0.59	6010C	10-13-16	10-13-16	
Chromium	**29**	0.59	6010C	10-13-16	10-13-16	
Copper	**8.6**	1.2	6010C	10-13-16	10-13-16	
Lead	**ND**	5.9	6010C	10-13-16	10-13-16	
Mercury	**ND**	0.29	7471B	10-11-16	10-11-16	
Nickel	**24**	2.9	6010C	10-13-16	10-13-16	
Selenium	**ND**	12	6010C	10-13-16	10-13-16	
Silver	**ND**	0.59	6010C	10-13-16	10-13-16	
Thallium	**ND**	1.5	6020A	10-13-16	10-17-16	
Zinc	**26**	2.9	6010C	10-13-16	10-13-16	

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Project: 31008

TOTAL METALS
EPA 6010C/6020A/7471B
METHOD BLANK QUALITY CONTROL

Date Extracted: 10-11&13-16
Date Analyzed: 10-11,13&17-16

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: MB1013SH1&MB1011S1

Analyte	Method	Result	PQL
Antimony	6010C	**ND**	5.0
Arsenic	6010C	**ND**	10
Beryllium	6010C	**ND**	0.50
Cadmium	6010C	**ND**	0.50
Chromium	6010C	**ND**	0.50
Copper	6010C	**ND**	1.0
Lead	6010C	**ND**	5.0
Mercury	7471B	**ND**	0.25
Nickel	6010C	**ND**	2.5
Selenium	6010C	**ND**	10
Silver	6010C	**ND**	0.50
Thallium	6020A	**ND**	1.3
Zinc	6010C	**ND**	2.5

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TOTAL METALS
EPA 6010C/6020A/7471B
DUPLICATE QUALITY CONTROL

Date Extracted: 10-11&13-16
Date Analyzed: 10-11,13&17-16

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 10-080-01

Analyte	Sample Result	Duplicate Result	RPD	PQL	Flags
Antimony	**ND**	**ND**	NA	5.0	
Arsenic	**ND**	**ND**	NA	10.0	
Beryllium	**ND**	**ND**	NA	0.50	
Cadmium	**ND**	**ND**	NA	0.50	
Chromium	**25.9**	**24.3**	6	0.50	
Copper	**11.7**	**10.9**	7	1.0	
Lead	**ND**	**ND**	NA	5.0	
Mercury	**ND**	**ND**	NA	0.25	
Nickel	**30.4**	**29.2**	4	2.5	
Selenium	**ND**	**ND**	NA	10	
Silver	**ND**	**ND**	NA	0.50	
Thallium	**ND**	**ND**	NA	1.3	
Zinc	**24.0**	**22.0**	9	2.5	

Date of Report: October 17, 2016
Samples Submitted: October 8, 2016
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Project: 31008

TOTAL METALS
EPA 6010C/6020A/7471B
MS/MSD QUALITY CONTROL

Date Extracted: 10-11&13-16
Date Analyzed: 10-11,13&17-16

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 10-080-01

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Antimony	100	**95.4**	95	**88.3**	88	8	
Arsenic	100	**101**	101	**94.3**	94	6	
Beryllium	50.0	**50.8**	102	**47.6**	95	7	
Cadmium	50.0	**49.3**	99	**47.5**	95	4	
Chromium	100	**128**	102	**119**	93	7	
Copper	50.0	**63.9**	105	**60.4**	97	6	
Lead	250	**238**	95	**232**	93	3	
Mercury	0.500	**0.499**	100	**0.546**	109	9	
Nickel	100	**127**	96	**120**	89	6	
Selenium	100	**104**	104	**99.4**	99	5	
Silver	25.0	**24.4**	97	**23.1**	92	5	
Thallium	50.0	**44.2**	88	**44.8**	90	1	
Zinc	100	**120**	96	**115**	91	4	

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% MOISTURE

Date Analyzed: 10-10-16

Client ID	Lab ID	% Moisture
H-3-16-3	10-080-01	9
H-3-16-6	10-080-02	12
H-3-16-8.5	10-080-03	15

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

X1- Sample extract treated with a Sulfuric acid/Silica gel cleanup procedure.

Y - The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

Chain of Custody

Page 1 of 1

OnSite Environmental Inc.
Analytical Laboratory Testing Services
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Company: INNOVEX
Project Number: 31008
Project Name: SR520
Project Manager: Glenn Hayman
Sampled by: Andrea Winder

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☒ Standard (7 Days) (TPH analysis 5 Days)
☐ _____ (other)

Laboratory Number: 10-080

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx*	NWTPH-Dx (☐ Acid / SG Clean-up) *	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A	PP-13 metals 6010				% Moisture
1	H-3-16-3	10/7/16	2325	S	5	X				X			X		X							X				X
2	H-3-16-6		2330			X				X			X		X							X				X
3	H-3-16-8.5		2335			X				X			X		X							X				X
4	H-3-16-13.5		2350																							
5	H-3-16-17.4		2450																							

COC 10/7/16

	Signature	Company	Date	Time
Relinquished		INNOVEX	10/8/16	0215
Received		INNOVEX	10/8/16	02:15
Relinquished		INNOVEX	10/8/16	10:20
Received			10/8/16	1020
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions
* Follow up w/ appropriate analysis based on HCID

Data Package: Standard ☐ Level III ☐ Level IV ☐

Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐

OnSite Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

October 18, 2016

Glenn Hayman
INNOVEX Environmental Mgt., Inc.
16310 NE 80th St., Suite 300
Redmond, WA 98052

Re: Analytical Data for Project 31008
Laboratory Reference No. 1610-081

Dear Glenn:

Enclosed are the analytical results and associated quality control data for samples submitted on October 8, 2016.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

Date of Report: October 18, 2016
Samples Submitted: October 8, 2016
Laboratory Reference: 1610-081
Project: 31008

Case Narrative

Samples were collected on October 7, 2016 and received by the laboratory on October 8, 2016. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

PCBs EPA 8082A Analysis

Due to limited sample volume, H-3-16 was extracted from a 500 mL poly bottle.

Any other QA/QC issues associated with this extraction and analysis will be indicated with a footnote reference and discussed in detail on the Data Qualifier page.

Date of Report: October 18, 2016
Samples Submitted: October 8, 2016
Laboratory Reference: 1610-081
Project: 31008

NWTPH-HCID

Matrix: Water
Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-3-16**					
Laboratory ID:	10-081-01					
Gasoline Range Organics	**ND**	0.11	NWTPH-HCID	10-12-16	10-12-16	
Diesel Range Organics	**ND**	0.29	NWTPH-HCID	10-12-16	10-12-16	
Lube Oil Range Organics	**ND**	0.46	NWTPH-HCID	10-12-16	10-12-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*112*	*50-150*				

Date of Report: October 18, 2016
Samples Submitted: October 8, 2016
Laboratory Reference: 1610-081
Project: 31008

NWTPH-HCID
QUALITY CONTROL

Matrix: Water
Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1012W1					
Gasoline Range Organics	**ND**	0.10	NWTPH-HCID	10-12-16	10-12-16	
Diesel Range Organics	**ND**	0.25	NWTPH-HCID	10-12-16	10-12-16	
Lube Oil Range Organics	**ND**	0.40	NWTPH-HCID	10-12-16	10-12-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*94*	*50-150*				

Date of Report: October 18, 2016
Samples Submitted: October 8, 2016
Laboratory Reference: 1610-081
Project: 31008

VOLATILES EPA 8260C
page 1 of 2

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-3-16**					
Laboratory ID:	10-081-01					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	10-11-16	10-11-16	
Chloromethane	ND	1.0	EPA 8260C	10-11-16	10-11-16	
Vinyl Chloride	ND	0.20	EPA 8260C	10-11-16	10-11-16	
Bromomethane	ND	0.20	EPA 8260C	10-11-16	10-11-16	
Chloroethane	ND	1.0	EPA 8260C	10-11-16	10-11-16	
Trichlorofluoromethane	ND	0.20	EPA 8260C	10-11-16	10-11-16	
1,1-Dichloroethene	ND	0.20	EPA 8260C	10-11-16	10-11-16	
Acetone	6.5	5.0	EPA 8260C	10-11-16	10-11-16	
Iodomethane	ND	1.0	EPA 8260C	10-11-16	10-11-16	
Carbon Disulfide	ND	0.20	EPA 8260C	10-11-16	10-11-16	
Methylene Chloride	ND	1.0	EPA 8260C	10-11-16	10-11-16	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	10-11-16	10-11-16	
Methyl t-Butyl Ether	ND	0.20	EPA 8260C	10-11-16	10-11-16	
1,1-Dichloroethane	ND	0.20	EPA 8260C	10-11-16	10-11-16	
Vinyl Acetate	ND	1.0	EPA 8260C	10-11-16	10-11-16	
2,2-Dichloropropane	ND	0.20	EPA 8260C	10-11-16	10-11-16	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	10-11-16	10-11-16	
2-Butanone	ND	5.0	EPA 8260C	10-11-16	10-11-16	
Bromochloromethane	ND	0.20	EPA 8260C	10-11-16	10-11-16	
Chloroform	8.3	0.20	EPA 8260C	10-11-16	10-11-16	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	10-11-16	10-11-16	
Carbon Tetrachloride	ND	0.20	EPA 8260C	10-11-16	10-11-16	
1,1-Dichloropropene	ND	0.20	EPA 8260C	10-11-16	10-11-16	
Benzene	7.4	0.20	EPA 8260C	10-11-16	10-11-16	
1,2-Dichloroethane	ND	0.20	EPA 8260C	10-11-16	10-11-16	
Trichloroethene	ND	0.20	EPA 8260C	10-11-16	10-11-16	
1,2-Dichloropropane	ND	0.20	EPA 8260C	10-11-16	10-11-16	
Dibromomethane	ND	0.20	EPA 8260C	10-11-16	10-11-16	
Bromodichloromethane	1.0	0.20	EPA 8260C	10-11-16	10-11-16	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	10-11-16	10-11-16	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	10-11-16	10-11-16	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260C	10-11-16	10-11-16	
Toluene	ND	1.0	EPA 8260C	10-11-16	10-11-16	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	10-11-16	10-11-16	

Date of Report: October 18, 2016
Samples Submitted: October 8, 2016
Laboratory Reference: 1610-081
Project: 31008

VOLATILES EPA 8260C
page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-3-16**					
Laboratory ID:	10-081-01					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	10-11-16	10-11-16	
Tetrachloroethene	ND	0.20	EPA 8260C	10-11-16	10-11-16	
1,3-Dichloropropane	ND	0.20	EPA 8260C	10-11-16	10-11-16	
2-Hexanone	ND	2.0	EPA 8260C	10-11-16	10-11-16	
Dibromochloromethane	ND	0.20	EPA 8260C	10-11-16	10-11-16	
1,2-Dibromoethane	ND	0.20	EPA 8260C	10-11-16	10-11-16	
Chlorobenzene	ND	0.20	EPA 8260C	10-11-16	10-11-16	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	10-11-16	10-11-16	
Ethylbenzene	0.70	0.20	EPA 8260C	10-11-16	10-11-16	
m,p-Xylene	2.1	0.40	EPA 8260C	10-11-16	10-11-16	
o-Xylene	0.67	0.20	EPA 8260C	10-11-16	10-11-16	
Styrene	ND	0.20	EPA 8260C	10-11-16	10-11-16	
Bromoform	ND	1.0	EPA 8260C	10-11-16	10-11-16	
Isopropylbenzene	0.25	0.20	EPA 8260C	10-11-16	10-11-16	
Bromobenzene	ND	0.20	EPA 8260C	10-11-16	10-11-16	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	10-11-16	10-11-16	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	10-11-16	10-11-16	
n-Propylbenzene	0.37	0.20	EPA 8260C	10-11-16	10-11-16	
2-Chlorotoluene	ND	0.20	EPA 8260C	10-11-16	10-11-16	
4-Chlorotoluene	ND	0.20	EPA 8260C	10-11-16	10-11-16	
1,3,5-Trimethylbenzene	0.30	0.20	EPA 8260C	10-11-16	10-11-16	
tert-Butylbenzene	ND	0.20	EPA 8260C	10-11-16	10-11-16	
1,2,4-Trimethylbenzene	0.44	0.20	EPA 8260C	10-11-16	10-11-16	
sec-Butylbenzene	ND	0.20	EPA 8260C	10-11-16	10-11-16	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	10-11-16	10-11-16	
p-Isopropyltoluene	ND	0.20	EPA 8260C	10-11-16	10-11-16	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	10-11-16	10-11-16	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	10-11-16	10-11-16	
n-Butylbenzene	ND	0.20	EPA 8260C	10-11-16	10-11-16	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	10-11-16	10-11-16	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	10-11-16	10-11-16	
Hexachlorobutadiene	ND	0.20	EPA 8260C	10-11-16	10-11-16	
Naphthalene	ND	1.0	EPA 8260C	10-11-16	10-11-16	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	10-11-16	10-11-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*104*	*71-131*				
Toluene-d8	*102*	*80-127*				
4-Bromofluorobenzene	*100*	*80-125*				

Date of Report: October 18, 2016
Samples Submitted: October 8, 2016
Laboratory Reference: 1610-081
Project: 31008

VOLATILES by EPA 8260C
METHOD BLANK QUALITY CONTROL
page 1 of 2

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB1011W2					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	10-11-16	10-11-16	
Chloromethane	ND	1.0	EPA 8260C	10-11-16	10-11-16	
Vinyl Chloride	ND	0.20	EPA 8260C	10-11-16	10-11-16	
Bromomethane	ND	0.20	EPA 8260C	10-11-16	10-11-16	
Chloroethane	ND	1.0	EPA 8260C	10-11-16	10-11-16	
Trichlorofluoromethane	ND	0.20	EPA 8260C	10-11-16	10-11-16	
1,1-Dichloroethene	ND	0.20	EPA 8260C	10-11-16	10-11-16	
Acetone	ND	5.0	EPA 8260C	10-11-16	10-11-16	
Iodomethane	ND	1.0	EPA 8260C	10-11-16	10-11-16	
Carbon Disulfide	ND	0.20	EPA 8260C	10-11-16	10-11-16	
Methylene Chloride	ND	1.0	EPA 8260C	10-11-16	10-11-16	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	10-11-16	10-11-16	
Methyl t-Butyl Ether	ND	0.20	EPA 8260C	10-11-16	10-11-16	
1,1-Dichloroethane	ND	0.20	EPA 8260C	10-11-16	10-11-16	
Vinyl Acetate	ND	1.0	EPA 8260C	10-11-16	10-11-16	
2,2-Dichloropropane	ND	0.20	EPA 8260C	10-11-16	10-11-16	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	10-11-16	10-11-16	
2-Butanone	ND	5.0	EPA 8260C	10-11-16	10-11-16	
Bromochloromethane	ND	0.20	EPA 8260C	10-11-16	10-11-16	
Chloroform	ND	0.20	EPA 8260C	10-11-16	10-11-16	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	10-11-16	10-11-16	
Carbon Tetrachloride	ND	0.20	EPA 8260C	10-11-16	10-11-16	
1,1-Dichloropropene	ND	0.20	EPA 8260C	10-11-16	10-11-16	
Benzene	ND	0.20	EPA 8260C	10-11-16	10-11-16	
1,2-Dichloroethane	ND	0.20	EPA 8260C	10-11-16	10-11-16	
Trichloroethene	ND	0.20	EPA 8260C	10-11-16	10-11-16	
1,2-Dichloropropane	ND	0.20	EPA 8260C	10-11-16	10-11-16	
Dibromomethane	ND	0.20	EPA 8260C	10-11-16	10-11-16	
Bromodichloromethane	ND	0.20	EPA 8260C	10-11-16	10-11-16	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	10-11-16	10-11-16	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	10-11-16	10-11-16	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260C	10-11-16	10-11-16	
Toluene	ND	1.0	EPA 8260C	10-11-16	10-11-16	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	10-11-16	10-11-16	

Date of Report: October 18, 2016
Samples Submitted: October 8, 2016
Laboratory Reference: 1610-081
Project: 31008

VOLATILES by EPA 8260C
METHOD BLANK QUALITY CONTROL
page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB1011W2					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	10-11-16	10-11-16	
Tetrachloroethene	ND	0.20	EPA 8260C	10-11-16	10-11-16	
1,3-Dichloropropane	ND	0.20	EPA 8260C	10-11-16	10-11-16	
2-Hexanone	ND	2.0	EPA 8260C	10-11-16	10-11-16	
Dibromochloromethane	ND	0.20	EPA 8260C	10-11-16	10-11-16	
1,2-Dibromoethane	ND	0.20	EPA 8260C	10-11-16	10-11-16	
Chlorobenzene	ND	0.20	EPA 8260C	10-11-16	10-11-16	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	10-11-16	10-11-16	
Ethylbenzene	ND	0.20	EPA 8260C	10-11-16	10-11-16	
m,p-Xylene	ND	0.40	EPA 8260C	10-11-16	10-11-16	
o-Xylene	ND	0.20	EPA 8260C	10-11-16	10-11-16	
Styrene	ND	0.20	EPA 8260C	10-11-16	10-11-16	
Bromoform	ND	1.0	EPA 8260C	10-11-16	10-11-16	
Isopropylbenzene	ND	0.20	EPA 8260C	10-11-16	10-11-16	
Bromobenzene	ND	0.20	EPA 8260C	10-11-16	10-11-16	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	10-11-16	10-11-16	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	10-11-16	10-11-16	
n-Propylbenzene	ND	0.20	EPA 8260C	10-11-16	10-11-16	
2-Chlorotoluene	ND	0.20	EPA 8260C	10-11-16	10-11-16	
4-Chlorotoluene	ND	0.20	EPA 8260C	10-11-16	10-11-16	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260C	10-11-16	10-11-16	
tert-Butylbenzene	ND	0.20	EPA 8260C	10-11-16	10-11-16	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260C	10-11-16	10-11-16	
sec-Butylbenzene	ND	0.20	EPA 8260C	10-11-16	10-11-16	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	10-11-16	10-11-16	
p-Isopropyltoluene	ND	0.20	EPA 8260C	10-11-16	10-11-16	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	10-11-16	10-11-16	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	10-11-16	10-11-16	
n-Butylbenzene	ND	0.20	EPA 8260C	10-11-16	10-11-16	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	10-11-16	10-11-16	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	10-11-16	10-11-16	
Hexachlorobutadiene	ND	0.20	EPA 8260C	10-11-16	10-11-16	
Naphthalene	ND	1.0	EPA 8260C	10-11-16	10-11-16	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	10-11-16	10-11-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*102*	*71-131*				
Toluene-d8	*99*	*80-127*				
4-Bromofluorobenzene	*95*	*80-125*				

Date of Report: October 18, 2016
Samples Submitted: October 8, 2016
Laboratory Reference: 1610-081
Project: 31008

VOLATILES by EPA 8260C
SB/SBD QUALITY CONTROL

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB1011W2									
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	**9.76**	**9.64**	10.0	10.0	98	96	62-132	1	20	
Benzene	**9.37**	**9.66**	10.0	10.0	94	97	75-121	3	15	
Trichloroethene	**8.72**	**8.92**	10.0	10.0	87	89	65-115	2	15	
Toluene	**8.96**	**9.43**	10.0	10.0	90	94	78-120	5	15	
Chlorobenzene	**8.98**	**9.32**	10.0	10.0	90	93	77-118	4	15	
Surrogate:										
Dibromofluoromethane					*104*	*102*	*71-131*			
Toluene-d8					*100*	*100*	*80-127*			
4-Bromofluorobenzene					*97*	*98*	*80-125*			

Date of Report: October 18, 2016
Samples Submitted: October 8, 2016
Laboratory Reference: 1610-081
Project: 31008

SEMIVOLATILES EPA 8270D/SIM
page 1 of 2

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-3-16**					
Laboratory ID:	10-081-01					
n-Nitrosodimethylamine	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
Pyridine	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
Phenol	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
Aniline	**ND**	5.0	EPA 8270D	10-13-16	10-13-16	
bis(2-Chloroethyl)ether	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
2-Chlorophenol	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
1,3-Dichlorobenzene	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
1,4-Dichlorobenzene	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
Benzyl alcohol	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
1,2-Dichlorobenzene	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
2-Methylphenol (o-Cresol)	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
bis(2-Chloroisopropyl)ether	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
(3+4)-Methylphenol (m,p-Cresol)	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
n-Nitroso-di-n-propylamine	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
Hexachloroethane	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
Nitrobenzene	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
Isophorone	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
2-Nitrophenol	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
2,4-Dimethylphenol	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
bis(2-Chloroethoxy)methane	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
2,4-Dichlorophenol	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
1,2,4-Trichlorobenzene	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
Naphthalene	**0.25**	0.10	EPA 8270D/SIM	10-13-16	10-13-16	
4-Chloroaniline	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
Hexachlorobutadiene	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
4-Chloro-3-methylphenol	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
2-Methylnaphthalene	**0.23**	0.10	EPA 8270D/SIM	10-13-16	10-13-16	
1-Methylnaphthalene	**0.13**	0.10	EPA 8270D/SIM	10-13-16	10-13-16	
Hexachlorocyclopentadiene	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
2,4,6-Trichlorophenol	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
2,3-Dichloroaniline	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
2,4,5-Trichlorophenol	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
2-Chloronaphthalene	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
2-Nitroaniline	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
1,4-Dinitrobenzene	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
Dimethylphthalate	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
1,3-Dinitrobenzene	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
2,6-Dinitrotoluene	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
1,2-Dinitrobenzene	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
Acenaphthylene	**ND**	0.10	EPA 8270D/SIM	10-13-16	10-13-16	
3-Nitroaniline	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	

Date of Report: October 18, 2016
Samples Submitted: October 8, 2016
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SEMIVOLATILES EPA 8270D/SIM
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-3-16**					
Laboratory ID:	10-081-01					
2,4-Dinitrophenol	**ND**	5.0	EPA 8270D	10-13-16	10-13-16	
Acenaphthene	**ND**	0.10	EPA 8270D/SIM	10-13-16	10-13-16	
4-Nitrophenol	**ND**	5.0	EPA 8270D	10-13-16	10-13-16	
2,4-Dinitrotoluene	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
Dibenzofuran	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
2,3,5,6-Tetrachlorophenol	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
2,3,4,6-Tetrachlorophenol	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
Diethylphthalate	**1.3**	1.0	EPA 8270D	10-13-16	10-13-16	
4-Chlorophenyl-phenylether	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
4-Nitroaniline	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
Fluorene	**ND**	0.10	EPA 8270D/SIM	10-13-16	10-13-16	
4,6-Dinitro-2-methylphenol	**ND**	5.0	EPA 8270D	10-13-16	10-13-16	
n-Nitrosodiphenylamine	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
1,2-Diphenylhydrazine	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
4-Bromophenyl-phenylether	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
Hexachlorobenzene	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
Pentachlorophenol	**ND**	5.0	EPA 8270D	10-13-16	10-13-16	
Phenanthrene	**0.11**	0.10	EPA 8270D/SIM	10-13-16	10-13-16	
Anthracene	**ND**	0.10	EPA 8270D/SIM	10-13-16	10-13-16	
Carbazole	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
Di-n-butylphthalate	**9.3**	1.0	EPA 8270D	10-13-16	10-13-16	
Fluoranthene	**ND**	0.10	EPA 8270D/SIM	10-13-16	10-13-16	
Benzidine	**ND**	5.0	EPA 8270D	10-13-16	10-13-16	
Pyrene	**ND**	0.10	EPA 8270D/SIM	10-13-16	10-13-16	
Butylbenzylphthalate	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
bis-2-Ethylhexyladipate	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
3,3'-Dichlorobenzidine	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
Benzo[a]anthracene	**0.024**	0.010	EPA 8270D/SIM	10-13-16	10-13-16	
Chrysene	**0.012**	0.010	EPA 8270D/SIM	10-13-16	10-13-16	
bis(2-Ethylhexyl)phthalate	**5.7**	1.0	EPA 8270D	10-13-16	10-13-16	
Di-n-octylphthalate	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
Benzo[b]fluoranthene	**0.082**	0.010	EPA 8270D/SIM	10-13-16	10-13-16	
Benzo(j,k)fluoranthene	**0.023**	0.010	EPA 8270D/SIM	10-13-16	10-13-16	
Benzo[a]pyrene	**ND**	0.010	EPA 8270D/SIM	10-13-16	10-13-16	
Indeno[1,2,3-cd]pyrene	**ND**	0.010	EPA 8270D/SIM	10-13-16	10-13-16	
Dibenz[a,h]anthracene	**ND**	0.010	EPA 8270D/SIM	10-13-16	10-13-16	
Benzo[g,h,i]perylene	**ND**	0.010	EPA 8270D/SIM	10-13-16	10-13-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*37*	*19 - 87*				
Phenol-d6	*39*	*10 - 83*				
Nitrobenzene-d5	*65*	*35 - 112*				
2-Fluorobiphenyl	*59*	*45 - 112*				
2,4,6-Tribromophenol	*39*	*37 - 115*				
Terphenyl-d14	*61*	*49 - 126*				

Date of Report: October 18, 2016
Samples Submitted: October 8, 2016
Laboratory Reference: 1610-081
Project: 31008

SEMIVOLATILES EPA 8270D/SIM
METHOD BLANK QUALITY CONTROL
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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB1013W1					
n-Nitrosodimethylamine	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
Pyridine	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
Phenol	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
Aniline	**ND**	5.0	EPA 8270D	10-13-16	10-13-16	
bis(2-Chloroethyl)ether	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
2-Chlorophenol	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
1,3-Dichlorobenzene	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
1,4-Dichlorobenzene	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
Benzyl alcohol	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
1,2-Dichlorobenzene	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
2-Methylphenol (o-Cresol)	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
bis(2-Chloroisopropyl)ether	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
(3+4)-Methylphenol (m,p-Cresol)	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
n-Nitroso-di-n-propylamine	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
Hexachloroethane	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
Nitrobenzene	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
Isophorone	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
2-Nitrophenol	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
2,4-Dimethylphenol	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
bis(2-Chloroethoxy)methane	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
2,4-Dichlorophenol	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
1,2,4-Trichlorobenzene	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
Naphthalene	**ND**	0.10	EPA 8270D/SIM	10-13-16	10-13-16	
4-Chloroaniline	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
Hexachlorobutadiene	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
4-Chloro-3-methylphenol	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
2-Methylnaphthalene	**ND**	0.10	EPA 8270D/SIM	10-13-16	10-13-16	
1-Methylnaphthalene	**ND**	0.10	EPA 8270D/SIM	10-13-16	10-13-16	
Hexachlorocyclopentadiene	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
2,4,6-Trichlorophenol	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
2,3-Dichloroaniline	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
2,4,5-Trichlorophenol	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
2-Chloronaphthalene	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
2-Nitroaniline	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
1,4-Dinitrobenzene	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
Dimethylphthalate	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
1,3-Dinitrobenzene	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
2,6-Dinitrotoluene	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
1,2-Dinitrobenzene	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
Acenaphthylene	**ND**	0.10	EPA 8270D/SIM	10-13-16	10-13-16	
3-Nitroaniline	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	

Date of Report: October 18, 2016
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SEMIVOLATILES EPA 8270D/SIM
METHOD BLANK QUALITY CONTROL
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB1013W1					
2,4-Dinitrophenol	**ND**	5.0	EPA 8270D	10-13-16	10-13-16	
Acenaphthene	**ND**	0.10	EPA 8270D/SIM	10-13-16	10-13-16	
4-Nitrophenol	**ND**	5.0	EPA 8270D	10-13-16	10-13-16	
2,4-Dinitrotoluene	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
Dibenzofuran	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
2,3,5,6-Tetrachlorophenol	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
2,3,4,6-Tetrachlorophenol	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
Diethylphthalate	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
4-Chlorophenyl-phenylether	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
4-Nitroaniline	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
Fluorene	**ND**	0.10	EPA 8270D/SIM	10-13-16	10-13-16	
4,6-Dinitro-2-methylphenol	**ND**	5.0	EPA 8270D	10-13-16	10-13-16	
n-Nitrosodiphenylamine	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
1,2-Diphenylhydrazine	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
4-Bromophenyl-phenylether	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
Hexachlorobenzene	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
Pentachlorophenol	**ND**	5.0	EPA 8270D	10-13-16	10-13-16	
Phenanthrene	**ND**	0.10	EPA 8270D/SIM	10-13-16	10-13-16	
Anthracene	**ND**	0.10	EPA 8270D/SIM	10-13-16	10-13-16	
Carbazole	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
Di-n-butylphthalate	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
Fluoranthene	**ND**	0.10	EPA 8270D/SIM	10-13-16	10-13-16	
Benzidine	**ND**	5.0	EPA 8270D	10-13-16	10-13-16	
Pyrene	**ND**	0.10	EPA 8270D/SIM	10-13-16	10-13-16	
Butylbenzylphthalate	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
bis-2-Ethylhexyladipate	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
3,3'-Dichlorobenzidine	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
Benzo[a]anthracene	**ND**	0.010	EPA 8270D/SIM	10-13-16	10-13-16	
Chrysene	**ND**	0.010	EPA 8270D/SIM	10-13-16	10-13-16	
bis(2-Ethylhexyl)phthalate	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
Di-n-octylphthalate	**ND**	1.0	EPA 8270D	10-13-16	10-13-16	
Benzo[b]fluoranthene	**ND**	0.010	EPA 8270D/SIM	10-13-16	10-13-16	
Benzo(j,k)fluoranthene	**ND**	0.010	EPA 8270D/SIM	10-13-16	10-13-16	
Benzo[a]pyrene	**ND**	0.010	EPA 8270D/SIM	10-13-16	10-13-16	
Indeno[1,2,3-cd]pyrene	**ND**	0.010	EPA 8270D/SIM	10-13-16	10-13-16	
Dibenz[a,h]anthracene	**ND**	0.010	EPA 8270D/SIM	10-13-16	10-13-16	
Benzo[g,h,i]perylene	**ND**	0.010	EPA 8270D/SIM	10-13-16	10-13-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*50*	*19 - 87*				
Phenol-d6	*38*	*10 - 83*				
Nitrobenzene-d5	*79*	*35 - 112*				
2-Fluorobiphenyl	*75*	*45 - 112*				
2,4,6-Tribromophenol	*85*	*37 - 115*				
Terphenyl-d14	*85*	*49 - 126*				

Date of Report: October 18, 2016
Samples Submitted: October 8, 2016
Laboratory Reference: 1610-081
Project: 31008

SEMIVOLATILES EPA 8270D/SIM
SB/SBD QUALITY CONTROL

Matrix: Water
Units: ug/L

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB1013W1									
	SB	SBD	SB	SBD	SB	SBD				
Phenol	**17.1**	**17.4**	40.0	40.0	43	44	25 - 70	2	32	
2-Chlorophenol	**30.8**	**31.8**	40.0	40.0	77	80	55 - 99	3	27	
1,4-Dichlorobenzene	**14.5**	**14.5**	20.0	20.0	73	73	48 - 93	0	30	
n-Nitroso-di-n-propylamine	**15.3**	**15.4**	20.0	20.0	77	77	47 - 108	1	26	
1,2,4-Trichlorobenzene	**14.8**	**15.1**	20.0	20.0	74	76	52 - 94	2	24	
4-Chloro-3-methylphenol	**32.1**	**32.7**	40.0	40.0	80	82	67 - 108	2	16	
Acenaphthene	**16.2**	**15.5**	20.0	20.0	81	78	50 - 113	4	17	
4-Nitrophenol	**16.9**	**16.4**	40.0	40.0	42	41	29 - 78	3	37	
2,4-Dinitrotoluene	**14.8**	**14.2**	20.0	20.0	74	71	64 - 107	4	19	
Pentachlorophenol	**26.5**	**27.3**	40.0	40.0	66	68	35 - 116	3	25	
Pyrene	**17.0**	**16.8**	20.0	20.0	85	84	61 - 112	1	15	
Surrogate:										
2-Fluorophenol					*56*	*57*	*19 - 87*			
Phenol-d6					*43*	*44*	*10 - 83*			
Nitrobenzene-d5					*84*	*86*	*35 - 112*			
2-Fluorobiphenyl					*80*	*79*	*45 - 112*			
2,4,6-Tribromophenol					*86*	*87*	*37 - 115*			
Terphenyl-d14					*89*	*86*	*49 - 126*			

Date of Report: October 18, 2016
Samples Submitted: October 8, 2016
Laboratory Reference: 1610-081
Project: 31008

PCBs
EPA 8082A

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-3-16**					
Laboratory ID:	10-081-01					
Aroclor 1016	**ND**	0.045	EPA 8082A	10-10-16	10-10-16	
Aroclor 1221	**ND**	0.045	EPA 8082A	10-10-16	10-10-16	
Aroclor 1232	**ND**	0.045	EPA 8082A	10-10-16	10-10-16	
Aroclor 1242	**ND**	0.045	EPA 8082A	10-10-16	10-10-16	
Aroclor 1248	**ND**	0.045	EPA 8082A	10-10-16	10-10-16	
Aroclor 1254	**ND**	0.045	EPA 8082A	10-10-16	10-10-16	
Aroclor 1260	**ND**	0.045	EPA 8082A	10-10-16	10-10-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*79*	*38-137*				

Date of Report: October 18, 2016
Samples Submitted: October 8, 2016
Laboratory Reference: 1610-081
Project: 31008

PCBs EPA 8082A
QUALITY CONTROL

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1010W1					
Aroclor 1016	**ND**	0.020	EPA 8082A	10-10-16	10-10-16	
Aroclor 1221	**ND**	0.020	EPA 8082A	10-10-16	10-10-16	
Aroclor 1232	**ND**	0.020	EPA 8082A	10-10-16	10-10-16	
Aroclor 1242	**ND**	0.020	EPA 8082A	10-10-16	10-10-16	
Aroclor 1248	**ND**	0.020	EPA 8082A	10-10-16	10-10-16	
Aroclor 1254	**ND**	0.020	EPA 8082A	10-10-16	10-10-16	
Aroclor 1260	**ND**	0.020	EPA 8082A	10-10-16	10-10-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*84*	*38-137*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS											
Laboratory ID:	SB1010W1										
	SB	SBD	SB	SBD		SB	SBD				
Aroclor 1260	**0.382**	**0.406**	0.500	0.500	N/A	**76**	**81**	68-114	6	12	
Surrogate:											
DCB						*74*	*86*	*38-137*			

Date of Report: October 18, 2016
Samples Submitted: October 8, 2016
Laboratory Reference: 1610-081
Project: 31008

DISSOLVED METALS
EPA 200.8/7470A

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	10-081-01					
Client ID:	**H-3-16**					
Antimony	**18**	5.0	200.8	10-10-16	10-12-16	
Arsenic	**3.3**	3.0	200.8	10-10-16	10-12-16	
Beryllium	**ND**	10	200.8	10-10-16	10-12-16	
Cadmium	**ND**	4.0	200.8	10-10-16	10-12-16	
Chromium	**ND**	10	200.8	10-10-16	10-12-16	
Copper	**ND**	10	200.8	10-10-16	10-12-16	
Lead	**2.5**	1.0	200.8	10-10-16	10-12-16	
Mercury	**ND**	0.50	7470A	10-10-16	10-11-16	
Nickel	**ND**	20	200.8	10-10-16	10-12-16	
Selenium	**ND**	5.0	200.8	10-10-16	10-12-16	
Silver	**ND**	10	200.8	10-10-16	10-12-16	
Thallium	**ND**	5.0	200.8	10-10-16	10-12-16	
Zinc	**ND**	25	200.8	10-10-16	10-12-16	

Date of Report: October 18, 2016
Samples Submitted: October 8, 2016
Laboratory Reference: 1610-081
Project: 31008

DISSOLVED METALS
EPA 200.8
METHOD BLANK QUALITY CONTROL

Date Filtered: 10-10-16
Date Analyzed: 10-12-16

Matrix: Water
Units: ug/L (ppb)

Lab ID: MB1010F1

Analyte	Method	Result	PQL
Antimony	200.8	**ND**	5.0
Arsenic	200.8	**ND**	3.0
Beryllium	200.8	**ND**	10
Cadmium	200.8	**ND**	4.0
Chromium	200.8	**ND**	10
Copper	200.8	**ND**	10
Lead	200.8	**ND**	1.0
Nickel	200.8	**ND**	20
Selenium	200.8	**ND**	5.0
Silver	200.8	**ND**	10
Thallium	200.8	**ND**	5.0
Zinc	200.8	**ND**	25

Date of Report: October 18, 2016
Samples Submitted: October 8, 2016
Laboratory Reference: 1610-081
Project: 31008

DISSOLVED MERCURY
EPA 7470A
METHOD BLANK QUALITY CONTROL

Date Filtered:	10-10-16
Date Analyzed:	10-11-16
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	MB1010F1

Analyte	Method	Result	PQL
Mercury	7470A	**ND**	0.50

Date of Report: October 18, 2016
Samples Submitted: October 8, 2016
Laboratory Reference: 1610-081
Project: 31008

DISSOLVED METALS
EPA 200.8
DUPLICATE QUALITY CONTROL

Date Filtered: 10-10-16
Date Analyzed: 10-12-16

Matrix: Water
Units: ug/L (ppb)

Lab ID: 10-081-01

Analyte	Sample Result	Duplicate Result	RPD	PQL	Flags
Antimony	**17.7**	**16.3**	8	5.0	
Arsenic	**3.33**	**3.59**	8	3.0	
Beryllium	**ND**	**ND**	NA	10	
Cadmium	**ND**	**ND**	NA	4.0	
Chromium	**ND**	**ND**	NA	10	
Copper	**ND**	**ND**	NA	10	
Lead	**2.46**	**2.47**	0	1.0	
Nickel	**ND**	**ND**	NA	20	
Selenium	**ND**	**ND**	NA	5.0	
Silver	**ND**	**ND**	NA	10	
Thallium	**ND**	**ND**	NA	5.0	
Zinc	**ND**	**ND**	NA	25	

Date of Report: October 18, 2016
Samples Submitted: October 8, 2016
Laboratory Reference: 1610-081
Project: 31008

DISSOLVED MERCURY
EPA 7470A
DUPLICATE QUALITY CONTROL

Date Filtered: 10-10-16
Date Analyzed: 10-11-16

Matrix: Water
Units: ug/L (ppb)

Lab ID: 10-051-01

Analyte	Sample Result	Duplicate Result	RPD	PQL	Flags
Mercury	**ND**	**ND**	NA	0.50	

Date of Report: October 18, 2016
Samples Submitted: October 8, 2016
Laboratory Reference: 1610-081
Project: 31008

DISSOLVED METALS
EPA 200.8
MS/MSD QUALITY CONTROL

Date Filtered: 10-10-16
Date Analyzed: 10-12-16

Matrix: Water
Units: ug/L (ppb)

Lab ID: 10-081-01

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Antimony	200	**213**	98	**231**	107	8	
Arsenic	200	**207**	102	**224**	110	8	
Beryllium	200	**200**	100	**217**	109	9	
Cadmium	200	**199**	99	**213**	107	7	
Chromium	200	**193**	96	**207**	104	7	
Copper	200	**194**	97	**208**	104	7	
Lead	200	**189**	93	**205**	101	8	
Nickel	200	**188**	94	**203**	102	8	
Selenium	200	**202**	101	**230**	115	13	
Silver	200	**182**	91	**202**	101	10	
Thallium	200	**183**	92	**197**	98	7	
Zinc	200	**211**	106	**228**	114	8	

Date of Report: October 18, 2016
Samples Submitted: October 8, 2016
Laboratory Reference: 1610-081
Project: 31008

DISSOLVED MERCURY
EPA 7470A
MS/MSD QUALITY CONTROL

Date Filtered: 10-10-16
Date Analyzed: 10-11-16

Matrix: Water
Units: ug/L (ppb)

Lab ID: 10-051-01

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Mercury	12.5	**13.5**	108	**12.7**	102	6	

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

X1- Sample extract treated with a Sulfuric acid/Silica gel cleanup procedure.

Y - The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

Chain of Custody

Page 1 of 1

OnSite Environmental Inc.
Analytical Laboratory Testing Services
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Laboratory Number: 10-081

Company: INNOVEX
Project Number: 31008
Project Name: SR520
Project Manager: Glenn Hayman
Sampled by: Andrea Winder

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☒ Standard (7 Days) (TPH analysis 5 Days)
☐ _____ (other)

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx *	NWTPH-Dx (☐ Acid / SG Clean-up) *	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A	PP13 metals Dissolved			% Moisture
1	H-3-16	10/7/16	2425	W	10	X				X			X		X								X			X

	Signature	Company	Date	Time
Relinquished		INNOVEX	10/8/16	0215
Received		INNOVEX	10/8/16	0215
Relinquished		INNOVEX	10/9/16	10:20
Received			10/8/16	1020
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions
* follow up w/ appropriate analysis based on HCID

Data Package: Standard ☐ Level III ☐ Level IV ☐

Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐

OnSite Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

October 19, 2016

Glenn Hayman
INNOVEX Environmental Mgt., Inc.
16310 NE 80th St., Suite 300
Redmond, WA 98052

Re: Analytical Data for Project 31008
Laboratory Reference No. 1610-084

Dear Glenn:

Enclosed are the analytical results and associated quality control data for samples submitted on October 10, 2016.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

Date of Report: October 19, 2016
Samples Submitted: October 10, 2016
Laboratory Reference: 1610-084
Project: 31008

Case Narrative

Samples were collected on October 8, 2016 and received by the laboratory on October 10, 2016. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

NWTPH-Gx/BTEX and Volatiles EPA 8260C Analysis

Per EPA method 5035A, samples were received by the laboratory in pre-weighed 40 ml VOA vials preserved with either Methanol or Sodium Bisulfate.

Any other QA/QC issues associated with this extraction and analysis will be indicated with a footnote reference and discussed in detail on the Data Qualifier page.

Date of Report: October 19, 2016
Samples Submitted: October 10, 2016
Laboratory Reference: 1610-084
Project: 31008

NWTPH-HCID

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-5-16-3**					
Laboratory ID:	10-084-01					
Gasoline Range Organics	**ND**	23	NWTPH-HCID	10-11-16	10-11-16	
Diesel Range Organics	**ND**	57	NWTPH-HCID	10-11-16	10-11-16	
Lube Oil Range Organics	**ND**	120	NWTPH-HCID	10-11-16	10-11-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*119*	*50-150*				
Client ID:	**H-5-16-6**					
Laboratory ID:	10-084-02					
Gasoline Range Organics	**ND**	22	NWTPH-HCID	10-11-16	10-11-16	
Diesel Range Organics	**ND**	56	NWTPH-HCID	10-11-16	10-11-16	
Lube Oil Range Organics	**ND**	110	NWTPH-HCID	10-11-16	10-11-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*116*	*50-150*				
Client ID:	**H-5-16-8.5**					
Laboratory ID:	10-084-03					
Gasoline Range Organics	**ND**	29	NWTPH-HCID	10-11-16	10-11-16	
Diesel Range Organics	**ND**	72	NWTPH-HCID	10-11-16	10-11-16	
Lube Oil Range Organics	**ND**	140	NWTPH-HCID	10-11-16	10-11-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*111*	*50-150*				
Client ID:	**H-5-16-11**					
Laboratory ID:	10-084-04					
Gasoline Range Organics	**ND**	29	NWTPH-HCID	10-11-16	10-11-16	
Diesel Range Organics	**ND**	73	NWTPH-HCID	10-11-16	10-11-16	
Lube Oil Range Organics	**ND**	150	NWTPH-HCID	10-11-16	10-11-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*106*	*50-150*				
Client ID:	**H-5-16-13.5**					
Laboratory ID:	10-084-05					
Gasoline Range Organics	**ND**	28	NWTPH-HCID	10-11-16	10-11-16	
Diesel Range Organics	**ND**	69	NWTPH-HCID	10-11-16	10-11-16	
Lube Oil Range Organics	**ND**	140	NWTPH-HCID	10-11-16	10-11-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*111*	*50-150*				

Date of Report: October 19, 2016
Samples Submitted: October 10, 2016
Laboratory Reference: 1610-084
Project: 31008

NWTPH-HCID

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-5-16-16**					
Laboratory ID:	10-084-06					
Gasoline Range Organics	**ND**	23	NWTPH-HCID	10-11-16	10-11-16	
Diesel Range Organics	**ND**	58	NWTPH-HCID	10-11-16	10-11-16	
Lube Oil Range Organics	**ND**	120	NWTPH-HCID	10-11-16	10-11-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*116*	*50-150*				
Client ID:	**H-5-16-18.5**					
Laboratory ID:	10-084-07					
Gasoline Range Organics	**ND**	23	NWTPH-HCID	10-11-16	10-11-16	
Diesel Range Organics	**ND**	57	NWTPH-HCID	10-11-16	10-11-16	
Lube Oil Range Organics	**ND**	110	NWTPH-HCID	10-11-16	10-11-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*114*	*50-150*				
Client ID:	**H-4-16-3**					
Laboratory ID:	10-084-12					
Gasoline Range Organics	**ND**	22	NWTPH-HCID	10-11-16	10-11-16	
Diesel Range Organics	**ND**	55	NWTPH-HCID	10-11-16	10-11-16	
Lube Oil Range Organics	**ND**	110	NWTPH-HCID	10-11-16	10-11-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*108*	*50-150*				
Client ID:	**H-4-16-6**					
Laboratory ID:	10-084-13					
Gasoline Range Organics	**ND**	23	NWTPH-HCID	10-11-16	10-11-16	
Diesel Range Organics	**ND**	57	NWTPH-HCID	10-11-16	10-11-16	
Lube Oil Range Organics	**ND**	110	NWTPH-HCID	10-11-16	10-11-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*106*	*50-150*				
Client ID:	**H-4-16-8.5**					
Laboratory ID:	10-084-14					
Gasoline Range Organics	**ND**	27	NWTPH-HCID	10-11-16	10-11-16	
Diesel Range Organics	**ND**	67	NWTPH-HCID	10-11-16	10-11-16	
Lube Oil Range Organics	**ND**	130	NWTPH-HCID	10-11-16	10-11-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*104*	*50-150*				

Date of Report: October 19, 2016
Samples Submitted: October 10, 2016
Laboratory Reference: 1610-084
Project: 31008

NWTPH-HCID

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-4-16-11**					
Laboratory ID:	10-084-15					
Gasoline Range Organics	**ND**	26	NWTPH-HCID	10-11-16	10-11-16	
Diesel Range Organics	**ND**	66	NWTPH-HCID	10-11-16	10-11-16	
Lube Oil Range Organics	**ND**	130	NWTPH-HCID	10-11-16	10-11-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*89*	*50-150*				
Client ID:	**H-4-16-16**					
Laboratory ID:	10-084-16					
Gasoline Range Organics	**Detected**	23	NWTPH-HCID	10-11-16	10-11-16	
Diesel Range Organics	**ND**	56	NWTPH-HCID	10-11-16	10-11-16	
Lube Oil Range Organics	**ND**	110	NWTPH-HCID	10-11-16	10-11-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*111*	*50-150*				
Client ID:	**H-4-16-18.5**					
Laboratory ID:	10-084-17					
Gasoline Range Organics	**Detected**	23	NWTPH-HCID	10-11-16	10-11-16	
Diesel Range Organics	**ND**	110	NWTPH-HCID	10-11-16	10-11-16	U1
Lube Oil Range Organics	**ND**	120	NWTPH-HCID	10-11-16	10-11-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*112*	*50-150*				
Client ID:	**H-4-16-19.9**					
Laboratory ID:	10-084-18					
Gasoline Range Organics	**ND**	23	NWTPH-HCID	10-11-16	10-11-16	
Diesel Range Organics	**ND**	58	NWTPH-HCID	10-11-16	10-11-16	
Lube Oil Range Organics	**ND**	120	NWTPH-HCID	10-11-16	10-11-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*91*	*50-150*				
Client ID:	**H-4-16-25.4**					
Laboratory ID:	10-084-19					
Gasoline Range Organics	**ND**	24	NWTPH-HCID	10-11-16	10-11-16	
Diesel Range Organics	**ND**	60	NWTPH-HCID	10-11-16	10-11-16	
Lube Oil Range Organics	**ND**	120	NWTPH-HCID	10-11-16	10-11-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*108*	*50-150*				

Date of Report: October 19, 2016
Samples Submitted: October 10, 2016
Laboratory Reference: 1610-084
Project: 31008

NWTPH-HCID
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1011S1					
Gasoline Range Organics	**ND**	20	NWTPH-HCID	10-11-16	10-11-16	
Diesel Range Organics	**ND**	50	NWTPH-HCID	10-11-16	10-11-16	
Lube Oil Range Organics	**ND**	100	NWTPH-HCID	10-11-16	10-11-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*90*	*50-150*				

Date of Report: October 19, 2016
Samples Submitted: October 10, 2016
Laboratory Reference: 1610-084
Project: 31008

NWTPH-Gx/BTEX

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-4-16-16**					
Laboratory ID:	10-084-16					
Gasoline	**69**	23	NWTPH-Gx	10-17-16	10-17-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*88*	*63-124*				
Client ID:	**H-4-16-18.5**					
Laboratory ID:	10-084-17					
Benzene	**0.13**	0.020	EPA 8021B	10-17-16	10-18-16	
Toluene	**0.074**	0.058	EPA 8021B	10-17-16	10-18-16	
Ethyl Benzene	**0.76**	0.058	EPA 8021B	10-17-16	10-18-16	
m,p-Xylene	**1.9**	0.058	EPA 8021B	10-17-16	10-18-16	
o-Xylene	**0.38**	0.058	EPA 8021B	10-17-16	10-18-16	
Gasoline	**30**	5.8	NWTPH-Gx	10-17-16	10-18-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*111*	*63-124*				

Date of Report: October 19, 2016
Samples Submitted: October 10, 2016
Laboratory Reference: 1610-084
Project: 31008

NWTPH-Gx/BTEX
QUALITY CONTROL

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1017S1					
Benzene	**ND**	0.020	EPA 8021B	10-17-16	10-17-16	
Toluene	**ND**	0.050	EPA 8021B	10-17-16	10-17-16	
Ethyl Benzene	**ND**	0.050	EPA 8021B	10-17-16	10-17-16	
m,p-Xylene	**ND**	0.050	EPA 8021B	10-17-16	10-17-16	
o-Xylene	**ND**	0.050	EPA 8021B	10-17-16	10-17-16	
Gasoline	**ND**	5.0	NWTPH-Gx	10-17-16	10-17-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*91*	*63-124*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	10-084-17										
	ORIG	DUP									
Benzene	**0.111**	**0.112**	NA	NA		NA		NA	1	30	
Toluene	**0.0634**	**0.0510**	NA	NA		NA		NA	22	30	
Ethyl Benzene	**0.652**	**0.645**	NA	NA		NA		NA	1	30	
m,p-Xylene	**1.65**	**1.62**	NA	NA		NA		NA	2	30	
o-Xylene	**0.326**	**0.316**	NA	NA		NA		NA	3	30	
Gasoline	**25.2**	**23.3**	NA	NA		NA		NA	8	30	
Surrogate:											
Fluorobenzene						*111*	*111*	*63-124*			
SPIKE BLANKS											
Laboratory ID:	SB1017S1										
	SB	SBD	SB	SBD		SB	SBD				
Benzene	**0.914**	**0.902**	1.00	1.00		**91**	**90**	70-124	1	12	
Toluene	**0.965**	**0.910**	1.00	1.00		**97**	**91**	73-119	6	12	
Ethyl Benzene	**0.934**	**0.911**	1.00	1.00		**93**	**91**	74-117	2	12	
m,p-Xylene	**0.949**	**0.885**	1.00	1.00		**95**	**89**	75-117	7	13	
o-Xylene	**0.929**	**0.907**	1.00	1.00		**93**	**91**	75-116	2	12	
Surrogate:											
Fluorobenzene						*89*	*89*	*63-124*			

Date of Report: October 19, 2016
Samples Submitted: October 10, 2016
Laboratory Reference: 1610-084
Project: 31008

VOLATILES EPA 8260C
Page 1 of 2

Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-5-16-13.5**					
Laboratory ID:	10-084-05					
Dichlorodifluoromethane	ND	0.083	EPA 8260C	10-11-16	10-11-16	
Chloromethane	ND	0.41	EPA 8260C	10-11-16	10-11-16	
Vinyl Chloride	ND	0.083	EPA 8260C	10-11-16	10-11-16	
Bromomethane	ND	0.083	EPA 8260C	10-11-16	10-11-16	
Chloroethane	ND	0.41	EPA 8260C	10-11-16	10-11-16	
Trichlorofluoromethane	ND	0.083	EPA 8260C	10-11-16	10-11-16	
1,1-Dichloroethene	ND	0.083	EPA 8260C	10-11-16	10-11-16	
Acetone	ND	0.41	EPA 8260C	10-11-16	10-11-16	
Iodomethane	ND	0.41	EPA 8260C	10-11-16	10-11-16	
Carbon Disulfide	ND	0.083	EPA 8260C	10-11-16	10-11-16	
Methylene Chloride	ND	0.41	EPA 8260C	10-11-16	10-11-16	
(trans) 1,2-Dichloroethene	ND	0.083	EPA 8260C	10-11-16	10-11-16	
Methyl t-Butyl Ether	ND	0.083	EPA 8260C	10-11-16	10-11-16	
1,1-Dichloroethane	ND	0.083	EPA 8260C	10-11-16	10-11-16	
Vinyl Acetate	ND	0.41	EPA 8260C	10-11-16	10-11-16	
2,2-Dichloropropane	ND	0.083	EPA 8260C	10-11-16	10-11-16	
(cis) 1,2-Dichloroethene	ND	0.083	EPA 8260C	10-11-16	10-11-16	
2-Butanone	ND	0.41	EPA 8260C	10-11-16	10-11-16	
Bromochloromethane	ND	0.083	EPA 8260C	10-11-16	10-11-16	
Chloroform	ND	0.083	EPA 8260C	10-11-16	10-11-16	
1,1,1-Trichloroethane	ND	0.083	EPA 8260C	10-11-16	10-11-16	
Carbon Tetrachloride	ND	0.083	EPA 8260C	10-11-16	10-11-16	
1,1-Dichloropropene	ND	0.083	EPA 8260C	10-11-16	10-11-16	
Benzene	ND	0.083	EPA 8260C	10-11-16	10-11-16	
1,2-Dichloroethane	ND	0.083	EPA 8260C	10-11-16	10-11-16	
Trichloroethene	ND	0.083	EPA 8260C	10-11-16	10-11-16	
1,2-Dichloropropane	ND	0.083	EPA 8260C	10-11-16	10-11-16	
Dibromomethane	ND	0.083	EPA 8260C	10-11-16	10-11-16	
Bromodichloromethane	ND	0.083	EPA 8260C	10-11-16	10-11-16	
2-Chloroethyl Vinyl Ether	ND	0.41	EPA 8260C	10-11-16	10-11-16	
(cis) 1,3-Dichloropropene	ND	0.083	EPA 8260C	10-11-16	10-11-16	
Methyl Isobutyl Ketone	ND	0.41	EPA 8260C	10-11-16	10-11-16	
Toluene	ND	0.41	EPA 8260C	10-11-16	10-11-16	
(trans) 1,3-Dichloropropene	ND	0.083	EPA 8260C	10-11-16	10-11-16	

Date of Report: October 19, 2016
Samples Submitted: October 10, 2016
Laboratory Reference: 1610-084
Project: 31008

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-5-16-13.5**					
Laboratory ID:	10-084-05					
1,1,2-Trichloroethane	ND	0.083	EPA 8260C	10-11-16	10-11-16	
Tetrachloroethene	ND	0.083	EPA 8260C	10-11-16	10-11-16	
1,3-Dichloropropane	ND	0.083	EPA 8260C	10-11-16	10-11-16	
2-Hexanone	ND	0.41	EPA 8260C	10-11-16	10-11-16	
Dibromochloromethane	ND	0.083	EPA 8260C	10-11-16	10-11-16	
1,2-Dibromoethane	ND	0.083	EPA 8260C	10-11-16	10-11-16	
Chlorobenzene	ND	0.083	EPA 8260C	10-11-16	10-11-16	
1,1,1,2-Tetrachloroethane	ND	0.083	EPA 8260C	10-11-16	10-11-16	
Ethylbenzene	0.089	0.083	EPA 8260C	10-11-16	10-11-16	
m,p-Xylene	ND	0.17	EPA 8260C	10-11-16	10-11-16	
o-Xylene	ND	0.083	EPA 8260C	10-11-16	10-11-16	
Styrene	ND	0.083	EPA 8260C	10-11-16	10-11-16	
Bromoform	ND	0.083	EPA 8260C	10-11-16	10-11-16	
Isopropylbenzene	0.19	0.083	EPA 8260C	10-11-16	10-11-16	
Bromobenzene	ND	0.083	EPA 8260C	10-11-16	10-11-16	
1,1,2,2-Tetrachloroethane	ND	0.083	EPA 8260C	10-11-16	10-11-16	
1,2,3-Trichloropropane	ND	0.083	EPA 8260C	10-11-16	10-11-16	
n-Propylbenzene	1.2	0.083	EPA 8260C	10-11-16	10-11-16	
2-Chlorotoluene	ND	0.083	EPA 8260C	10-11-16	10-11-16	
4-Chlorotoluene	ND	0.083	EPA 8260C	10-11-16	10-11-16	
1,3,5-Trimethylbenzene	0.15	0.083	EPA 8260C	10-11-16	10-11-16	
tert-Butylbenzene	ND	0.083	EPA 8260C	10-11-16	10-11-16	
1,2,4-Trimethylbenzene	ND	0.083	EPA 8260C	10-11-16	10-11-16	
sec-Butylbenzene	0.51	0.083	EPA 8260C	10-11-16	10-11-16	
1,3-Dichlorobenzene	ND	0.083	EPA 8260C	10-11-16	10-11-16	
p-Isopropyltoluene	0.32	0.083	EPA 8260C	10-11-16	10-11-16	
1,4-Dichlorobenzene	ND	0.083	EPA 8260C	10-11-16	10-11-16	
1,2-Dichlorobenzene	ND	0.083	EPA 8260C	10-11-16	10-11-16	
n-Butylbenzene	2.0	0.083	EPA 8260C	10-11-16	10-11-16	
1,2-Dibromo-3-chloropropane	ND	0.41	EPA 8260C	10-11-16	10-11-16	
1,2,4-Trichlorobenzene	ND	0.083	EPA 8260C	10-11-16	10-11-16	
Hexachlorobutadiene	ND	0.41	EPA 8260C	10-11-16	10-11-16	
Naphthalene	ND	0.083	EPA 8260C	10-11-16	10-11-16	
1,2,3-Trichlorobenzene	ND	0.083	EPA 8260C	10-11-16	10-11-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*93*	*76-131*				
Toluene-d8	*102*	*80-126*				
4-Bromofluorobenzene	*96*	*60-146*				

Date of Report: October 19, 2016
Samples Submitted: October 10, 2016
Laboratory Reference: 1610-084
Project: 31008

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Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-4-16-16**					
Laboratory ID:	10-084-16					
Dichlorodifluoromethane	ND	0.051	EPA 8260C	10-11-16	10-11-16	
Chloromethane	ND	0.25	EPA 8260C	10-11-16	10-11-16	
Vinyl Chloride	ND	0.051	EPA 8260C	10-11-16	10-11-16	
Bromomethane	ND	0.051	EPA 8260C	10-11-16	10-11-16	
Chloroethane	ND	0.25	EPA 8260C	10-11-16	10-11-16	
Trichlorofluoromethane	ND	0.051	EPA 8260C	10-11-16	10-11-16	
1,1-Dichloroethene	ND	0.051	EPA 8260C	10-11-16	10-11-16	
Acetone	ND	0.25	EPA 8260C	10-11-16	10-11-16	
Iodomethane	ND	0.25	EPA 8260C	10-11-16	10-11-16	
Carbon Disulfide	ND	0.051	EPA 8260C	10-11-16	10-11-16	
Methylene Chloride	ND	0.25	EPA 8260C	10-11-16	10-11-16	
(trans) 1,2-Dichloroethene	ND	0.051	EPA 8260C	10-11-16	10-11-16	
Methyl t-Butyl Ether	ND	0.051	EPA 8260C	10-11-16	10-11-16	
1,1-Dichloroethane	ND	0.051	EPA 8260C	10-11-16	10-11-16	
Vinyl Acetate	ND	0.25	EPA 8260C	10-11-16	10-11-16	
2,2-Dichloropropane	ND	0.051	EPA 8260C	10-11-16	10-11-16	
(cis) 1,2-Dichloroethene	ND	0.051	EPA 8260C	10-11-16	10-11-16	
2-Butanone	ND	0.25	EPA 8260C	10-11-16	10-11-16	
Bromochloromethane	ND	0.051	EPA 8260C	10-11-16	10-11-16	
Chloroform	ND	0.051	EPA 8260C	10-11-16	10-11-16	
1,1,1-Trichloroethane	ND	0.051	EPA 8260C	10-11-16	10-11-16	
Carbon Tetrachloride	ND	0.051	EPA 8260C	10-11-16	10-11-16	
1,1-Dichloropropene	ND	0.051	EPA 8260C	10-11-16	10-11-16	
Benzene	ND	0.051	EPA 8260C	10-11-16	10-11-16	
1,2-Dichloroethane	ND	0.051	EPA 8260C	10-11-16	10-11-16	
Trichloroethene	ND	0.051	EPA 8260C	10-11-16	10-11-16	
1,2-Dichloropropane	ND	0.051	EPA 8260C	10-11-16	10-11-16	
Dibromomethane	ND	0.051	EPA 8260C	10-11-16	10-11-16	
Bromodichloromethane	ND	0.051	EPA 8260C	10-11-16	10-11-16	
2-Chloroethyl Vinyl Ether	ND	0.25	EPA 8260C	10-11-16	10-11-16	
(cis) 1,3-Dichloropropene	ND	0.051	EPA 8260C	10-11-16	10-11-16	
Methyl Isobutyl Ketone	ND	0.25	EPA 8260C	10-11-16	10-11-16	
Toluene	ND	0.25	EPA 8260C	10-11-16	10-11-16	
(trans) 1,3-Dichloropropene	ND	0.051	EPA 8260C	10-11-16	10-11-16	

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Laboratory Reference: 1610-084
Project: 31008

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-4-16-16**					
Laboratory ID:	10-084-16					
1,1,2-Trichloroethane	ND	0.051	EPA 8260C	10-11-16	10-11-16	
Tetrachloroethene	ND	0.051	EPA 8260C	10-11-16	10-11-16	
1,3-Dichloropropane	ND	0.051	EPA 8260C	10-11-16	10-11-16	
2-Hexanone	ND	0.25	EPA 8260C	10-11-16	10-11-16	
Dibromochloromethane	ND	0.051	EPA 8260C	10-11-16	10-11-16	
1,2-Dibromoethane	ND	0.051	EPA 8260C	10-11-16	10-11-16	
Chlorobenzene	ND	0.051	EPA 8260C	10-11-16	10-11-16	
1,1,1,2-Tetrachloroethane	ND	0.051	EPA 8260C	10-11-16	10-11-16	
Ethylbenzene	0.55	0.051	EPA 8260C	10-11-16	10-11-16	
m,p-Xylene	1.4	0.10	EPA 8260C	10-11-16	10-11-16	
o-Xylene	0.49	0.051	EPA 8260C	10-11-16	10-11-16	
Styrene	ND	0.051	EPA 8260C	10-11-16	10-11-16	
Bromoform	ND	0.051	EPA 8260C	10-11-16	10-11-16	
Isopropylbenzene	0.092	0.051	EPA 8260C	10-11-16	10-11-16	
Bromobenzene	ND	0.051	EPA 8260C	10-11-16	10-11-16	
1,1,2,2-Tetrachloroethane	ND	0.051	EPA 8260C	10-11-16	10-11-16	
1,2,3-Trichloropropane	ND	0.051	EPA 8260C	10-11-16	10-11-16	
n-Propylbenzene	0.36	0.051	EPA 8260C	10-11-16	10-11-16	
2-Chlorotoluene	ND	0.051	EPA 8260C	10-11-16	10-11-16	
4-Chlorotoluene	ND	0.051	EPA 8260C	10-11-16	10-11-16	
1,3,5-Trimethylbenzene	0.56	0.051	EPA 8260C	10-11-16	10-11-16	
tert-Butylbenzene	ND	0.051	EPA 8260C	10-11-16	10-11-16	
1,2,4-Trimethylbenzene	1.8	0.051	EPA 8260C	10-11-16	10-11-16	
sec-Butylbenzene	0.064	0.051	EPA 8260C	10-11-16	10-11-16	
1,3-Dichlorobenzene	ND	0.051	EPA 8260C	10-11-16	10-11-16	
p-Isopropyltoluene	0.053	0.051	EPA 8260C	10-11-16	10-11-16	
1,4-Dichlorobenzene	ND	0.051	EPA 8260C	10-11-16	10-11-16	
1,2-Dichlorobenzene	ND	0.051	EPA 8260C	10-11-16	10-11-16	
n-Butylbenzene	0.29	0.051	EPA 8260C	10-11-16	10-11-16	
1,2-Dibromo-3-chloropropane	ND	0.25	EPA 8260C	10-11-16	10-11-16	
1,2,4-Trichlorobenzene	ND	0.051	EPA 8260C	10-11-16	10-11-16	
Hexachlorobutadiene	ND	0.25	EPA 8260C	10-11-16	10-11-16	
Naphthalene	0.64	0.051	EPA 8260C	10-11-16	10-11-16	
1,2,3-Trichlorobenzene	ND	0.051	EPA 8260C	10-11-16	10-11-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*92*	*76-131*				
Toluene-d8	*95*	*80-126*				
4-Bromofluorobenzene	*96*	*60-146*				

Date of Report: October 19, 2016
Samples Submitted: October 10, 2016
Laboratory Reference: 1610-084
Project: 31008

VOLATILES EPA 8260C
METHOD BLANK QUALITY CONTROL
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Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB1011S2					
Dichlorodifluoromethane	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
Chloromethane	ND	0.0050	EPA 8260C	10-11-16	10-11-16	
Vinyl Chloride	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
Bromomethane	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
Chloroethane	ND	0.0050	EPA 8260C	10-11-16	10-11-16	
Trichlorofluoromethane	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
1,1-Dichloroethene	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
Acetone	ND	0.0050	EPA 8260C	10-11-16	10-11-16	
Iodomethane	ND	0.0050	EPA 8260C	10-11-16	10-11-16	
Carbon Disulfide	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
Methylene Chloride	ND	0.0050	EPA 8260C	10-11-16	10-11-16	
(trans) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
Methyl t-Butyl Ether	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
1,1-Dichloroethane	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
Vinyl Acetate	ND	0.0050	EPA 8260C	10-11-16	10-11-16	
2,2-Dichloropropane	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
(cis) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
2-Butanone	ND	0.0050	EPA 8260C	10-11-16	10-11-16	
Bromochloromethane	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
Chloroform	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
1,1,1-Trichloroethane	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
Carbon Tetrachloride	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
1,1-Dichloropropene	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
Benzene	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
1,2-Dichloroethane	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
Trichloroethene	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
1,2-Dichloropropane	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
Dibromomethane	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
Bromodichloromethane	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
2-Chloroethyl Vinyl Ether	ND	0.0050	EPA 8260C	10-11-16	10-11-16	
(cis) 1,3-Dichloropropene	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
Methyl Isobutyl Ketone	ND	0.0050	EPA 8260C	10-11-16	10-11-16	
Toluene	ND	0.0050	EPA 8260C	10-11-16	10-11-16	
(trans) 1,3-Dichloropropene	ND	0.0010	EPA 8260C	10-11-16	10-11-16	

Date of Report: October 19, 2016
Samples Submitted: October 10, 2016
Laboratory Reference: 1610-084
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VOLATILES EPA 8260C
METHOD BLANK QUALITY CONTROL
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB1011S2					
1,1,2-Trichloroethane	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
Tetrachloroethene	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
1,3-Dichloropropane	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
2-Hexanone	ND	0.0050	EPA 8260C	10-11-16	10-11-16	
Dibromochloromethane	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
1,2-Dibromoethane	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
Chlorobenzene	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
1,1,1,2-Tetrachloroethane	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
Ethylbenzene	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
m,p-Xylene	ND	0.0020	EPA 8260C	10-11-16	10-11-16	
o-Xylene	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
Styrene	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
Bromoform	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
Isopropylbenzene	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
Bromobenzene	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
1,1,2,2-Tetrachloroethane	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
1,2,3-Trichloropropane	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
n-Propylbenzene	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
2-Chlorotoluene	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
4-Chlorotoluene	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
1,3,5-Trimethylbenzene	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
tert-Butylbenzene	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
1,2,4-Trimethylbenzene	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
sec-Butylbenzene	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
1,3-Dichlorobenzene	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
p-Isopropyltoluene	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
1,4-Dichlorobenzene	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
1,2-Dichlorobenzene	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
n-Butylbenzene	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
1,2-Dibromo-3-chloropropane	ND	0.0050	EPA 8260C	10-11-16	10-11-16	
1,2,4-Trichlorobenzene	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
Hexachlorobutadiene	ND	0.0050	EPA 8260C	10-11-16	10-11-16	
Naphthalene	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
1,2,3-Trichlorobenzene	ND	0.0010	EPA 8260C	10-11-16	10-11-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*100*	*76-131*				
Toluene-d8	*103*	*80-126*				
4-Bromofluorobenzene	*103*	*60-146*				

Date of Report: October 19, 2016
Samples Submitted: October 10, 2016
Laboratory Reference: 1610-084
Project: 31008

VOLATILES EPA 8260C
SB/SBD QUALITY CONTROL

Matrix: Soil
Units: mg/kg

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB1011S1									
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	**0.0472**	**0.0496**	0.0500	0.0500	94	99	68-126	5	15	
Benzene	**0.0473**	**0.0487**	0.0500	0.0500	95	97	70-121	3	15	
Trichloroethene	**0.0440**	**0.0462**	0.0500	0.0500	88	92	75-120	5	15	
Toluene	**0.0459**	**0.0487**	0.0500	0.0500	92	97	80-120	6	15	
Chlorobenzene	**0.0474**	**0.0478**	0.0500	0.0500	95	96	76-120	1	15	
Surrogate:										
Dibromofluoromethane					*98*	*99*	*76-131*			
Toluene-d8					*98*	*100*	*80-126*			
4-Bromofluorobenzene					*100*	*101*	*60-146*			

Date of Report: October 19, 2016
Samples Submitted: October 10, 2016
Laboratory Reference: 1610-084
Project: 31008

SEMIVOLATILES EPA 8270D/SIM
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Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-5-16-13.5**					
Laboratory ID:	10-084-05					
n-Nitrosodimethylamine	**ND**	0.046	EPA 8270D	10-12-16	10-13-16	
Pyridine	**ND**	0.46	EPA 8270D	10-12-16	10-13-16	
Phenol	**ND**	0.046	EPA 8270D	10-12-16	10-13-16	
Aniline	**ND**	0.23	EPA 8270D	10-12-16	10-13-16	
bis(2-Chloroethyl)ether	**ND**	0.046	EPA 8270D	10-12-16	10-13-16	
2-Chlorophenol	**ND**	0.046	EPA 8270D	10-12-16	10-13-16	
1,3-Dichlorobenzene	**ND**	0.046	EPA 8270D	10-12-16	10-13-16	
1,4-Dichlorobenzene	**ND**	0.046	EPA 8270D	10-12-16	10-13-16	
Benzyl alcohol	**ND**	0.23	EPA 8270D	10-12-16	10-13-16	
1,2-Dichlorobenzene	**ND**	0.046	EPA 8270D	10-12-16	10-13-16	
2-Methylphenol (o-Cresol)	**ND**	0.046	EPA 8270D	10-12-16	10-13-16	
bis(2-Chloroisopropyl)ether	**ND**	0.046	EPA 8270D	10-12-16	10-13-16	
(3+4)-Methylphenol (m,p-Cresol)	**ND**	0.046	EPA 8270D	10-12-16	10-13-16	
n-Nitroso-di-n-propylamine	**ND**	0.046	EPA 8270D	10-12-16	10-13-16	
Hexachloroethane	**ND**	0.046	EPA 8270D	10-12-16	10-13-16	
Nitrobenzene	**ND**	0.046	EPA 8270D	10-12-16	10-13-16	
Isophorone	**ND**	0.046	EPA 8270D	10-12-16	10-13-16	
2-Nitrophenol	**ND**	0.046	EPA 8270D	10-12-16	10-13-16	
2,4-Dimethylphenol	**ND**	0.046	EPA 8270D	10-12-16	10-13-16	
bis(2-Chloroethoxy)methane	**ND**	0.046	EPA 8270D	10-12-16	10-13-16	
2,4-Dichlorophenol	**ND**	0.046	EPA 8270D	10-12-16	10-13-16	
1,2,4-Trichlorobenzene	**ND**	0.046	EPA 8270D	10-12-16	10-13-16	
Naphthalene	**0.039**	0.0092	EPA 8270D/SIM	10-12-16	10-13-16	
4-Chloroaniline	**ND**	0.23	EPA 8270D	10-12-16	10-13-16	
Hexachlorobutadiene	**ND**	0.046	EPA 8270D	10-12-16	10-13-16	
4-Chloro-3-methylphenol	**ND**	0.046	EPA 8270D	10-12-16	10-13-16	
2-Methylnaphthalene	**0.35**	0.046	EPA 8270D	10-12-16	10-13-16	
1-Methylnaphthalene	**0.037**	0.0092	EPA 8270D/SIM	10-12-16	10-13-16	
Hexachlorocyclopentadiene	**ND**	0.046	EPA 8270D	10-12-16	10-13-16	
2,4,6-Trichlorophenol	**ND**	0.046	EPA 8270D	10-12-16	10-13-16	
2,3-Dichloroaniline	**ND**	0.046	EPA 8270D	10-12-16	10-13-16	
2,4,5-Trichlorophenol	**ND**	0.046	EPA 8270D	10-12-16	10-13-16	
2-Chloronaphthalene	**ND**	0.046	EPA 8270D	10-12-16	10-13-16	
2-Nitroaniline	**ND**	0.046	EPA 8270D	10-12-16	10-13-16	
1,4-Dinitrobenzene	**ND**	0.046	EPA 8270D	10-12-16	10-13-16	
Dimethylphthalate	**ND**	0.046	EPA 8270D	10-12-16	10-13-16	
1,3-Dinitrobenzene	**ND**	0.046	EPA 8270D	10-12-16	10-13-16	
2,6-Dinitrotoluene	**ND**	0.046	EPA 8270D	10-12-16	10-13-16	
1,2-Dinitrobenzene	**ND**	0.046	EPA 8270D	10-12-16	10-13-16	
Acenaphthylene	**ND**	0.0092	EPA 8270D/SIM	10-12-16	10-13-16	
3-Nitroaniline	**ND**	0.046	EPA 8270D	10-12-16	10-13-16	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-5-16-13.5**					
Laboratory ID:	10-084-05					
2,4-Dinitrophenol	**ND**	0.23	EPA 8270D	10-12-16	10-13-16	
Acenaphthene	**ND**	0.0092	EPA 8270D/SIM	10-12-16	10-13-16	
4-Nitrophenol	**ND**	0.046	EPA 8270D	10-12-16	10-13-16	
2,4-Dinitrotoluene	**ND**	0.046	EPA 8270D	10-12-16	10-13-16	
Dibenzofuran	**ND**	0.046	EPA 8270D	10-12-16	10-13-16	
2,3,5,6-Tetrachlorophenol	**ND**	0.046	EPA 8270D	10-12-16	10-13-16	
2,3,4,6-Tetrachlorophenol	**ND**	0.046	EPA 8270D	10-12-16	10-13-16	
Diethylphthalate	**ND**	0.23	EPA 8270D	10-12-16	10-13-16	
4-Chlorophenyl-phenylether	**ND**	0.046	EPA 8270D	10-12-16	10-13-16	
4-Nitroaniline	**ND**	0.046	EPA 8270D	10-12-16	10-13-16	
Fluorene	**ND**	0.0092	EPA 8270D/SIM	10-12-16	10-13-16	
4,6-Dinitro-2-methylphenol	**ND**	0.23	EPA 8270D	10-12-16	10-13-16	
n-Nitrosodiphenylamine	**ND**	0.046	EPA 8270D	10-12-16	10-13-16	
1,2-Diphenylhydrazine	**ND**	0.046	EPA 8270D	10-12-16	10-13-16	
4-Bromophenyl-phenylether	**ND**	0.046	EPA 8270D	10-12-16	10-13-16	
Hexachlorobenzene	**ND**	0.046	EPA 8270D	10-12-16	10-13-16	
Pentachlorophenol	**ND**	0.23	EPA 8270D	10-12-16	10-13-16	
Phenanthrene	**ND**	0.0092	EPA 8270D/SIM	10-12-16	10-13-16	
Anthracene	**ND**	0.0092	EPA 8270D/SIM	10-12-16	10-13-16	
Carbazole	**ND**	0.046	EPA 8270D	10-12-16	10-13-16	
Di-n-butylphthalate	**ND**	0.23	EPA 8270D	10-12-16	10-13-16	
Fluoranthene	**ND**	0.0092	EPA 8270D/SIM	10-12-16	10-13-16	
Benzidine	**ND**	0.46	EPA 8270D	10-12-16	10-13-16	
Pyrene	**ND**	0.0092	EPA 8270D/SIM	10-12-16	10-13-16	
Butylbenzylphthalate	**ND**	0.046	EPA 8270D	10-12-16	10-13-16	
bis-2-Ethylhexyladipate	**ND**	0.046	EPA 8270D	10-12-16	10-13-16	
3,3'-Dichlorobenzidine	**ND**	0.23	EPA 8270D	10-12-16	10-13-16	
Benzo[a]anthracene	**ND**	0.0092	EPA 8270D/SIM	10-12-16	10-13-16	
Chrysene	**ND**	0.0092	EPA 8270D/SIM	10-12-16	10-13-16	
bis(2-Ethylhexyl)phthalate	**ND**	0.046	EPA 8270D	10-12-16	10-13-16	
Di-n-octylphthalate	**ND**	0.046	EPA 8270D	10-12-16	10-13-16	
Benzo[b]fluoranthene	**ND**	0.0092	EPA 8270D/SIM	10-12-16	10-13-16	
Benzo(j,k)fluoranthene	**ND**	0.0092	EPA 8270D/SIM	10-12-16	10-13-16	
Benzo[a]pyrene	**ND**	0.0092	EPA 8270D/SIM	10-12-16	10-13-16	
Indeno[1,2,3-cd]pyrene	**ND**	0.0092	EPA 8270D/SIM	10-12-16	10-13-16	
Dibenz[a,h]anthracene	**ND**	0.0092	EPA 8270D/SIM	10-12-16	10-13-16	
Benzo[g,h,i]perylene	**ND**	0.0092	EPA 8270D/SIM	10-12-16	10-13-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*62*	*24 - 117*				
Phenol-d6	*65*	*30 - 120*				
Nitrobenzene-d5	*67*	*27 - 112*				
2-Fluorobiphenyl	*66*	*35 - 113*				
2,4,6-Tribromophenol	*68*	*21 - 120*				
Terphenyl-d14	*70*	*39 - 121*				

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Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-4-16-16**					
Laboratory ID:	10-084-16					
n-Nitrosodimethylamine	**ND**	0.037	EPA 8270D	10-12-16	10-13-16	
Pyridine	**ND**	0.37	EPA 8270D	10-12-16	10-13-16	
Phenol	**ND**	0.037	EPA 8270D	10-12-16	10-13-16	
Aniline	**ND**	0.19	EPA 8270D	10-12-16	10-13-16	
bis(2-Chloroethyl)ether	**ND**	0.037	EPA 8270D	10-12-16	10-13-16	
2-Chlorophenol	**ND**	0.037	EPA 8270D	10-12-16	10-13-16	
1,3-Dichlorobenzene	**ND**	0.037	EPA 8270D	10-12-16	10-13-16	
1,4-Dichlorobenzene	**ND**	0.037	EPA 8270D	10-12-16	10-13-16	
Benzyl alcohol	**ND**	0.19	EPA 8270D	10-12-16	10-13-16	
1,2-Dichlorobenzene	**ND**	0.037	EPA 8270D	10-12-16	10-13-16	
2-Methylphenol (o-Cresol)	**ND**	0.037	EPA 8270D	10-12-16	10-13-16	
bis(2-Chloroisopropyl)ether	**ND**	0.037	EPA 8270D	10-12-16	10-13-16	
(3+4)-Methylphenol (m,p-Cresol)	**ND**	0.037	EPA 8270D	10-12-16	10-13-16	
n-Nitroso-di-n-propylamine	**ND**	0.037	EPA 8270D	10-12-16	10-13-16	
Hexachloroethane	**ND**	0.037	EPA 8270D	10-12-16	10-13-16	
Nitrobenzene	**ND**	0.037	EPA 8270D	10-12-16	10-13-16	
Isophorone	**ND**	0.037	EPA 8270D	10-12-16	10-13-16	
2-Nitrophenol	**ND**	0.037	EPA 8270D	10-12-16	10-13-16	
2,4-Dimethylphenol	**ND**	0.037	EPA 8270D	10-12-16	10-13-16	
bis(2-Chloroethoxy)methane	**ND**	0.037	EPA 8270D	10-12-16	10-13-16	
2,4-Dichlorophenol	**ND**	0.037	EPA 8270D	10-12-16	10-13-16	
1,2,4-Trichlorobenzene	**ND**	0.037	EPA 8270D	10-12-16	10-13-16	
Naphthalene	**0.59**	0.037	EPA 8270D	10-12-16	10-13-16	
4-Chloroaniline	**ND**	0.19	EPA 8270D	10-12-16	10-13-16	
Hexachlorobutadiene	**ND**	0.037	EPA 8270D	10-12-16	10-13-16	
4-Chloro-3-methylphenol	**ND**	0.037	EPA 8270D	10-12-16	10-13-16	
2-Methylnaphthalene	**0.74**	0.037	EPA 8270D	10-12-16	10-13-16	
1-Methylnaphthalene	**0.37**	0.037	EPA 8270D	10-12-16	10-13-16	
Hexachlorocyclopentadiene	**ND**	0.037	EPA 8270D	10-12-16	10-13-16	
2,4,6-Trichlorophenol	**ND**	0.037	EPA 8270D	10-12-16	10-13-16	
2,3-Dichloroaniline	**ND**	0.037	EPA 8270D	10-12-16	10-13-16	
2,4,5-Trichlorophenol	**ND**	0.037	EPA 8270D	10-12-16	10-13-16	
2-Chloronaphthalene	**ND**	0.037	EPA 8270D	10-12-16	10-13-16	
2-Nitroaniline	**ND**	0.037	EPA 8270D	10-12-16	10-13-16	
1,4-Dinitrobenzene	**ND**	0.037	EPA 8270D	10-12-16	10-13-16	
Dimethylphthalate	**ND**	0.037	EPA 8270D	10-12-16	10-13-16	
1,3-Dinitrobenzene	**ND**	0.037	EPA 8270D	10-12-16	10-13-16	
2,6-Dinitrotoluene	**ND**	0.037	EPA 8270D	10-12-16	10-13-16	
1,2-Dinitrobenzene	**ND**	0.037	EPA 8270D	10-12-16	10-13-16	
Acenaphthylene	**ND**	0.0075	EPA 8270D/SIM	10-12-16	10-13-16	
3-Nitroaniline	**ND**	0.037	EPA 8270D	10-12-16	10-13-16	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-4-16-16**					
Laboratory ID:	10-084-16					
2,4-Dinitrophenol	**ND**	0.19	EPA 8270D	10-12-16	10-13-16	
Acenaphthene	**ND**	0.0075	EPA 8270D/SIM	10-12-16	10-13-16	
4-Nitrophenol	**ND**	0.037	EPA 8270D	10-12-16	10-13-16	
2,4-Dinitrotoluene	**ND**	0.037	EPA 8270D	10-12-16	10-13-16	
Dibenzofuran	**ND**	0.037	EPA 8270D	10-12-16	10-13-16	
2,3,5,6-Tetrachlorophenol	**ND**	0.037	EPA 8270D	10-12-16	10-13-16	
2,3,4,6-Tetrachlorophenol	**ND**	0.037	EPA 8270D	10-12-16	10-13-16	
Diethylphthalate	**ND**	0.19	EPA 8270D	10-12-16	10-13-16	
4-Chlorophenyl-phenylether	**ND**	0.037	EPA 8270D	10-12-16	10-13-16	
4-Nitroaniline	**ND**	0.037	EPA 8270D	10-12-16	10-13-16	
Fluorene	**ND**	0.0075	EPA 8270D/SIM	10-12-16	10-13-16	
4,6-Dinitro-2-methylphenol	**ND**	0.19	EPA 8270D	10-12-16	10-13-16	
n-Nitrosodiphenylamine	**ND**	0.037	EPA 8270D	10-12-16	10-13-16	
1,2-Diphenylhydrazine	**ND**	0.037	EPA 8270D	10-12-16	10-13-16	
4-Bromophenyl-phenylether	**ND**	0.037	EPA 8270D	10-12-16	10-13-16	
Hexachlorobenzene	**ND**	0.037	EPA 8270D	10-12-16	10-13-16	
Pentachlorophenol	**ND**	0.19	EPA 8270D	10-12-16	10-13-16	
Phenanthrene	**ND**	0.0075	EPA 8270D/SIM	10-12-16	10-13-16	
Anthracene	**ND**	0.0075	EPA 8270D/SIM	10-12-16	10-13-16	
Carbazole	**ND**	0.037	EPA 8270D	10-12-16	10-13-16	
Di-n-butylphthalate	**ND**	0.19	EPA 8270D	10-12-16	10-13-16	
Fluoranthene	**ND**	0.0075	EPA 8270D/SIM	10-12-16	10-13-16	
Benzidine	**ND**	0.37	EPA 8270D	10-12-16	10-13-16	
Pyrene	**ND**	0.0075	EPA 8270D/SIM	10-12-16	10-13-16	
Butylbenzylphthalate	**ND**	0.037	EPA 8270D	10-12-16	10-13-16	
bis-2-Ethylhexyladipate	**ND**	0.037	EPA 8270D	10-12-16	10-13-16	
3,3'-Dichlorobenzidine	**ND**	0.19	EPA 8270D	10-12-16	10-13-16	
Benzo[a]anthracene	**ND**	0.0075	EPA 8270D/SIM	10-12-16	10-13-16	
Chrysene	**ND**	0.0075	EPA 8270D/SIM	10-12-16	10-13-16	
bis(2-Ethylhexyl)phthalate	**ND**	0.037	EPA 8270D	10-12-16	10-13-16	
Di-n-octylphthalate	**ND**	0.037	EPA 8270D	10-12-16	10-13-16	
Benzo[b]fluoranthene	**ND**	0.0075	EPA 8270D/SIM	10-12-16	10-13-16	
Benzo(j,k)fluoranthene	**ND**	0.0075	EPA 8270D/SIM	10-12-16	10-13-16	
Benzo[a]pyrene	**ND**	0.0075	EPA 8270D/SIM	10-12-16	10-13-16	
Indeno[1,2,3-cd]pyrene	**ND**	0.0075	EPA 8270D/SIM	10-12-16	10-13-16	
Dibenz[a,h]anthracene	**ND**	0.0075	EPA 8270D/SIM	10-12-16	10-13-16	
Benzo[g,h,i]perylene	**ND**	0.0075	EPA 8270D/SIM	10-12-16	10-13-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*67*	*24 - 117*				
Phenol-d6	*69*	*30 - 120*				
Nitrobenzene-d5	*71*	*27 - 112*				
2-Fluorobiphenyl	*70*	*35 - 113*				
2,4,6-Tribromophenol	*74*	*21 - 120*				
Terphenyl-d14	*76*	*39 - 121*				

Date of Report: October 19, 2016
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Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB1012S1					
n-Nitrosodimethylamine	**ND**	0.033	EPA 8270D	10-12-16	10-12-16	
Pyridine	**ND**	0.33	EPA 8270D	10-12-16	10-12-16	
Phenol	**ND**	0.033	EPA 8270D	10-12-16	10-12-16	
Aniline	**ND**	0.17	EPA 8270D	10-12-16	10-12-16	
bis(2-Chloroethyl)ether	**ND**	0.033	EPA 8270D	10-12-16	10-12-16	
2-Chlorophenol	**ND**	0.033	EPA 8270D	10-12-16	10-12-16	
1,3-Dichlorobenzene	**ND**	0.033	EPA 8270D	10-12-16	10-12-16	
1,4-Dichlorobenzene	**ND**	0.033	EPA 8270D	10-12-16	10-12-16	
Benzyl alcohol	**ND**	0.17	EPA 8270D	10-12-16	10-12-16	
1,2-Dichlorobenzene	**ND**	0.033	EPA 8270D	10-12-16	10-12-16	
2-Methylphenol (o-Cresol)	**ND**	0.033	EPA 8270D	10-12-16	10-12-16	
bis(2-Chloroisopropyl)ether	**ND**	0.033	EPA 8270D	10-12-16	10-12-16	
(3+4)-Methylphenol (m,p-Cresol)	**ND**	0.033	EPA 8270D	10-12-16	10-12-16	
n-Nitroso-di-n-propylamine	**ND**	0.033	EPA 8270D	10-12-16	10-12-16	
Hexachloroethane	**ND**	0.033	EPA 8270D	10-12-16	10-12-16	
Nitrobenzene	**ND**	0.033	EPA 8270D	10-12-16	10-12-16	
Isophorone	**ND**	0.033	EPA 8270D	10-12-16	10-12-16	
2-Nitrophenol	**ND**	0.033	EPA 8270D	10-12-16	10-12-16	
2,4-Dimethylphenol	**ND**	0.033	EPA 8270D	10-12-16	10-12-16	
bis(2-Chloroethoxy)methane	**ND**	0.033	EPA 8270D	10-12-16	10-12-16	
2,4-Dichlorophenol	**ND**	0.033	EPA 8270D	10-12-16	10-12-16	
1,2,4-Trichlorobenzene	**ND**	0.033	EPA 8270D	10-12-16	10-12-16	
Naphthalene	**ND**	0.0067	EPA 8270D/SIM	10-12-16	10-13-16	
4-Chloroaniline	**ND**	0.17	EPA 8270D	10-12-16	10-12-16	
Hexachlorobutadiene	**ND**	0.033	EPA 8270D	10-12-16	10-12-16	
4-Chloro-3-methylphenol	**ND**	0.033	EPA 8270D	10-12-16	10-12-16	
2-Methylnaphthalene	**ND**	0.0067	EPA 8270D/SIM	10-12-16	10-13-16	
1-Methylnaphthalene	**ND**	0.0067	EPA 8270D/SIM	10-12-16	10-13-16	
Hexachlorocyclopentadiene	**ND**	0.033	EPA 8270D	10-12-16	10-12-16	
2,4,6-Trichlorophenol	**ND**	0.033	EPA 8270D	10-12-16	10-12-16	
2,3-Dichloroaniline	**ND**	0.033	EPA 8270D	10-12-16	10-12-16	
2,4,5-Trichlorophenol	**ND**	0.033	EPA 8270D	10-12-16	10-12-16	
2-Chloronaphthalene	**ND**	0.033	EPA 8270D	10-12-16	10-12-16	
2-Nitroaniline	**ND**	0.033	EPA 8270D	10-12-16	10-12-16	
1,4-Dinitrobenzene	**ND**	0.033	EPA 8270D	10-12-16	10-12-16	
Dimethylphthalate	**ND**	0.033	EPA 8270D	10-12-16	10-12-16	
1,3-Dinitrobenzene	**ND**	0.033	EPA 8270D	10-12-16	10-12-16	
2,6-Dinitrotoluene	**ND**	0.033	EPA 8270D	10-12-16	10-12-16	
1,2-Dinitrobenzene	**ND**	0.033	EPA 8270D	10-12-16	10-12-16	
Acenaphthylene	**ND**	0.0067	EPA 8270D/SIM	10-12-16	10-13-16	
3-Nitroaniline	**ND**	0.033	EPA 8270D	10-12-16	10-12-16	

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METHOD BLANK QUALITY CONTROL
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB1012S1					
2,4-Dinitrophenol	**ND**	0.17	EPA 8270D	10-12-16	10-12-16	
Acenaphthene	**ND**	0.0067	EPA 8270D/SIM	10-12-16	10-13-16	
4-Nitrophenol	**ND**	0.033	EPA 8270D	10-12-16	10-12-16	
2,4-Dinitrotoluene	**ND**	0.033	EPA 8270D	10-12-16	10-12-16	
Dibenzofuran	**ND**	0.033	EPA 8270D	10-12-16	10-12-16	
2,3,5,6-Tetrachlorophenol	**ND**	0.033	EPA 8270D	10-12-16	10-12-16	
2,3,4,6-Tetrachlorophenol	**ND**	0.033	EPA 8270D	10-12-16	10-12-16	
Diethylphthalate	**ND**	0.17	EPA 8270D	10-12-16	10-12-16	
4-Chlorophenyl-phenylether	**ND**	0.033	EPA 8270D	10-12-16	10-12-16	
4-Nitroaniline	**ND**	0.033	EPA 8270D	10-12-16	10-12-16	
Fluorene	**ND**	0.0067	EPA 8270D/SIM	10-12-16	10-13-16	
4,6-Dinitro-2-methylphenol	**ND**	0.17	EPA 8270D	10-12-16	10-12-16	
n-Nitrosodiphenylamine	**ND**	0.033	EPA 8270D	10-12-16	10-12-16	
1,2-Diphenylhydrazine	**ND**	0.033	EPA 8270D	10-12-16	10-12-16	
4-Bromophenyl-phenylether	**ND**	0.033	EPA 8270D	10-12-16	10-12-16	
Hexachlorobenzene	**ND**	0.033	EPA 8270D	10-12-16	10-12-16	
Pentachlorophenol	**ND**	0.17	EPA 8270D	10-12-16	10-12-16	
Phenanthrene	**ND**	0.0067	EPA 8270D/SIM	10-12-16	10-13-16	
Anthracene	**ND**	0.0067	EPA 8270D/SIM	10-12-16	10-13-16	
Carbazole	**ND**	0.033	EPA 8270D	10-12-16	10-12-16	
Di-n-butylphthalate	**ND**	0.17	EPA 8270D	10-12-16	10-12-16	
Fluoranthene	**ND**	0.0067	EPA 8270D/SIM	10-12-16	10-13-16	
Benzidine	**ND**	0.33	EPA 8270D	10-12-16	10-12-16	
Pyrene	**ND**	0.0067	EPA 8270D/SIM	10-12-16	10-13-16	
Butylbenzylphthalate	**ND**	0.033	EPA 8270D	10-12-16	10-12-16	
bis-2-Ethylhexyladipate	**ND**	0.033	EPA 8270D	10-12-16	10-12-16	
3,3'-Dichlorobenzidine	**ND**	0.17	EPA 8270D	10-12-16	10-12-16	
Benzo[a]anthracene	**ND**	0.0067	EPA 8270D/SIM	10-12-16	10-13-16	
Chrysene	**ND**	0.0067	EPA 8270D/SIM	10-12-16	10-13-16	
bis(2-Ethylhexyl)phthalate	**ND**	0.033	EPA 8270D	10-12-16	10-12-16	
Di-n-octylphthalate	**ND**	0.033	EPA 8270D	10-12-16	10-12-16	
Benzo[b]fluoranthene	**ND**	0.0067	EPA 8270D/SIM	10-12-16	10-13-16	
Benzo(j,k)fluoranthene	**ND**	0.0067	EPA 8270D/SIM	10-12-16	10-13-16	
Benzo[a]pyrene	**ND**	0.0067	EPA 8270D/SIM	10-12-16	10-13-16	
Indeno[1,2,3-cd]pyrene	**ND**	0.0067	EPA 8270D/SIM	10-12-16	10-13-16	
Dibenz[a,h]anthracene	**ND**	0.0067	EPA 8270D/SIM	10-12-16	10-13-16	
Benzo[g,h,i]perylene	**ND**	0.0067	EPA 8270D/SIM	10-12-16	10-13-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*89*	*24 - 117*				
Phenol-d6	*94*	*30 - 120*				
Nitrobenzene-d5	*96*	*27 - 112*				
2-Fluorobiphenyl	*89*	*35 - 113*				
2,4,6-Tribromophenol	*97*	*21 - 120*				
Terphenyl-d14	*93*	*39 - 121*				

Date of Report: October 19, 2016
Samples Submitted: October 10, 2016
Laboratory Reference: 1610-084
Project: 31008

SEMIVOLATILES EPA 8270D/SIM
MS/MSD QUALITY CONTROL

Matrix: Soil
Units: mg/Kg

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
MATRIX SPIKES											
Laboratory ID:	10-015-01										
	MS	MSD	MS	MSD		MS	MSD				
Phenol	**0.679**	**0.658**	1.33	1.33	ND	51	49	31 - 108	3	36	
2-Chlorophenol	**0.671**	**0.659**	1.33	1.33	ND	50	50	38 - 103	2	38	
1,4-Dichlorobenzene	**0.325**	**0.329**	0.667	0.667	ND	49	49	25 - 101	1	40	
n-Nitroso-di-n-propylamine	**0.322**	**0.324**	0.667	0.667	ND	48	49	26 - 102	1	38	
1,2,4-Trichlorobenzene	**0.325**	**0.328**	0.667	0.667	ND	49	49	27 - 101	1	40	
4-Chloro-3-methylphenol	**0.765**	**0.802**	1.33	1.33	ND	58	60	42 - 106	5	29	
Acenaphthene	**0.385**	**0.404**	0.667	0.667	ND	58	61	42 - 103	5	30	
4-Nitrophenol	**0.664**	**0.713**	1.33	1.33	ND	50	54	25 - 125	7	29	
2,4-Dinitrotoluene	**0.403**	**0.422**	0.667	0.667	ND	60	63	45 - 107	5	30	
Pentachlorophenol	**0.629**	**0.625**	1.33	1.33	ND	47	47	30 - 103	1	31	
Pyrene	**0.488**	**0.500**	0.667	0.667	ND	73	75	50 - 118	2	28	
Surrogate:											
2-Fluorophenol						*47*	*48*	*24 - 117*			
Phenol-d6						*52*	*50*	*30 - 120*			
Nitrobenzene-d5						*54*	*54*	*27 - 112*			
2-Fluorobiphenyl						*53*	*55*	*35 - 113*			
2,4,6-Tribromophenol						*69*	*74*	*21 - 120*			
Terphenyl-d14						*73*	*75*	*39 - 121*			

Date of Report: October 19, 2016
Samples Submitted: October 10, 2016
Laboratory Reference: 1610-084
Project: 31008

PCBs
EPA 8082A

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-5-16-13.5**					
Laboratory ID:	10-084-05					
Aroclor 1016	**ND**	0.069	EPA 8082A	10-11-16	10-11-16	
Aroclor 1221	**ND**	0.069	EPA 8082A	10-11-16	10-11-16	
Aroclor 1232	**ND**	0.069	EPA 8082A	10-11-16	10-11-16	
Aroclor 1242	**ND**	0.069	EPA 8082A	10-11-16	10-11-16	
Aroclor 1248	**ND**	0.069	EPA 8082A	10-11-16	10-11-16	
Aroclor 1254	**ND**	0.069	EPA 8082A	10-11-16	10-11-16	
Aroclor 1260	**ND**	0.069	EPA 8082A	10-11-16	10-11-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*70*	*50-139*				
Client ID:	**H-4-16-16**					
Laboratory ID:	10-084-16					
Aroclor 1016	**ND**	0.056	EPA 8082A	10-11-16	10-11-16	
Aroclor 1221	**ND**	0.056	EPA 8082A	10-11-16	10-11-16	
Aroclor 1232	**ND**	0.056	EPA 8082A	10-11-16	10-11-16	
Aroclor 1242	**ND**	0.056	EPA 8082A	10-11-16	10-11-16	
Aroclor 1248	**ND**	0.056	EPA 8082A	10-11-16	10-11-16	
Aroclor 1254	**ND**	0.056	EPA 8082A	10-11-16	10-11-16	
Aroclor 1260	**ND**	0.056	EPA 8082A	10-11-16	10-11-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*85*	*50-139*				

Date of Report: October 19, 2016
Samples Submitted: October 10, 2016
Laboratory Reference: 1610-084
Project: 31008

PCBs EPA 8082A
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1011S1					
Aroclor 1016	**ND**	0.050	EPA 8082A	10-11-16	10-11-16	
Aroclor 1221	**ND**	0.050	EPA 8082A	10-11-16	10-11-16	
Aroclor 1232	**ND**	0.050	EPA 8082A	10-11-16	10-11-16	
Aroclor 1242	**ND**	0.050	EPA 8082A	10-11-16	10-11-16	
Aroclor 1248	**ND**	0.050	EPA 8082A	10-11-16	10-11-16	
Aroclor 1254	**ND**	0.050	EPA 8082A	10-11-16	10-11-16	
Aroclor 1260	**ND**	0.050	EPA 8082A	10-11-16	10-11-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*86*	*50-139*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
MATRIX SPIKES											
Laboratory ID:	10-080-01										
	MS	MSD	MS	MSD		MS	MSD				
Aroclor 1260	**0.389**	**0.387**	0.500	0.500	ND	**78**	**77**	49-133	1	17	
Surrogate:											
DCB						*80*	*81*	*50-139*			

Date of Report: October 19, 2016
Samples Submitted: October 10, 2016
Laboratory Reference: 1610-084
Project: 31008

TOTAL METALS
EPA 6010C/6020A/7471B

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	10-084-05					
Client ID:	**H-5-16-13.5**					
Antimony	**ND**	6.9	6010C	10-13-16	10-13-16	
Arsenic	**ND**	14	6010C	10-13-16	10-13-16	
Beryllium	**ND**	0.69	6010C	10-13-16	10-13-16	
Cadmium	**ND**	0.69	6010C	10-13-16	10-13-16	
Chromium	**64**	0.69	6010C	10-13-16	10-13-16	
Copper	**46**	1.4	6010C	10-13-16	10-13-16	
Lead	**ND**	6.9	6010C	10-13-16	10-13-16	
Mercury	**ND**	0.35	7471B	10-11-16	10-11-16	
Nickel	**69**	3.5	6010C	10-13-16	10-13-16	
Selenium	**ND**	14	6010C	10-13-16	10-13-16	
Silver	**ND**	0.69	6010C	10-13-16	10-13-16	
Thallium	**ND**	1.7	6020A	10-13-16	10-17-16	
Zinc	**69**	3.5	6010C	10-13-16	10-13-16	

Date of Report: October 19, 2016
Samples Submitted: October 10, 2016
Laboratory Reference: 1610-084
Project: 31008

TOTAL METALS
EPA 6010C/6020A/7471B

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	10-084-16					
Client ID:	**H-4-16-16**					
Antimony	**ND**	5.6	6010C	10-13-16	10-13-16	
Arsenic	**ND**	11	6010C	10-13-16	10-13-16	
Beryllium	**ND**	0.56	6010C	10-13-16	10-13-16	
Cadmium	**ND**	0.56	6010C	10-13-16	10-13-16	
Chromium	**28**	0.56	6010C	10-13-16	10-13-16	
Copper	**11**	1.1	6010C	10-13-16	10-13-16	
Lead	**ND**	5.6	6010C	10-13-16	10-13-16	
Mercury	**ND**	0.28	7471B	10-11-16	10-11-16	
Nickel	**30**	2.8	6010C	10-13-16	10-13-16	
Selenium	**ND**	11	6010C	10-13-16	10-13-16	
Silver	**ND**	0.56	6010C	10-13-16	10-13-16	
Thallium	**ND**	1.4	6020A	10-13-16	10-17-16	
Zinc	**24**	2.8	6010C	10-13-16	10-13-16	

Date of Report: October 19, 2016
Samples Submitted: October 10, 2016
Laboratory Reference: 1610-084
Project: 31008

TOTAL METALS
EPA 6010C/6020A/7471B
METHOD BLANK QUALITY CONTROL

Date Extracted: 10-11&13-16
Date Analyzed: 10-11,13&17-16

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: MB1013SH1&MB1011S1

Analyte	Method	Result	PQL
Antimony	6010C	**ND**	5.0
Arsenic	6010C	**ND**	10
Beryllium	6010C	**ND**	0.50
Cadmium	6010C	**ND**	0.50
Chromium	6010C	**ND**	0.50
Copper	6010C	**ND**	1.0
Lead	6010C	**ND**	5.0
Mercury	7471B	**ND**	0.25
Nickel	6010C	**ND**	2.5
Selenium	6010C	**ND**	10
Silver	6010C	**ND**	0.50
Thallium	6020A	**ND**	1.3
Zinc	6010C	**ND**	2.5

Date of Report: October 19, 2016
Samples Submitted: October 10, 2016
Laboratory Reference: 1610-084
Project: 31008

TOTAL METALS
EPA 6010C/6020A/7471B
DUPLICATE QUALITY CONTROL

Date Extracted: 10-11&13-16
Date Analyzed: 10-11,13&17-16

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 10-080-01

Analyte	Sample Result	Duplicate Result	RPD	PQL	Flags
Antimony	**ND**	**ND**	NA	5.0	
Arsenic	**ND**	**ND**	NA	10.0	
Beryllium	**ND**	**ND**	NA	0.50	
Cadmium	**ND**	**ND**	NA	0.50	
Chromium	**25.9**	**24.3**	6	0.50	
Copper	**11.7**	**10.9**	7	1.0	
Lead	**ND**	**ND**	NA	5.0	
Mercury	**ND**	**ND**	NA	0.25	
Nickel	**30.4**	**29.2**	4	2.5	
Selenium	**ND**	**ND**	NA	10	
Silver	**ND**	**ND**	NA	0.50	
Thallium	**ND**	**ND**	NA	1.3	
Zinc	**24.0**	**22.0**	9	2.5	

Date of Report: October 19, 2016
Samples Submitted: October 10, 2016
Laboratory Reference: 1610-084
Project: 31008

TOTAL METALS
EPA 6010C/6020A/7471B
MS/MSD QUALITY CONTROL

Date Extracted: 10-11&13-16
Date Analyzed: 10-11,13&17-16

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 10-080-01

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Antimony	100	**95.4**	95	**88.3**	88	8	
Arsenic	100	**101**	101	**94.3**	94	6	
Beryllium	50.0	**50.8**	102	**47.6**	95	7	
Cadmium	50.0	**49.3**	99	**47.5**	95	4	
Chromium	100	**128**	102	**119**	93	7	
Copper	50.0	**63.9**	105	**60.4**	97	6	
Lead	250	**238**	95	**232**	93	3	
Mercury	0.500	**0.499**	100	**0.546**	109	9	
Nickel	100	**127**	96	**120**	89	6	
Selenium	100	**104**	104	**99.4**	99	5	
Silver	25.0	**24.4**	97	**23.1**	92	5	
Thallium	50.0	**44.2**	88	**44.8**	90	1	
Zinc	100	**120**	96	**115**	91	4	

Date of Report: October 19, 2016
Samples Submitted: October 10, 2016
Laboratory Reference: 1610-084
Project: 31008

% MOISTURE

Date Analyzed: 10-12-16

Client ID	Lab ID	% Moisture
H-5-16-3	10-084-01	13
H-5-16-6	10-084-02	10
H-5-16-8.5	10-084-03	31
H-5-16-11	10-084-04	31
H-5-16-13.5	10-084-05	28
H-5-16-16	10-084-06	13
H-5-16-18.5	10-084-07	12
H-4-16-3	10-084-12	9
H-4-16-6	10-084-13	12
H-4-16-8.5	10-084-14	26
H-4-16-11	10-084-15	24
H-4-16-16	10-084-16	11
H-4-16-18.5	10-084-17	15
H-4-16-19.9	10-084-18	13
H-4-16-25.4	10-084-19	17

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

X1- Sample extract treated with a Sulfuric acid/Silica gel cleanup procedure.

Y - The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

Chain of Custody

Page 1 of 12 DD

OnSite Environmental Inc.
Analytical Laboratory Testing Services
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Company: INNOVEX
Project Number: 31008
Project Name: SR520
Project Manager: Glenn Hayman
Sampled by: Andrea Winder

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☒ Standard (7 Days) (TPH analysis 5 Days)
☐ _____ (other)

Laboratory Number: 10-084

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx *	NWTPH-Dx (☐ Acid / SG Clean-up) *	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A	PP-13 metals		Hold		% Moisture
1	H-5-16-3	10/8/16	2355	S	5	X																					X
2	H-5-16-6		2400			X																					X
3	H-5-16-8.5		2405			X																					X
4	H-5-16-11		2410			X																					X
5	H-5-16-13.5		2415			X				X			X		X								X				X
6	H-5-16-16		2420			X																					X
7	H-5-16-18.5		2425			X																					X
8	H-5-16-21.5		2430																						X		
9	~~H-5-16-23~~ H-5-16-23.5		2435																						X		
10	H-5-16-24.3		2440																						X		
11	H-5-																										

	Signature	Company	Date	Time
Relinquished		INNOVEX	10/10/16	9:30
Received		OSE	10/10/16	930
Relinquished				
Received				
Relinquished				
Received				

Comments/Special Instructions
* follow up w/ appropriate analysis based on HCID
(X) Added 10/13/16. DB (STA)

Data Package: Standard ☐ Level III ☐ Level IV ☐

Reviewed/Date

Reviewed/Date

Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐

Chain of Custody

OnSite Environmental Inc.
Analytical Laboratory Testing Services
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Company: INNOVEX
Project Number: 31008
Project Name: SR520
Project Manager: Glenn Haymann
Sampled by: Andrea Winder

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☒ Standard (7 Days) (TPH analysis 5 Days)
☐ _____ (other)

Laboratory Number: 10-084

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx (☐ Acid / SG Clean-up)	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A	PP13 - Metals				% Moisture
12 XX	H-4-16-3	10/8/16	2145	S	5	X																					X
13 12	H-4-16-6		2150			X																					X
14 13	H-4-16-8.5		2155			X																					X
15 14	H-4-16-11		2200			X																					X
16 15	H-4-16-16		2205			X		(X)		X			X		X								X				X
17 16	H-4-16-18.5		2210			X	(X)																				X
18 17	H-4-16-19.9		2215			X																					X
19 18	H-4-16-25.4	↓	2235	↓	↓	X																					X

AZ 10/8/16

	Signature	Company	Date	Time
Relinquished		INNOVEX	10/10/16	930
Received		OSE	10/10/16	930
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions
* Followup w/ appropriate analysis based on HCID

Data Package: Standard ☐ Level III ☐ Level IV ☐

Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐

OnSite Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

October 28, 2016

Glenn Hayman
INNOVEX Environmental Mgt., Inc.
16310 NE 80th St., Suite 300
Redmond, WA 98052

Re: Analytical Data for Project 31008
Laboratory Reference No. 1610-084B

Dear Glenn:

Enclosed are the analytical results and associated quality control data for samples submitted on October 10, 2016.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

Date of Report: October 28, 2016
Samples Submitted: October 10, 2016
Laboratory Reference: 1610-084B
Project: 31008

Case Narrative

Samples were collected on October 8, 2016 and received by the laboratory on October 10, 2016. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

NWTPH Gx/BTEX Analysis

Per EPA method 5035A, samples were received by the laboratory in pre-weighed 40 ml VOA vials preserved with either Methanol or Sodium Bisulfate.

Samples H-4-16-3, H-4-16-6, H-4-16-8.5, H-4-16-11, H-4-16-19.9 and H-4-16-25.4 were extracted and analyzed outside the holding time. Some loss of volatiles might have occurred.

The surrogate recovery was above the upper control limit for sample H-4-16-6. The recovery was confirmed by reanalysis.

Any other QA/QC issues associated with this extraction and analysis will be indicated with a footnote reference and discussed in detail on the Data Qualifier page.

Date of Report: October 28, 2016
Samples Submitted: October 10, 2016
Laboratory Reference: 1610-084B
Project: 31008

NWTPH-Gx/BTEX

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-4-16-3**					
Laboratory ID:	10-084-12					
Benzene	**ND**	0.020	EPA 8021B	10-27-16	10-27-16	
Toluene	**ND**	0.055	EPA 8021B	10-27-16	10-27-16	
Ethyl Benzene	**ND**	0.055	EPA 8021B	10-27-16	10-27-16	
m,p-Xylene	**ND**	0.055	EPA 8021B	10-27-16	10-27-16	
o-Xylene	**ND**	0.055	EPA 8021B	10-27-16	10-27-16	
Gasoline	**ND**	5.5	NWTPH-Gx	10-27-16	10-27-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*109*	*63-124*				
Client ID:	**H-4-16-6**					
Laboratory ID:	10-084-13					
Benzene	**0.024**	0.020	EPA 8021B	10-27-16	10-27-16	
Toluene	**ND**	0.068	EPA 8021B	10-27-16	10-27-16	
Ethyl Benzene	**ND**	0.068	EPA 8021B	10-27-16	10-27-16	
m,p-Xylene	**ND**	0.068	EPA 8021B	10-27-16	10-27-16	
o-Xylene	**ND**	0.068	EPA 8021B	10-27-16	10-27-16	
Gasoline	**ND**	6.8	NWTPH-Gx	10-27-16	10-27-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*147*	*63-124*				Q
Client ID:	**H-4-16-8.5**					
Laboratory ID:	10-084-14					
Benzene	**0.045**	0.020	EPA 8021B	10-27-16	10-27-16	
Toluene	**ND**	0.077	EPA 8021B	10-27-16	10-27-16	
Ethyl Benzene	**ND**	0.077	EPA 8021B	10-27-16	10-27-16	
m,p-Xylene	**ND**	0.077	EPA 8021B	10-27-16	10-27-16	
o-Xylene	**ND**	0.077	EPA 8021B	10-27-16	10-27-16	
Gasoline	**ND**	7.7	NWTPH-Gx	10-27-16	10-27-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*103*	*63-124*				

Date of Report: October 28, 2016
Samples Submitted: October 10, 2016
Laboratory Reference: 1610-084B
Project: 31008

NWTPH-Gx/BTEX

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-4-16-11**					
Laboratory ID:	10-084-15					
Benzene	**0.026**	0.020	EPA 8021B	10-27-16	10-27-16	
Toluene	**ND**	0.069	EPA 8021B	10-27-16	10-27-16	
Ethyl Benzene	**ND**	0.069	EPA 8021B	10-27-16	10-27-16	
m,p-Xylene	**ND**	0.069	EPA 8021B	10-27-16	10-27-16	
o-Xylene	**ND**	0.069	EPA 8021B	10-27-16	10-27-16	
Gasoline	**ND**	6.9	NWTPH-Gx	10-27-16	10-27-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*111*	*63-124*				
Client ID:	**H-4-16-19.9**					
Laboratory ID:	10-084-18					
Benzene	**0.35**	0.020	EPA 8021B	10-27-16	10-27-16	
Toluene	**0.090**	0.053	EPA 8021B	10-27-16	10-27-16	
Ethyl Benzene	**1.4**	0.053	EPA 8021B	10-27-16	10-27-16	
m,p-Xylene	**2.2**	0.053	EPA 8021B	10-27-16	10-27-16	
o-Xylene	**0.59**	0.053	EPA 8021B	10-27-16	10-27-16	
Gasoline	**99**	5.3	NWTPH-Gx	10-27-16	10-27-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*100*	*63-124*				
Client ID:	**H-4-16-25.4**					
Laboratory ID:	10-084-19					
Benzene	**0.092**	0.020	EPA 8021B	10-27-16	10-27-16	
Toluene	**0.064**	0.060	EPA 8021B	10-27-16	10-27-16	
Ethyl Benzene	**ND**	0.060	EPA 8021B	10-27-16	10-27-16	
m,p-Xylene	**0.088**	0.060	EPA 8021B	10-27-16	10-27-16	
o-Xylene	**ND**	0.060	EPA 8021B	10-27-16	10-27-16	
Gasoline	**ND**	6.0	NWTPH-Gx	10-27-16	10-27-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*105*	*63-124*				

Date of Report: October 28, 2016
Samples Submitted: October 10, 2016
Laboratory Reference: 1610-084B
Project: 31008

NWTPH-Gx/BTEX
QUALITY CONTROL

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1027S2					
Benzene	**ND**	0.020	EPA 8021B	10-27-16	10-27-16	
Toluene	**ND**	0.050	EPA 8021B	10-27-16	10-27-16	
Ethyl Benzene	**ND**	0.050	EPA 8021B	10-27-16	10-27-16	
m,p-Xylene	**ND**	0.050	EPA 8021B	10-27-16	10-27-16	
o-Xylene	**ND**	0.050	EPA 8021B	10-27-16	10-27-16	
Gasoline	**ND**	5.0	NWTPH-Gx	10-27-16	10-27-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*92*	*63-124*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	10-084-19										
	ORIG	DUP									
Benzene	**0.0766**	**0.0696**	NA	NA		NA		NA	10	30	
Toluene	**0.0534**	**ND**	NA	NA		NA		NA	NA	30	
Ethyl Benzene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
m,p-Xylene	**0.0734**	**0.0621**	NA	NA		NA		NA	17	30	
o-Xylene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Gasoline	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Surrogate:											
Fluorobenzene						*105*	*105*	*63-124*			
SPIKE BLANKS											
Laboratory ID:	SB1027S1										
	SB	SBD	SB	SBD		SB	SBD				
Benzene	**0.934**	**0.951**	1.00	1.00		**93**	**95**	70-124	2	12	
Toluene	**0.932**	**0.957**	1.00	1.00		**93**	**96**	73-119	3	12	
Ethyl Benzene	**0.952**	**0.972**	1.00	1.00		**95**	**97**	74-117	2	12	
m,p-Xylene	**0.900**	**0.923**	1.00	1.00		**90**	**92**	75-117	3	13	
o-Xylene	**0.935**	**0.951**	1.00	1.00		**94**	**95**	75-116	2	12	
Surrogate:											
Fluorobenzene						*98*	*93*	*63-124*			

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

X1- Sample extract treated with a Sulfuric acid/Silica gel cleanup procedure.

Y - The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

Chain of Custody

Page 1 of 1 2 DD

OnSite Environmental Inc.
Analytical Laboratory Testing Services
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Company: INNOVEX
Project Number: 31008
Project Name: SR520
Project Manager: Glenn Hayman
Sampled by: Andrea Winder

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☒ Standard (7 Days) (TPH analysis 5 Days)
☐ _____ (other)

Laboratory Number: 10-084

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx *	NWTPH-Dx (☐ Acid / SG Clean-up) *	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A	PP-13 metals		HOLD		% Moisture
1	H-5-16-3	10/8/16	2355	S	5	X																					X
2	H-5-16-6		2400			X																					X
3	H-5-16-8.5		2405			X																					X
4	H-5-16-11		2410			X																					X
5	H-5-16-13.5		2415			X				X			X		X								X				⊕
6	H-5-16-16		2420			X																					X
7	H-5-16-18.5		2425			X																					X
8	H-5-16-21.5		2430																						X		
9	~~H-5-16-23~~ H-5-16-23.5		2435																						X		
10	H-5-16-24.3		2440																						X		
11	H-5-																										

	Signature	Company	Date	Time
Relinquished		INNOVEX	10/10/16	9:30
Received		OSE	10/10/16	930
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions
* follow up w/ appropriate analysis based on HCID
(X) Added 10/13/16. DB (STA)
O Added 10/27/16 BC LCLAY TA

Data Package: Standard ☐ Level III ☐ Level IV ☐
Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐

Chain of Custody

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Analytical Laboratory Testing Services
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Company: INNOVEX
Project Number: 31008
Project Name: SR520
Project Manager: Glenn Haymann
Sampled by: Andrea Winder

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☒ Standard (7 Days) (TPH analysis 5 Days)
☐ _____ (other)

Laboratory Number: 10-084

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx (☐ Acid / SG Clean-up)	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A	PP13 Metals				% Moisture
12 X	H-4-16-3	10/8/16	2145	S	5	X	O																				X
13 12	H-4-16-6		2150			X	O																				X
14 13	H-4-16-8.5		2155			X	O																				X
15 14	H-4-16-11		2200			X	O																				X
16 15	H-4-16-16		2205			X		(X)		X			X		X								X				X
17 16	H-4-16-18.5		2210			X	(X)																				X
18 17	H-4-16-19.9		2215			X	O																				X
19 18	H-4-16-25.4	↓	2235	↓	↓	X	O																				X

AJ 10/8/16

	Signature	Company	Date	Time
Relinquished		INNOVEX	10/10/16	930
Received		OSE	10/10/16	930
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions
* Followup w/ appropriate analysis based on HCID

Data Package: Standard ☐ Level III ☐ Level IV ☐
Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐