

**Phase II Environmental Site Assessment
Sound Transit Right-of-Way EL295
Kelly Autobody Property
1500 130th Avenue NE
Bellevue, Washington**

January 25, 2016



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21-1-16700-051

EXECUTIVE SUMMARY

Shannon & Wilson, Inc. has completed a Phase II Environmental Site Assessment (ESA) for Kelly's Autobody (EL295) property located at 1500 130th Avenue NE in Bellevue, Washington. The purpose of this Phase II ESA was to evaluate the potential for contamination to be present within the portion of the property to be acquired by Sound Transit.

Several recognized environmental conditions (RECs) were identified in the Phase I ESA completed for the property. Briefly, they include:

- A 5,000-gallon gasoline underground storage tank (UST) was removed from the property in 1990. No information regarding environmental quality of soil and/or groundwater was available for review in Washington State Department of Ecology files.
- Since about 1962, property use has been truck and auto repair.
- Residual soil contamination (petroleum) and a deed restriction exists on the adjoining (and assumed upgradient) parcel to the northeast. Groundwater contamination was also noted, however, it was not observed in the well closest to the subject property.

Low levels of petroleum and volatile organic compounds (VOCs) were also recently detected in soil and/or groundwater on the adjoining north parcel. This sampling was completed as part of a Phase II ESA, also for Sound Transit.

To evaluate subject property RECs and detections on the adjacent north parcel relative to the Sound Transit acquisition area, three geoprobes were advanced along the north portion of the subject property. Three soil samples and three groundwater samples were collected and analyzed for potential contaminants of concern, including petroleum, metals, and VOCs. Detected parameters included metals (in soil and as total metals in groundwater) and two VOCs (in groundwater). No petroleum was detected in soil or groundwater; no VOCs were detected in soil.

We offer the following conclusions, based on limited sampling:

- Potential contamination related to the former site UST and long-term auto repair conducted on site does not appear to be present within the Sound Transit acquisition area.
- It does not appear that petroleum contamination documented on the northeast-adjacent parcel has impacted the portion of the subject property to be acquired by Sound Transit.

- It does not appear that petroleum observed on the north-adjacent parcel has impacted the portion of the subject property to be acquired by Sound Transit.
- Chloroform was detected in groundwater from samples collected both the site and north-adjacent parcel. Detections are below its Model Toxics Control Act Method B criterion and do not appear to be a concern. The source of the chloroform is not known but could be from a domestic water pipe leak.

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PHASE II ENVIRONMENTAL SITE ASSESSMENT
SOUND TRANSIT RIGHT-OF-WAY EL295
KELLY AUTOBODY PROPERTY
1500 130TH AVENUE NE
BELLEVUE, WASHINGTON

1.0 INTRODUCTION

1.1 Authorization

Shannon & Wilson, Inc. has completed a Phase II Environmental Site Assessment (ESA) to support acquisition of a portion of Sound Transit Parcel EL295. The parcel is occupied by Kelly Autobody and is located at 1500 130th Avenue NE, Bellevue, Washington (Figure 1). This assessment was conducted under Task Order 6 contract RTA/AE 0107-14(C) with Sound Transit. The task order was authorized by Mr. Kent Melton and Mr. Kevin Workman of Sound Transit on November 3 and 4, 2015, respectively.

1.2 Objective

The objective of this Phase II ESA was to evaluate subsurface soil and groundwater within the portion of the property to be acquired by Sound Transit as part of the East Link Light Rail Project, E340 Corridor. Our scope of services included the following tasks:

- Soil and groundwater sampling and analysis.
- Preparation of this report.

The scope of services focused on identifying and evaluating environmental concerns with significant potential to contaminate the property. The field sampling was a screening level effort intended to identify potential widespread contamination rather than define the lateral or vertical extent of soil and/or groundwater contamination.

2.0 BACKGROUND

2.1 Site Location

Kelly's Autobody property, King County tax parcel no. 2825059058, is located in a commercial/industrial area of the City of Bellevue located to the east of Interstate 405 and to the south of State Route 520 (Figure 1). The parcel is located at 1500 130th Avenue NE and is currently developed with at-grade parking and a commercial structure occupied by Kelly Autobody. Site elevation ranges from approximately 192 feet mean sea level (MSL) at the north

end to 188 feet MSL at the south end. Surrounding topography generally slopes down toward the south and southeast.

2.2 Proposed Development

Sound Transit will be acquiring the approximate northern 30-foot portion of this parcel for construction of the East Link E340 corridor (Figure 3). Within the acquisition area, proposed site development includes minor grading, new rail, a retaining wall, the southern platform of the 130th Street Station, and sidewalks.

2.3 Previous Studies

2.3.1 Phase I Environmental Site Assessment (ESA)

The Shannon & Wilson Team prepared a Phase I ESA for the parcel (Shannon & Wilson Team, 2015). The resulting recognized environmental conditions (RECs) identified included:

- Potential for contamination associated with a former 5,000-gallon underground storage tank (UST) removed from the property. No soil or groundwater information was available for review regarding the removal of the UST.
- Past use of the site as a truck repair facility and current site use for auto repair.
- Potential for contamination associated with an upgradient site (EL299), relating to documented petroleum contamination left onsite following limited cleanup efforts associated with an historical UST. Contaminated soil remains onsite beneath an existing building. Groundwater contamination was also reported. Washington State Department of Ecology (Ecology) granted a No Further Action determination, with a deed restriction.

2.3.2 Phase II Environmental Site Assessment (ESA)

Adjacent to the north is the Elufa parcel (EL296). Shannon & Wilson, Inc. recently completed a Phase II ESA at the site (Shannon & Wilson, Inc., 2015). Petroleum hydrocarbons (gasoline-, diesel-, and oil-ranges) and three volatile organic compounds (VOCs) were detected in soil samples collected at the site. VOCs (including chloroform) were detected in groundwater samples. The detected concentrations are below regulatory criteria.

3.0 GEOLOGIC AND HYDROGEOLOGIC SETTING

This section describes the general geologic setting of the site vicinity and discusses the subsurface conditions beneath the subject property and surrounding area as they relate to the potential for contamination to migrate through the soils and groundwater.

3.1 Site Geology

Soil observed in the geoprobes revealed that the formation consisted of silty sand and poorly graded sand with silt. Occasional gravel was encountered in the first 6 feet of geoprobe EL295-3. Similar soil conditions were observed in other explorations completed in the vicinity (H-J-H Final Design Partners, 2014; Shannon & Wilson, Inc., 2015).

3.2 Hydrogeology

During sampling, groundwater was observed in geoprobes EL295-1 and EL295-2 at approximately 2 and 4.5 feet below ground surface (bgs), respectively. In EL295-3, groundwater was observed approximately 11.5 feet bgs.

Based on site topography, groundwater flow direction was estimated to the south or southwest.

4.0 FIELD EXPLORATIONS

4.1 Geoprobe Locations

On November 18, 2015, Shannon & Wilson, Inc. observed the advancement of three geoprobes along the north end of the subject property. The three geoprobes (EL295-1, EL295-2, and EL295-3) are shown in Figures 2 and 3. Figure 2 is an aerial view of the property that identifies several neighboring parcels (EL296, EL298, and EL299). Figure 3 is a site plan showing Sound Transit's proposed fee take area and other right-of-way plans. The purpose of each probe included:

- EL295-1: Evaluate potential for site contamination from:
 - Off- to onsite migration from EL299 (adjacent northeast – former USTs, contaminated soil left in-place).
 - Off- to onsite migration from EL296 (adjacent north – drum UST and low level petroleum and VOC detections during EL296 phase II ESA sampling).
 - Site historical use (truck repair and former 5,000 gallon UST) and current use (autobody shop).
- EL295-2: Evaluate potential on site contamination associated with site historical and current use and off- to onsite migration from EL296.
- EL295-3: Evaluate potential for site contamination from off- to onsite migration from EL296.

4.2 Soil and Groundwater Sampling

EL295-1 was advanced to 5 feet bgs. EL295-2 was advanced to 10 feet. EL295-3 was advanced to 15 feet. No field indication of contamination was observed during sampling. Therefore, soil samples were collected just above the soil-water interface. Table 1 indicates soil sample depth from each exploration.

Groundwater samples were also collected from each geoprobe. Temporary 1-inch-diameter polyvinyl chloride wells were installed at each of the three geoprobe locations. Groundwater samples were collected after purging three well volumes of groundwater. The temporary wells were removed following sampling. Geoprobe logs, which indicate estimated depths to water, can be found in Appendix A.

4.3 Analytical Methods

A total of three soil samples and three groundwater samples were collected and submitted to OnSite Environmental in Redmond, Washington, for chemical analysis. Soil and groundwater samples were analyzed by the following methods:

- Gasoline-range petroleum hydrocarbons using Method Northwest Total Petroleum Hydrocarbon (NWTPH) gasoline-range extended;
- Diesel- and oil-range petroleum hydrocarbons using Method NWTPH diesel-range extended with silica gel cleanup;
- Resource Conservation and Recovery Act metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver) by U.S. Environmental Protection Agency (EPA) Method 6000/7000 series; and
- VOCs by EPA Method 8260C.

In one soil sample, copper, nickel, and zinc analysis was completed to support soil disposal. Analysis in two of the groundwater samples were for dissolved metals. The third groundwater sample was tested for total metals.

4.4 Analytical Results

Tables 1 and 2 provide summaries of detected soil and groundwater analytical results, respectively, compared to Model Toxics Control Act (MTCA) Method A criteria (Ecology, 2013). The analytical laboratory report is presented in Appendix B.

4.4.1 Soil Results

- No gasoline, diesel, or oil-range petroleum hydrocarbons were detected in the samples analyzed.
- Barium was detected in the three samples analyzed, ranging from 57 to 91 milligrams per kilogram (mg/kg). No criterion is established under MTCA Method A for this parameter.
- Chromium was detected in the three samples analyzed. Sample detections ranged from 12 to 32 mg/kg. The detections are below the MTCA screening criterion of 2,000 mg/kg.
- Copper, nickel, and zinc were detected in EL295-3, which was the only sample analyzed for these metals. No criteria are established under MTCA Method A for these parameters.
- VOCs were not detected in any of the samples analyzed.

4.4.2 Groundwater Results

- No gasoline, diesel, or oil-range petroleum hydrocarbons were detected in any of the samples analyzed.
- Total barium was detected in sample EL295-2:GW. The sample had a detection of 49 micrograms per liter ($\mu\text{g/L}$). No criterion is established under MTCA Method A for this parameter.
- Total lead was also detected at 1.9 $\mu\text{g/L}$ in sample EL295-2:GW, below its MTCA Method A criterion of 15 $\mu\text{g/L}$.
- No dissolved metals were detected in the samples analyzed.
- Chloroform was detected in EL295-2:GW at 0.35 $\mu\text{g/L}$. No MTCA Method A criterion is established this parameter; MTCA Method B (non-cancer) criterion is 80 $\mu\text{g/L}$.
- 1,1-dichloroethane was detected in EL295-3:GW at 0.24 $\mu\text{g/L}$. No MTCA Method A criterion is established this parameter; MTCA Method B (non-cancer) criterion is 1,600 $\mu\text{g/L}$.

4.5 Investigation-Derived Waste

Investigation-derived waste generated during sampling included soil cuttings, decontamination fluids, purge water, used personal protection equipment (PPE), and disposable sampling equipment. Soil cuttings, decontamination fluids, and purge water were contained in labeled Sound Transit-approved drums temporarily stored on the property, near EL295-2. Drums were

removed from the property on January 6, 2016. PPE and disposable sampling equipment were placed in a plastic bag and disposed as solid waste.

5.0 CONCLUSIONS

Based on the data collected for this limited Phase II ESA, no contaminants of concern were detected in soil or groundwater above criteria, most were not detected above reporting limits.

We offer the following conclusions, based on limited sampling:

- Potential contamination related to the former site UST and long-term auto repair conducted on site does not appear to be present within the Sound Transit acquisition area.
- It does not appear that petroleum contamination documented on the northeast-adjacent parcel has impacted the portion of the subject property to be acquired by Sound Transit.
- It does not appear that petroleum observed on the north-adjacent parcel has impacted the portion of the subject property to be acquired by Sound Transit.
- Chloroform was detected in groundwater from samples collected both the site and north-adjacent parcel. Detections are below its MTCA Method B criterion and do not appear to be a concern. The source of the chloroform is not known but could be from a domestic water pipe leak.

6.0 LIMITATIONS

Within the limitations of scope, schedule, and budget, Shannon & Wilson, Inc. has prepared this report in a professional manner, using the level of skill and care normally exercised for similar projects under similar conditions by reputable and competent environmental consultants currently practicing in this area.

The scope of services was intended to address only those environmental concerns with significant potential to result in contamination of the subject property. The sampling effort was considered limited in extent and served as a screening effort only. It was not intended to define the lateral or vertical extent of soil and/or groundwater contamination.

The data presented in this report are based on limited research and sampling at the site and should be considered representative at the time of our observations. Other areas of contamination that were not obvious during our site work could be present at the site. Shannon & Wilson, Inc. is not responsible for conditions or consequences arising from relevant facts that were concealed, withheld, or not fully disclosed at the time the report was prepared. We also

note that the facts and conditions referenced in this report may change over time, and that the conclusions and recommendations set forth here are applicable to the facts and conditions as described only at the time of this report. Shannon & Wilson, Inc. believes that the conclusions stated here are factual; but, no guarantee is made or implied.

This report was prepared for the exclusive use of Sound Transit, and their representatives, and in no way guarantees that any agency or its staff will reach the same conclusions as Shannon & Wilson, Inc. To help you and others in understanding the limitations of our report, Shannon & Wilson, Inc. has prepared Appendix C, "Important Information About Your Geotechnical/Environmental Report."

SHANNON & WILSON, INC.



Agnes Tirao, P.E.
Associate

CTC:ACT:SWG/ctc

7.0 REFERENCES

- H-J-H Final Design Partners, 2014, Contract E340, final geotechnical data report, 100% submittal, East Link extension, South Bellevue to Overlake Transit Center, contract no. RTA/AE 0143-11: Report prepared by H-J-H Final Design Partners, for Sound Transit, Seattle, Wash., October 24.
- Shannon & Wilson, Inc., 2015, Phase II environmental site assessment, Sound Transit right-of-way #EL 296, Elufa, 1606 130th Avenue NE, Bellevue, Washington: Report prepared by Shannon & Wilson, Inc., Seattle, Wash., for Sound Transit, Seattle, Wash., October 9.
- Shannon & Wilson Team, 2015, Phase I environmental site assessment, Sound Transit ROW #EL295, Kelly's Autobody, 1500 130th Avenue NE, Bellevue, Washington: Report prepared by the Shannon & Wilson Team, for Sound Transit, Seattle, Wash., June 16.
- Washington State Department of Ecology (Ecology), 2013, Model Toxics Control Act cleanup regulation, Chapter 173-340 Washington Administration Code (WAC): Olympia, Wash., Washington State Department of Ecology, publication No. 94-06, revised 2013.

TABLE 1
SUMMARY OF SOIL ANALYTICAL RESULTS

Parameter	Method	MTCA Method A Soil Cleanup Levels, Unrestricted (mg/kg)	EL295-1:0.5	EL295-2:4.5	EL295-3:12
		Sample Depth	0.5 foot	4.5 feet	12 feet
<i>Petroleum Hydrocarbons</i>					
Gasoline-Range	NWTPH-Gx	100/30*	< 5.8	< 6.2	< 6.5
Diesel-Range	NWTPH-Dx	2,000	< 30	< 31	< 28
Oil-Range		2,000	< 59	< 62	< 56
<i>Metals</i>					
Arsenic	EPA 6010C/ 7471B	20	< 12	< 12	< 11
Barium		NE	57	91	65
Cadmium		2	< 0.59	< 0.62	< 0.56
Chromium**		2,000	12	23	32
Copper		NE	--	--	29
Lead		250	< 5.9	< 6.2	< 5.6
Mercury		2	< 0.30	< 0.31	< 0.28
Nickel		NE	--	--	29
Selenium		NE	< 12	< 12	< 11
Silver		NE	< 1.2	< 1.2	< 1.1
Zinc	NE	--	--	33	

Notes:

No volatile organic compounds were detected above detection limits.

* Cleanup criteria is 100 mg/kg when no benzene is present. Cleanup criteria is 30 mg/kg when benzene is present.

** Screening criteria are for chromium (III).

-- = not analyzed

< = parameter not detected above the method detection limit shown

Bold indicates parameter detected above method detection limits.

EPA = U.S. Environmental Protection Agency

mg/kg = milligram per kilogram

MTCA = Model Toxics Control Act Cleanup Regulation

NE = no criterion established

NWTPH-Dx = Northwest Total Petroleum Hydrocarbons as Diesel-Extended

NWTPH-Gx = Northwest Total Petroleum Hydrocarbons as Gasoline

TABLE 2
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS

Parameter	Method	MTCA Method A Cleanup Levels (ug/L)	EL295-1:GW	EL295-2:GW	EL295-3:GW
<i>Petroleum Hydrocarbons</i>					
Gasoline-Range	NWTPH-Gx	1,000/800*	< 100	< 100	< 100
Diesel-Range	NWTPH-Dx	500	< 260	< 260	< 260
Oil-Range		500	< 410	< 410	< 410
<i>Metals - Total</i>					
Arsenic	EPA 200.8/ 7470A	5	--	< 3.3	--
Barium		NE	--	49	--
Cadmium		5	--	< 4.4	--
Chromium		50	--	< 11	--
Lead		15	--	1.9	--
Mercury		2	--	< 0.50	--
Selenium		NE	--	< 5.6	--
Silver		NE	--	< 11	--
<i>Metals - Dissolved</i>					
Arsenic	EPA 200.8/ 7470A	5	< 3.0	--	< 3.0
Barium		NE	< 25	--	< 25
Cadmium		5	< 4.0	--	< 4.0
Chromium		50	< 10	--	< 10
Lead		15	< 1.0	--	< 1.0
Mercury		2	< 0.50	--	< 0.50
Selenium		NE	< 5.0	--	< 5.0
Silver		NE	< 10	--	< 10
<i>Volatile Organic Compounds (VOCs)</i>					
Chloroform	EPA 8260C	NE	< 0.20	0.35	< 0.20
1,1-Dichloroethane		NE	< 0.20	< 0.20	0.24
All other VOCs		NA	< RL	< RL	< RL

Notes:

* Cleanup criteria is 1,000 ug/L when no benzene is present. Cleanup criteria is 800 ug/L when benzene is present.

-- = not analyzed

< = parameter not detected above the method detection limit shown

Bold indicates parameter detected above method detection limits.

EPA = U.S. Environmental Protection Agency

MTCA = Model Toxics Control Act

NWTPH-Dx = Northwest Total Petroleum Hydrocarbons as Diesel-Extended

NWTPH-Gx = Northwest Total Petroleum Hydrocarbons as Gasoline

NA = not applicable

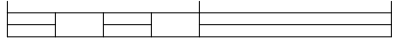
NE = no criterion established

RL = parameters not detected above their respective method detection limits

ug/L = micrograms per liter



0 1,000 2,000



Approximate Scale in Feet

NOTE

Map adapted from aerial imagery provided by Google Earth Pro, reproduced by permission granted by Google Earth™ Mapping Service.

Phase II ESA, Sound Transit ROW# EL295
1500 130th Avenue NE
Bellevue, Washington

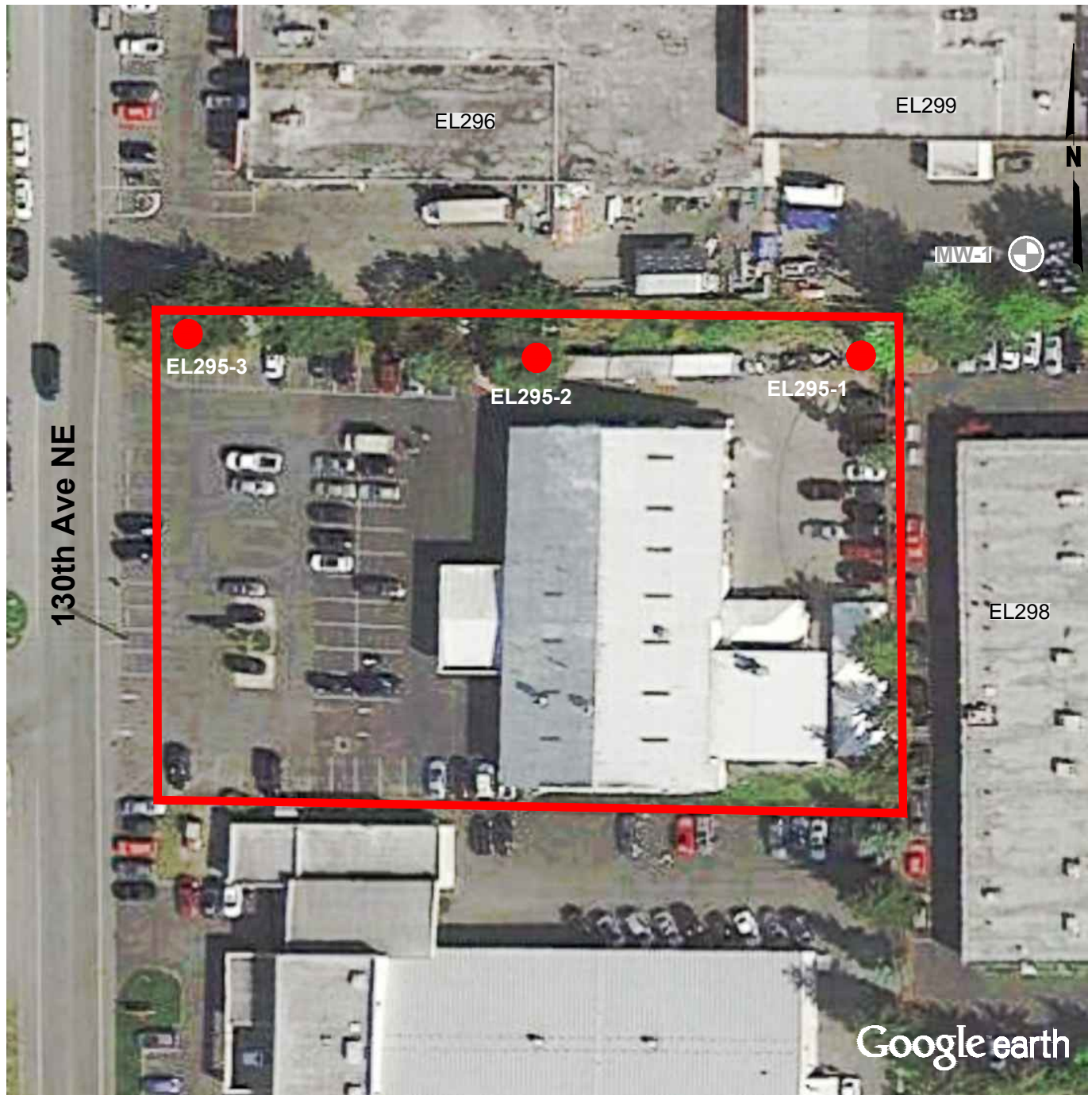
VICINITY MAP

January 2016

21-1-16700-051

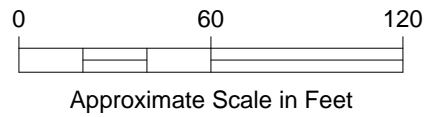
SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

FIG. 1



NOTE

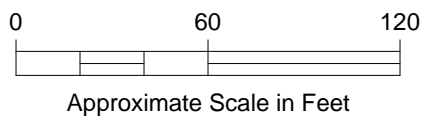
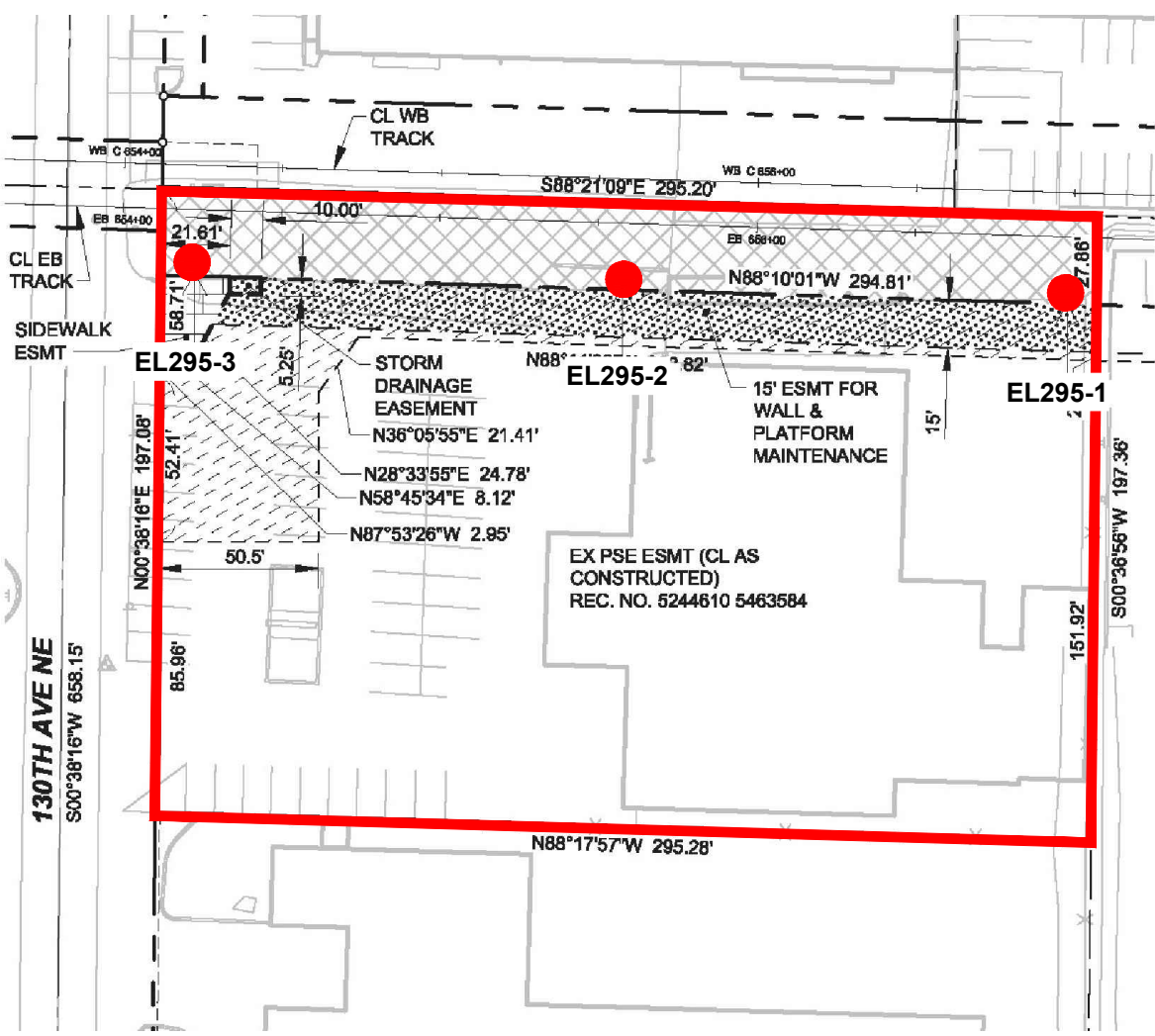
Map adapted from aerial imagery provided by Google Earth Pro, reproduced by permission granted by Google Earth™ Mapping Service.






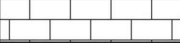
LEGEND



- EL295 Sound Transit Right-of-Way Number
- MW-1 Previous Monitoring Well Approximate Location
- Subject Parcel
- EL295-1 ● Approximate Location of Phase II Exploration

Phase II ESA, Sound Transit ROW# EL295 1500 130th Avenue NE Bellevue, Washington	
SITE AND EXPLORATION PLAN	
January 2016	21-1-16700-051
SHANNON & WILSON, INC. <small>Geotechnical and Environmental Consultants</small>	FIG. 2



LEGEND

-  TEMP CONST ESMT
-  FEE TAKE
-  PERMANENT ESMT
-  SIDEWALK ESMT

- EL123 Sound Transit Right-of-Way Number
-  Subject Parcel
- EL295-1  Approximate Location of Phase II Exploration

NOTE

Map adapted from Parcel map developed by Lin & Associates/H-J-H Design Partners for Sound Transit (2/5/2014).

Phase II ESA, Sound Transit ROW# EL295 1500 130th Avenue NE Bellevue, Washington	
PARCEL MAP WITH EXPLORATIONS	
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SHANNON & WILSON, INC. Geotechnical and Environmental Consultants	FIG. 3

APPENDIX A
FIELD METHODS AND GEOPROBE LOGS

APPENDIX A

FIELD METHODS AND GEOPROBE LOGS

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APPENDIX A

FIELD METHODS AND GEOPROBE LOGS

The project consisted of performing subsurface environmental sampling to support acquisition of a portion of Sound Transit Parcel No. EL295, located at 1500 130th Avenue NE, Bellevue, Washington. The investigation and analysis re intended to assess quality of soil and groundwater that is present in the subsurface.

Standard investigation methods, including sample collection, field screening, documentation procedures, and selected analyses, are described briefly in the following subsections. Sample collection and documentation were completed in accordance with Shannon & Wilson, Inc.'s (Shannon & Wilson's) standard operating procedures.

A-1 PRE-SAMPLING ACTIVITIES

Shannon & Wilson coordinated with Sound Transit Community Outreach to gain access to the site. A representative of Shannon & Wilson notified the Underground Utilities Location Center (1-800-424-5555) at least 48 hours before the start of subsurface work at the site. Applied Professional Services surveyed the area within 30 feet of each geoprobe location for utilities.

A-2 SAMPLE COLLECTION

During the field investigation, soil and groundwater samples were collected to evaluate the potential for site contamination. The various methods of collecting samples are presented below. Sample handling procedures are summarized in Section A.3. The samples were submitted to OnSite Environmental, Inc. of Redmond, Washington, laboratory for analysis by the methods discussed in Section A.5. Decontamination procedures are presented in Section A.6.

A.2.1 Hydraulic Probe Rig Drilling

A direct push hydraulic probe rig was used to collect subsurface soil and groundwater samples. The probe was advanced to the depth described in the proposal for this project. One soil sample was collected at the soil water interface and one groundwater sample was collected below the soil water interphase. The soil water interphase is the minimum depth at which the soil is in contact with groundwater. Logs for the Shannon & Wilson geoprobes are included as Figures A-2 through A-4.

A.2.2 Temporary Well Installation

Temporary wells were installed to collect groundwater samples. The well depths were chosen based on the depth of observed groundwater. The temporary wells were constructed of 1-inch-diameter, Schedule 40 polyvinyl chloride pipe and no sand pack was placed around the pipe. After the temporary wells were installed they were purged for approximately one minute prior to groundwater sampling.

A.2.3 Soil Sampling

Soil was visually described using Shannon & Wilson's soil classification procedure, which is a modified version of the Unified Soil Classification System. Our Soil Description and Log Key is provided as Figure A-1. The soil descriptions were recorded on geoprobe field logs. When a soil sample was selected for chemical analysis, the soil sample was placed into laboratory-supplied glassware using disposable, stainless steel spoons or disposable plastic syringes.

A.2.4 Groundwater Sampling

One groundwater sample from each probe location was collected using a peristaltic pump to extract water from the temporary well. After the samples were collected, the temporary wells were removed and all probe holes were backfilled with bentonite chips and patched with a cold asphalt patch.

A-3 SAMPLE HANDLING

Environmental samples were collected using disposable sampling equipment. New nitrile gloves were worn by the sample handler during collection of each sample. Non-disposable sampling equipment was decontaminated between sample locations to prevent cross contamination. Field notes documented site conditions and sample collection activities.

Samples collected for laboratory analysis were placed into pre-cleaned laboratory provided glassware and containerized sequentially, with the most volatile target analyte collected first. The preferred collection order for some of the more common analytes is: (a) volatile organics and petroleum, (b) semi-volatile organics, and (c) metals. The sample container labels were completed using indelible ink. The samples were sealed in plastic bags, and then placed into a cooler and maintained at 4 degrees Celsius ($^{\circ}\text{C}$) ($\pm 2^{\circ}\text{C}$) with "blue ice."

Sample information was recorded on chain-of-custody forms, and these forms accompanied the samples to the laboratory. Samples were maintained under chain-of-custody until delivered to the analytical laboratory, OnSite Environmental, Inc. of Redmond, Washington.

A-4 FIELD SCREENING METHODS

Field screening of geoprobe samples helped evaluate the potential presence of contamination. Typically, at a nonhazardous waste site, the most likely locations to encounter contamination are in fill, at the water table interface, in the water table smear (fluctuation) zone, at fill/native soil contacts, and at pronounced changes in permeability. However, the location of contamination, if any, is site dependent.

Field screening methods typically consisted of:

- Photoionization detector (PID) measurements
- Visual observations
- Olfactory observations

All three methods were used for the site. New nitrile gloves were worn by the field personnel during the screening.

A.4.1 Photoionization Detector (PID) Measurements

PID measurements were collected on soil samples to screen for volatile organic vapors such as gasoline and solvents. Typically, decaying organics can elevate PID measurements and diesel and oil can rarely be detected with the PID. PID measurements were obtained by passing the instrument directly over the soil or by performing a headspace measurement.

Headspace measurements were used to confirm low PID readings or to check for low volatility contaminants such as old petroleum products:

- Place an amount of soil into a Ziploc™ bag.
- Place the bag in a warm environment.
- Wait a consistent amount of time for the soil to reach “ambient” conditions (usually 15 minutes).
- Insert the tip of the PID into a very small slit in the bag.
- Take a PID reading and record the data.

A.4.2 Visual Observation

Visual observations of soil samples and cuttings were recorded in the boring log or in the field logbook. Indications of contamination include:

- Black tarry substances
- Oily or shiny soil
- Metallic flakes
- Free product petroleum or organic hydrocarbons
- Gray, pink, red, or black discolorations

A.4.3 Odors

Unusual odors were recorded when noted during drilling or sampling. Soil was not intentionally smelled for contamination. Soil was not tasted for classification purposes.

A.4.4 Field-screening Documentation

For all screening methods, the following items were recorded:

- Type of measurement/observation
- Depth
- Time of measurement or observation
- Possible source
- Description of odor (petroleum, decaying organics, creosote, cedar, etc.)

A-5 ANALYTICAL METHODS

Soil samples were analyzed for one or more of the following methods:

- Gasoline-range petroleum hydrocarbons using Method Northwest Total Petroleum Hydrocarbon (NWTPH) gasoline-range extended (Gx);
- Diesel- and oil-range petroleum hydrocarbons using Method NWTPH diesel-range extended (Dx);
- Volatile organic compounds (VOCs) by U.S. Environmental Protection Agency (EPA) Method 8260C;
- Resource Conservation and Recovery Act-8 metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver) plus copper, nickel and zinc by EPA Method 6010C/7471B series;

Groundwater samples were analyzed by the following methods:

- Gasoline-range petroleum hydrocarbons using Method NWTPH-Gx;
- Diesel- and oil-range petroleum hydrocarbons using Method NWTPH-Dx;
- Total or dissolved RCRA-8 metals by EPA Method 6000/7000 series; and
- VOCs by EPA Method 8260C .

A-6 DECONTAMINATION METHODS

The primary objective of the decontamination process is to prevent the accidental introduction of contaminants to non-contaminated areas or samples. This section describes the methods associated with decontamination of field equipment.

A.6.1 Direct Push Probe

Equipment used during soil activities was steam cleaned prior to use. Following decontamination, caution was taken to keep the equipment off the ground by placing the equipment on clean, plastic sheeting or equivalent.

The probe subcontractor provided a sufficient amount of direct push equipment and samplers to conduct the project without decontaminating between locations. The associated direct push equipment and samplers were decontaminated at the site at the end of sampling activities.

A.6.2 Sampling Equipment

Groundwater and soil sampling equipment was cleaned prior to and at the completion of each probe location. Wherever possible, sampling equipment was dedicated to a single location to minimize potential cross contamination. All other non-dedicated sampling equipment used during the field activities was decontaminated as follows:

- Remove gross contamination and particulate matter.
- Wash thoroughly with Alconox™, or similar non-phosphate detergent plus tap water or designated decontamination water supply source.
- Rinse equipment thoroughly with distilled or deionized water.

A-7 INVESTIGATION-DERIVED WASTE (IDW)

IDW is waste generated during sampling activities. IDW that was generated during these sampling activities included soil cuttings and purge water. The soil cuttings, purge water, and

decontamination water were placed into a steel drum and temporarily stored in the northeast corner of the site pending receipt of analytical results.

Miscellaneous IDW consisted of used personal protective equipment (PPE); disposable sampling equipment (spoons, tubing, etc.); and other wastes that originated from site activities. This IDW was placed in doubled, heavy-duty plastic bags. The waste PPE and disposable sampling equipment was disposed of in a dumpster at the probing subcontractor's facility.

Shannon & Wilson, Inc. (S&W), uses a soil identification system modified from the Unified Soil Classification System (USCS). Elements of the USCS and other definitions are provided on this and the following pages. Soil descriptions are based on visual-manual procedures (ASTM D2488) and laboratory testing procedures (ASTM D2487), if performed.

S&W INORGANIC SOIL CONSTITUENT DEFINITIONS

CONSTITUENT ²	FINE-GRAINED SOILS (50% or more fines) ¹	COARSE-GRAINED SOILS (less than 50% fines) ¹
Major	<i>Silt, Lean Clay, Elastic Silt₃, or Fat Clay</i>	<i>Sand or Gravel⁴</i>
Modifying (Secondary) Precedes major constituent	30% or more coarse-grained: <i>Sandy or Gravelly⁴</i>	More than 12% fine-grained: <i>Silty or Clayey³</i>
Minor Follows major constituent	15% to 30% coarse-grained: <i>with Sand or with Gravel⁴</i> 30% or more total coarse-grained and lesser coarse-grained constituent is 15% or more: <i>with Sand or with Gravel⁵</i>	5% to 12% fine-grained: <i>with Silt or with Clay³</i> 15% or more of a second coarse-grained constituent: <i>with Sand or with Gravel⁵</i>

¹All percentages are by weight of total specimen passing a 3-inch sieve.
²The order of terms is: *Modifying Major with Minor*.
³Determined based on behavior.
⁴Determined based on which constituent comprises a larger percentage.
⁵Whichever is the lesser constituent.

MOISTURE CONTENT TERMS

Dry	Absence of moisture, dusty, dry to the touch
Moist	Damp but no visible water
Wet	Visible free water, from below water table

STANDARD PENETRATION TEST (SPT) SPECIFICATIONS

Hammer:	140 pounds with a 30-inch free fall. Rope on 6- to 10-inch-diam. cathead 2-1/4 rope turns, > 100 rpm
	NOTE: If automatic hammers are used, blow counts shown on boring logs should be adjusted to account for efficiency of hammer.
Sampler:	10 to 30 inches long Shoe I.D. = 1.375 inches Barrel I.D. = 1.5 inches Barrel O.D. = 2 inches
N-Value:	Sum blow counts for second and third 6-inch increments. Refusal: 50 blows for 6 inches or less; 10 blows for 0 inches.
	NOTE: Penetration resistances (N-values) shown on boring logs are as recorded in the field and have not been corrected for hammer efficiency, overburden, or other factors.

PARTICLE SIZE DEFINITIONS

DESCRIPTION	SIEVE NUMBER AND/OR APPROXIMATE SIZE
FINES	< #200 (0.075 mm = 0.003 in.)
SAND Fine Medium Coarse	#200 to #40 (0.075 to 0.4 mm; 0.003 to 0.02 in.) #40 to #10 (0.4 to 2 mm; 0.02 to 0.08 in.) #10 to #4 (2 to 4.75 mm; 0.08 to 0.187 in.)
GRAVEL Fine Coarse	#4 to 3/4 in. (4.75 to 19 mm; 0.187 to 0.75 in.) 3/4 to 3 in. (19 to 76 mm)
COBBLES	3 to 12 in. (76 to 305 mm)
BOULDERS	> 12 in. (305 mm)

RELATIVE DENSITY / CONSISTENCY

COHESIONLESS SOILS		COHESIVE SOILS	
N, SPT, BLOWS/FT.	RELATIVE DENSITY	N, SPT, BLOWS/FT.	RELATIVE CONSISTENCY
< 4	Very loose	< 2	Very soft
4 - 10	Loose	2 - 4	Soft
10 - 30	Medium dense	4 - 8	Medium stiff
30 - 50	Dense	8 - 15	Stiff
> 50	Very dense	15 - 30	Very stiff
		> 30	Hard

WELL AND BACKFILL SYMBOLS

	Bentonite Cement Grout		Surface Cement Seal
	Bentonite Grout		Asphalt or Cap
	Bentonite Chips		Slough
	Silica Sand		Inclinometer or Non-perforated Casing
	Perforated or Screened Casing		Vibrating Wire Piezometer

PERCENTAGES TERMS^{1,2}

Trace	< 5%
Few	5 to 10%
Little	15 to 25%
Some	30 to 45%
Mostly	50 to 100%

¹Gravel, sand, and fines estimated by mass. Other constituents, such as organics, cobbles, and boulders, estimated by volume.

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ROW # EL295
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SOIL DESCRIPTION AND LOG KEY
















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FIG. A-1
Sheet 1 of 3

UNIFIED SOIL CLASSIFICATION SYSTEM (USCS)
 (Modified From USACE Tech Memo 3-357, ASTM D2487, and ASTM D2488)

MAJOR DIVISIONS		GROUP/GRAPHIC SYMBOL	TYPICAL IDENTIFICATIONS
COARSE-GRAINED SOILS <i>(more than 50% retained on No. 200 sieve)</i>	Gravels <i>(more than 50% of coarse fraction retained on No. 4 sieve)</i>	Gravel <i>(less than 5% fines)</i>	GW  Well-Graded Gravel; Well-Graded Gravel with Sand
			GP  Poorly Graded Gravel; Poorly Graded Gravel with Sand
		Silty or Clayey Gravel <i>(more than 12% fines)</i>	GM  Silty Gravel; Silty Gravel with Sand
			GC  Clayey Gravel; Clayey Gravel with Sand
	Sands <i>(50% or more of coarse fraction passes the No. 4 sieve)</i>	Sand <i>(less than 5% fines)</i>	SW  Well-Graded Sand; Well-Graded Sand with Gravel
			SP  Poorly Graded Sand; Poorly Graded Sand with Gravel
		Silty or Clayey Sand <i>(more than 12% fines)</i>	SM  Silty Sand; Silty Sand with Gravel
			SC  Clayey Sand; Clayey Sand with Gravel
FINE-GRAINED SOILS <i>(50% or more passes the No. 200 sieve)</i>	Silts and Clays <i>(liquid limit less than 50)</i>	Inorganic	ML  Silt; Silt with Sand or Gravel; Sandy or Gravelly Silt
			CL  Lean Clay; Lean Clay with Sand or Gravel; Sandy or Gravelly Lean Clay
		Organic	OL  Organic Silt or Clay; Organic Silt or Clay with Sand or Gravel; Sandy or Gravelly Organic Silt or Clay
	Silts and Clays <i>(liquid limit 50 or more)</i>	Inorganic	MH  Elastic Silt; Elastic Silt with Sand or Gravel; Sandy or Gravelly Elastic Silt
			CH  Fat Clay; Fat Clay with Sand or Gravel; Sandy or Gravelly Fat Clay
		Organic	OH  Organic Silt or Clay; Organic Silt or Clay with Sand or Gravel; Sandy or Gravelly Organic Silt or Clay
HIGHLY-ORGANIC SOILS	Primarily organic matter, dark in color, and organic odor	PT  Peat or other highly organic soils (see ASTM D4427)	

NOTE: No. 4 size = 4.75 mm = 0.187 in.; No. 200 size = 0.075 mm = 0.003 in.

NOTES

- Dual symbols (*symbols separated by a hyphen, i.e., SP-SM, Sand with Silt*) are used for soils with between 5% and 12% fines or when the liquid limit and plasticity index values plot in the CL-ML area of the plasticity chart. Graphics shown on the logs for these soil types are a combination of the two graphic symbols (e.g., SP and SM).
- Borderline symbols (*symbols separated by a slash, i.e., CL/ML, Lean Clay to Silt; SP-SM/SM, Sand with Silt to Silty Sand*) indicate that the soil properties are close to the defining boundary between two groups.

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**SOIL DESCRIPTION
 AND LOG KEY**

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FIG. A-1
 Sheet 2 of 3

GRADATION TERMS

Poorly Graded	Narrow range of grain sizes present or, within the range of grain sizes present, one or more sizes are missing (Gap Graded). Meets criteria in ASTM D2487, if tested.
Well-Graded	Full range and even distribution of grain sizes present. Meets criteria in ASTM D2487, if tested.

CEMENTATION TERMS¹

Weak	Crumbles or breaks with handling or slight finger pressure.
Moderate	Crumbles or breaks with considerable finger pressure.
Strong	Will not crumble or break with finger pressure.

PLASTICITY²

DESCRIPTION	VISUAL-MANUAL CRITERIA	APPROX. PLASTICITY INDEX RANGE
Nonplastic	A 1/8-in. thread cannot be rolled at any water content.	< 4
Low	A thread can barely be rolled and a lump cannot be formed when drier than the plastic limit.	4 to 10
Medium	A thread is easy to roll and not much time is required to reach the plastic limit. The thread cannot be rerolled after reaching the plastic limit. A lump crumbles when drier than the plastic limit.	10 to 20
High	It takes considerable time rolling and kneading to reach the plastic limit. A thread can be rerolled several times after reaching the plastic limit. A lump can be formed without crumbling when drier than the plastic limit.	> 20

ADDITIONAL TERMS

Mottled	Irregular patches of different colors.
Bioturbated	Soil disturbance or mixing by plants or animals.
Diamict	Nonsorted sediment; sand and gravel in silt and/or clay matrix.
Cuttings	Material brought to surface by drilling.
Slough	Material that caved from sides of borehole.
Sheared	Disturbed texture, mix of strengths.

PARTICLE ANGULARITY AND SHAPE TERMS¹

Angular	Sharp edges and unpolished planar surfaces.
Subangular	Similar to angular, but with rounded edges.
Subrounded	Nearly planar sides with well-rounded edges.
Rounded	Smoothly curved sides with no edges.
Flat	Width/thickness ratio > 3.
Elongated	Length/width ratio > 3.

ACRONYMS AND ABBREVIATIONS

ATD	At Time of Drilling
Diam.	Diameter
Elev.	Elevation
ft.	Feet
FeO	Iron Oxide
gal.	Gallons
Horiz.	Horizontal
HSA	Hollow Stem Auger
I.D.	Inside Diameter
in.	Inches
lbs.	Pounds
MgO	Magnesium Oxide
mm	Millimeter
MnO	Manganese Oxide
NA	Not Applicable or Not Available
NP	Nonplastic
O.D.	Outside Diameter
OW	Observation Well
pcf	Pounds per Cubic Foot
PID	Photo-Ionization Detector
PMT	Pressuremeter Test
ppm	Parts per Million
psi	Pounds per Square Inch
PVC	Polyvinyl Chloride
rpm	Rotations per Minute
SPT	Standard Penetration Test
USCS	Unified Soil Classification System
q _u	Unconfined Compressive Strength
VWP	Vibrating Wire Piezometer
Vert.	Vertical
WOH	Weight of Hammer
WOR	Weight of Rods
Wt.	Weight

STRUCTURE TERMS¹

Interbedded	Alternating layers of varying material or color with layers at least 1/4-inch thick; singular: bed.
Laminated	Alternating layers of varying material or color with layers less than 1/4-inch thick; singular: lamination.
Fissured	Breaks along definite planes or fractures with little resistance.
Slickensided	Fracture planes appear polished or glossy; sometimes striated.
Blocky	Cohesive soil that can be broken down into small angular lumps that resist further breakdown.
Lensed	Inclusion of small pockets of different soils, such as small lenses of sand scattered through a mass of clay.
Homogeneous	Same color and appearance throughout.

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SOIL DESCRIPTION AND LOG KEY

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Geotechnical and Environmental Consultants

FIG. A-1
Sheet 3 of 3

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LOG OF GEOPROBE

Date Started	11/18/15	Location	Northeast corner of parcel.
Date Completed	11/18/15	Ground Elevation:	Approx. NA feet
Total Depth (ft)	5.0	Typical Run Length	5 feet
		Drilling Company:	ESN Northwest
		Hole Diameter:	2 inches

Depth (ft)	Probe Run	Soil Description	Depth, ft.	Symbol	PID, ppm	Ground Water	Sample Number, Description, and Results	Depth (ft)
	1	<p>Topsoil.</p> <p>Light brown, Poorly Graded Sand with Silt (SM-SM); wet; fine to medum sand.</p>	0.3	[Symbol]	0	During Drilling ▽		
5		<p>BOTTOM OF GEOPROBE COMPLETED 11/18/2015</p>	5.0				EL2951-1:0.5	5

Typ: _____
 Rev: _____
 Log: _____
 GEOPROBE 21-1-16700-051.GPJ 21-1-16604.GPJ 1/22/16

NOTES

1. In some cases where recovery was low in the upper part of the run, the soil sample may have slid down in the tube prior to removal from the ground.
2. Groundwater level, if indicated above, was estimated during probing and should be considered approximate.
3. Refer to KEY for definitions and explanation of symbols.
4. CT = corrosion test sample; TR = thermal resistivity sample; EN = environmental sample; GE = geotechnical sample; AR = archeological sample.

LEGEND

- | | | |
|------------------------------------|------------------------------------|-----------------------|
| 3" Plastic Tube - No Soil Recovery | 2" Plastic Tube with Soil Recovery | Estimated Water Level |
| Run No. | | |

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LOG OF GEOPROBE EL295-1

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FIG. A-2

LOG OF GEOPROBE

Date Started	11/18/15	Location	North-central portion of parcel.	Ground Elevation:	Approx. NA feet
Date Completed	11/18/15			Typical Run Length	5 feet
Total Depth (ft)	10.0	Drilling Company:	ESN Northwest	Hole Diameter:	2 inches




Depth (ft)	Probe Run	Soil Description	Depth, ft.	Symbol	PID, ppm	Ground Water	Sample Number, Description, and Results	Depth (ft)
1	1	Dark brown, <i>Silty Sand (SM)</i> ; moist; trace gravel; occasional organics.	1.0	[Symbol]	0			1
5	2	Light brown, <i>Poorly Graded Sand with Silt (SP-SM)</i> ; moist to 4.5 feet; wet below 4.5 feet; fine to medium sand.			0	During Drilling		5
10		BOTTOM OF GEOPROBE COMPLETED 11/18/2015	10.0				EL295-2:4.5	10

Typ: _____
 Rev: _____
 Log: _____
 GEOPROBE 21-16700-051.GPJ 21-16604.GPJ 1/22/16

NOTES

1. In some cases where recovery was low in the upper part of the run, the soil sample may have slid down in the tube prior to removal from the ground.
2. Groundwater level, if indicated above, was estimated during probing and should be considered approximate.
3. Refer to KEY for definitions and explanation of symbols.
4. CT = corrosion test sample; TR = thermal resistivity sample; EN = environmental sample; GE = geotechnical sample; AR = archeological sample.

LEGEND

- | | | |
|--|--|---|
|  2" Plastic Tube - No Soil Recovery |  2" Plastic Tube with Soil Recovery |  Estimated Water Level |
|--|--|---|
- Run No.

Phase II ESA, Sound Transit

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LOG OF GEOPROBE EL295-2

January 2016

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FIG. A-3

LOG OF GEOPROBE

Date Started	11/18/15	Location	Northwest Corner of Parcel	Ground Elevation:	Approx. NA feet
Date Completed	11/18/15			Typical Run Length	5 feet
Total Depth (ft)	15.0	Drilling Company:	ESN Northwest	Hole Diameter:	2 inches

Depth (ft)	Probe Run	Soil Description	Depth, ft.	Symbol	PID, ppm	Ground Water	Sample Number, Description, and Results	Depth (ft)
	1	Brown, <i>Silty Sand with Gravel (SM)</i> ; moist; fine to medium sand.		□	0			
5	2	Brown, <i>Poorly Graded Sand (SP)</i> ; moist; medium sand.	6.0	□	0			5
		Brown to gray, <i>Silty Sand (SM)</i> ; moist; occasional 2-inch silt layers.	8.0	□	0			10
10	3	Brown, <i>Poorly Graded Sand with Silt (SP-SM)</i> ; wet; 10 percent fine gravel; fine to medium sand.	11.5	□	0	▽		10
15		BOTTOM OF BORING COMPLETED 11/18/2015	15.0				EL295-3:12	15

Typ: _____
 Rev: _____
 Log: _____
 GEOPROBE 21-16700-051.GPJ 21-16604.GPJ 1/22/16

NOTES

1. In some cases where recovery was low in the upper part of the run, the soil sample may have slid down in the tube prior to removal from the ground.
2. Groundwater level, if indicated above, was estimated during probing and should be considered approximate.
3. Refer to KEY for definitions and explanation of symbols.
4. CT = corrosion test sample; TR = thermal resistivity sample; EN = environmental sample; GE = geotechnical sample; AR = archeological sample.

LEGEND

- 2" Plastic Tube - No Soil Recovery
 - 2" Plastic Tube with Soil Recovery
 - Estimated Water Level
- Run No. _____

Phase II ESA, Sound Transit ROW # EL295 1500 130th Avenue NE, Bellevue, WA	
<h2 style="margin: 0;">LOG OF GEOPROBE EL295-3</h2>	
January 2016	21-1-16700-051
SHANNON & WILSON, INC. Geotechnical and Environmental Consultants	FIG. A-4

APPENDIX B
ANALYTICAL LABORATORY REPORT



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

December 1, 2015

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

Re: Analytical Data for Project 21-1-16700-051
Laboratory Reference No. 1511-185

Dear Agnes:

Enclosed are the analytical results and associated quality control data for samples submitted on November 19, 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,

A handwritten signature in black ink, appearing to read "DB", with a long horizontal stroke extending to the right.

David Baumeister
Project Manager

Enclosures

Date of Report: December 1, 2015
Samples Submitted: November 19, 2015
Laboratory Reference: 1511-185
Project: 21-1-16700-051

Case Narrative

Samples were collected on November 18, 2015 and received by the laboratory on November 19, 2015. 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 and Volatiles EPA 8260C (soil) 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: December 1, 2015
 Samples Submitted: November 19, 2015
 Laboratory Reference: 1511-185
 Project: 21-1-16700-051

NWTPH-Gx

Matrix: Soil
 Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	EL295-1:0.5					
Laboratory ID:	11-185-01					
Gasoline	ND	5.8	NWTPH-Gx	11-20-15	11-20-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>Fluorobenzene</i>	92	68-129				
Client ID:	EL295-2:4.5					
Laboratory ID:	11-185-02					
Gasoline	ND	6.2	NWTPH-Gx	11-20-15	11-20-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>Fluorobenzene</i>	97	68-129				
Client ID:	EL295-3:12					
Laboratory ID:	11-185-03					
Gasoline	ND	6.5	NWTPH-Gx	11-20-15	11-20-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>Fluorobenzene</i>	95	68-129				

Date of Report: December 1, 2015
 Samples Submitted: November 19, 2015
 Laboratory Reference: 1511-185
 Project: 21-1-16700-051

**NWTPH-Gx
 QUALITY CONTROL**

Matrix: Soil
 Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1120S1					
Gasoline	ND	5.0	NWTPH-Gx	11-20-15	11-20-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>Fluorobenzene</i>	<i>88</i>	<i>68-129</i>				

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	11-174-06							
	ORIG	DUP						
Gasoline	ND	ND	NA	NA	NA	NA	NA	30
<i>Surrogate:</i>								
<i>Fluorobenzene</i>				96	98	68-129		

Date of Report: December 1, 2015
 Samples Submitted: November 19, 2015
 Laboratory Reference: 1511-185
 Project: 21-1-16700-051

NWTPH-Gx

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	EL295-1:GW					
Laboratory ID:	11-185-04					
Gasoline	ND	100	NWTPH-Gx	11-20-15	11-20-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>Fluorobenzene</i>	92	71-111				
Client ID:	EL295-2:GW					
Laboratory ID:	11-185-05					
Gasoline	ND	100	NWTPH-Gx	11-20-15	11-20-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>Fluorobenzene</i>	92	71-111				
Client ID:	EL295-3:GW					
Laboratory ID:	11-185-06					
Gasoline	ND	100	NWTPH-Gx	11-20-15	11-20-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>Fluorobenzene</i>	91	71-111				

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**NWTPH-Gx
 QUALITY CONTROL**

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1120W1					
Gasoline	ND	100	NWTPH-Gx	11-20-15	11-20-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>Fluorobenzene</i>	92	71-111				

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	11-185-04							
	ORIG	DUP						
Gasoline	ND	ND	NA	NA	NA	NA	NA	30
<i>Surrogate:</i>								
<i>Fluorobenzene</i>				92	93	71-111		

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NWTPH-Dx

Matrix: Soil
 Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	EL295-1:0.5					
Laboratory ID:	11-185-01					
Diesel Range Organics	ND	30	NWTPH-Dx	11-23-15	11-25-15	
Lube Oil Range Organics	ND	59	NWTPH-Dx	11-23-15	11-25-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>o-Terphenyl</i>	123	50-150				
Client ID:	EL295-2:4.5					
Laboratory ID:	11-185-02					
Diesel Range Organics	ND	31	NWTPH-Dx	11-23-15	11-24-15	
Lube Oil Range Organics	ND	62	NWTPH-Dx	11-23-15	11-24-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>o-Terphenyl</i>	126	50-150				
Client ID:	EL295-3:12					
Laboratory ID:	11-185-03					
Diesel Range Organics	ND	28	NWTPH-Dx	11-23-15	11-24-15	
Lube Oil Range Organics	ND	56	NWTPH-Dx	11-23-15	11-24-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>o-Terphenyl</i>	115	50-150				

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**NWTPH-Dx
 QUALITY CONTROL**

Matrix: Soil
 Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1123S4					
Diesel Range Organics	ND	25	NWTPH-Dx	11-23-15	11-24-15	
Lube Oil Range Organics	ND	50	NWTPH-Dx	11-23-15	11-24-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>o-Terphenyl</i>	116	50-150				

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	11-185-02							
	ORIG	DUP						
Diesel Range	ND	ND	NA	NA	NA	NA	NA	
Lube Oil Range	ND	ND	NA	NA	NA	NA	NA	
<i>Surrogate:</i>								
<i>o-Terphenyl</i>			126	91	50-150			

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NWTPH-Dx

Matrix: Water
 Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	EL295-1:GW					
Laboratory ID:	11-185-04					
Diesel Range Organics	ND	0.26	NWTPH-Dx	11-24-15	11-24-15	
Lube Oil Range Organics	ND	0.41	NWTPH-Dx	11-24-15	11-24-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>o-Terphenyl</i>	72	50-150				
Client ID:	EL295-2:GW					
Laboratory ID:	11-185-05					
Diesel Range Organics	ND	0.26	NWTPH-Dx	11-24-15	11-24-15	
Lube Oil Range Organics	ND	0.41	NWTPH-Dx	11-24-15	11-24-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>o-Terphenyl</i>	73	50-150				
Client ID:	EL295-3:GW					
Laboratory ID:	11-185-06					
Diesel Range Organics	ND	0.26	NWTPH-Dx	11-24-15	11-24-15	
Lube Oil Range Organics	ND	0.41	NWTPH-Dx	11-24-15	11-24-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>o-Terphenyl</i>	96	50-150				

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**NWTPH-Dx
 QUALITY CONTROL**

Matrix: Water
 Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1124W1					
Diesel Range Organics	ND	0.25	NWTPH-Dx	11-24-15	11-24-15	
Lube Oil Range Organics	ND	0.40	NWTPH-Dx	11-24-15	11-24-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>o-Terphenyl</i>	69	50-150				

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	11-185-04							
	ORIG	DUP						
Diesel Range	ND	ND	NA	NA	NA	NA	NA	NA
Lube Oil Range	ND	ND	NA	NA	NA	NA	NA	NA
<i>Surrogate:</i>								
<i>o-Terphenyl</i>				72	84	50-150		

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Matrix: Soil
 Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	EL295-1:0.5					
Laboratory ID:	11-185-01					
Dichlorodifluoromethane	ND	0.00087	EPA 8260C	11-21-15	11-21-15	
Chloromethane	ND	0.0044	EPA 8260C	11-21-15	11-21-15	
Vinyl Chloride	ND	0.00087	EPA 8260C	11-21-15	11-21-15	
Bromomethane	ND	0.00087	EPA 8260C	11-21-15	11-21-15	
Chloroethane	ND	0.0044	EPA 8260C	11-21-15	11-21-15	
Trichlorofluoromethane	ND	0.00087	EPA 8260C	11-21-15	11-21-15	
1,1-Dichloroethene	ND	0.00087	EPA 8260C	11-21-15	11-21-15	
Acetone	ND	0.0044	EPA 8260C	11-21-15	11-21-15	
Iodomethane	ND	0.0044	EPA 8260C	11-21-15	11-21-15	
Carbon Disulfide	ND	0.00087	EPA 8260C	11-21-15	11-21-15	
Methylene Chloride	ND	0.0044	EPA 8260C	11-21-15	11-21-15	
(trans) 1,2-Dichloroethene	ND	0.00087	EPA 8260C	11-21-15	11-21-15	
Methyl t-Butyl Ether	ND	0.00087	EPA 8260C	11-21-15	11-21-15	
1,1-Dichloroethane	ND	0.00087	EPA 8260C	11-21-15	11-21-15	
Vinyl Acetate	ND	0.0044	EPA 8260C	11-21-15	11-21-15	
2,2-Dichloropropane	ND	0.00087	EPA 8260C	11-21-15	11-21-15	
(cis) 1,2-Dichloroethene	ND	0.00087	EPA 8260C	11-21-15	11-21-15	
2-Butanone	ND	0.0044	EPA 8260C	11-21-15	11-21-15	
Bromochloromethane	ND	0.00087	EPA 8260C	11-21-15	11-21-15	
Chloroform	ND	0.00087	EPA 8260C	11-21-15	11-21-15	
1,1,1-Trichloroethane	ND	0.00087	EPA 8260C	11-21-15	11-21-15	
Carbon Tetrachloride	ND	0.00087	EPA 8260C	11-21-15	11-21-15	
1,1-Dichloropropene	ND	0.00087	EPA 8260C	11-21-15	11-21-15	
Benzene	ND	0.00087	EPA 8260C	11-21-15	11-21-15	
1,2-Dichloroethane	ND	0.00087	EPA 8260C	11-21-15	11-21-15	
Trichloroethene	ND	0.00087	EPA 8260C	11-21-15	11-21-15	
1,2-Dichloropropane	ND	0.00087	EPA 8260C	11-21-15	11-21-15	
Dibromomethane	ND	0.00087	EPA 8260C	11-21-15	11-21-15	
Bromodichloromethane	ND	0.00087	EPA 8260C	11-21-15	11-21-15	
2-Chloroethyl Vinyl Ether	ND	0.0044	EPA 8260C	11-21-15	11-21-15	
(cis) 1,3-Dichloropropene	ND	0.00087	EPA 8260C	11-21-15	11-21-15	
Methyl Isobutyl Ketone	ND	0.0044	EPA 8260C	11-21-15	11-21-15	
Toluene	ND	0.0044	EPA 8260C	11-21-15	11-21-15	
(trans) 1,3-Dichloropropene	ND	0.00087	EPA 8260C	11-21-15	11-21-15	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	EL295-1:0.5					
Laboratory ID:	11-185-01					
1,1,2-Trichloroethane	ND	0.00087	EPA 8260C	11-21-15	11-21-15	
Tetrachloroethene	ND	0.00087	EPA 8260C	11-21-15	11-21-15	
1,3-Dichloropropane	ND	0.00087	EPA 8260C	11-21-15	11-21-15	
2-Hexanone	ND	0.0044	EPA 8260C	11-21-15	11-21-15	
Dibromochloromethane	ND	0.00087	EPA 8260C	11-21-15	11-21-15	
1,2-Dibromoethane	ND	0.00087	EPA 8260C	11-21-15	11-21-15	
Chlorobenzene	ND	0.00087	EPA 8260C	11-21-15	11-21-15	
1,1,1,2-Tetrachloroethane	ND	0.00087	EPA 8260C	11-21-15	11-21-15	
Ethylbenzene	ND	0.00087	EPA 8260C	11-21-15	11-21-15	
m,p-Xylene	ND	0.0017	EPA 8260C	11-21-15	11-21-15	
o-Xylene	ND	0.00087	EPA 8260C	11-21-15	11-21-15	
Styrene	ND	0.00087	EPA 8260C	11-21-15	11-21-15	
Bromoform	ND	0.00087	EPA 8260C	11-21-15	11-21-15	
Isopropylbenzene	ND	0.00087	EPA 8260C	11-21-15	11-21-15	
Bromobenzene	ND	0.00087	EPA 8260C	11-21-15	11-21-15	
1,1,2,2-Tetrachloroethane	ND	0.00087	EPA 8260C	11-21-15	11-21-15	
1,2,3-Trichloropropane	ND	0.00087	EPA 8260C	11-21-15	11-21-15	
n-Propylbenzene	ND	0.00087	EPA 8260C	11-21-15	11-21-15	
2-Chlorotoluene	ND	0.00087	EPA 8260C	11-21-15	11-21-15	
4-Chlorotoluene	ND	0.00087	EPA 8260C	11-21-15	11-21-15	
1,3,5-Trimethylbenzene	ND	0.00087	EPA 8260C	11-21-15	11-21-15	
tert-Butylbenzene	ND	0.00087	EPA 8260C	11-21-15	11-21-15	
1,2,4-Trimethylbenzene	ND	0.00087	EPA 8260C	11-21-15	11-21-15	
sec-Butylbenzene	ND	0.00087	EPA 8260C	11-21-15	11-21-15	
1,3-Dichlorobenzene	ND	0.00087	EPA 8260C	11-21-15	11-21-15	
p-Isopropyltoluene	ND	0.00087	EPA 8260C	11-21-15	11-21-15	
1,4-Dichlorobenzene	ND	0.00087	EPA 8260C	11-21-15	11-21-15	
1,2-Dichlorobenzene	ND	0.00087	EPA 8260C	11-21-15	11-21-15	
n-Butylbenzene	ND	0.00087	EPA 8260C	11-21-15	11-21-15	
1,2-Dibromo-3-chloropropane	ND	0.0044	EPA 8260C	11-21-15	11-21-15	
1,2,4-Trichlorobenzene	ND	0.00087	EPA 8260C	11-21-15	11-21-15	
Hexachlorobutadiene	ND	0.0044	EPA 8260C	11-21-15	11-21-15	
Naphthalene	ND	0.00087	EPA 8260C	11-21-15	11-21-15	
1,2,3-Trichlorobenzene	ND	0.00087	EPA 8260C	11-21-15	11-21-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>Dibromofluoromethane</i>	<i>111</i>	<i>76-131</i>				
<i>Toluene-d8</i>	<i>111</i>	<i>80-126</i>				
<i>4-Bromofluorobenzene</i>	<i>111</i>	<i>60-146</i>				

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Matrix: Soil
 Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	EL295-2:4.5					
Laboratory ID:	11-185-02					
Dichlorodifluoromethane	ND	0.00099	EPA 8260C	11-21-15	11-21-15	
Chloromethane	ND	0.0049	EPA 8260C	11-21-15	11-21-15	
Vinyl Chloride	ND	0.00099	EPA 8260C	11-21-15	11-21-15	
Bromomethane	ND	0.00099	EPA 8260C	11-21-15	11-21-15	
Chloroethane	ND	0.0049	EPA 8260C	11-21-15	11-21-15	
Trichlorofluoromethane	ND	0.00099	EPA 8260C	11-21-15	11-21-15	
1,1-Dichloroethene	ND	0.00099	EPA 8260C	11-21-15	11-21-15	
Acetone	ND	0.0049	EPA 8260C	11-21-15	11-21-15	
Iodomethane	ND	0.0049	EPA 8260C	11-21-15	11-21-15	
Carbon Disulfide	ND	0.00099	EPA 8260C	11-21-15	11-21-15	
Methylene Chloride	ND	0.0049	EPA 8260C	11-21-15	11-21-15	
(trans) 1,2-Dichloroethene	ND	0.00099	EPA 8260C	11-21-15	11-21-15	
Methyl t-Butyl Ether	ND	0.00099	EPA 8260C	11-21-15	11-21-15	
1,1-Dichloroethane	ND	0.00099	EPA 8260C	11-21-15	11-21-15	
Vinyl Acetate	ND	0.0049	EPA 8260C	11-21-15	11-21-15	
2,2-Dichloropropane	ND	0.00099	EPA 8260C	11-21-15	11-21-15	
(cis) 1,2-Dichloroethene	ND	0.00099	EPA 8260C	11-21-15	11-21-15	
2-Butanone	ND	0.0049	EPA 8260C	11-21-15	11-21-15	
Bromochloromethane	ND	0.00099	EPA 8260C	11-21-15	11-21-15	
Chloroform	ND	0.00099	EPA 8260C	11-21-15	11-21-15	
1,1,1-Trichloroethane	ND	0.00099	EPA 8260C	11-21-15	11-21-15	
Carbon Tetrachloride	ND	0.00099	EPA 8260C	11-21-15	11-21-15	
1,1-Dichloropropene	ND	0.00099	EPA 8260C	11-21-15	11-21-15	
Benzene	ND	0.00099	EPA 8260C	11-21-15	11-21-15	
1,2-Dichloroethane	ND	0.00099	EPA 8260C	11-21-15	11-21-15	
Trichloroethene	ND	0.00099	EPA 8260C	11-21-15	11-21-15	
1,2-Dichloropropane	ND	0.00099	EPA 8260C	11-21-15	11-21-15	
Dibromomethane	ND	0.00099	EPA 8260C	11-21-15	11-21-15	
Bromodichloromethane	ND	0.00099	EPA 8260C	11-21-15	11-21-15	
2-Chloroethyl Vinyl Ether	ND	0.0049	EPA 8260C	11-21-15	11-21-15	
(cis) 1,3-Dichloropropene	ND	0.00099	EPA 8260C	11-21-15	11-21-15	
Methyl Isobutyl Ketone	ND	0.0049	EPA 8260C	11-21-15	11-21-15	
Toluene	ND	0.0049	EPA 8260C	11-21-15	11-21-15	
(trans) 1,3-Dichloropropene	ND	0.00099	EPA 8260C	11-21-15	11-21-15	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	EL295-2:4.5					
Laboratory ID:	11-185-02					
1,1,2-Trichloroethane	ND	0.00099	EPA 8260C	11-21-15	11-21-15	
Tetrachloroethene	ND	0.00099	EPA 8260C	11-21-15	11-21-15	
1,3-Dichloropropane	ND	0.00099	EPA 8260C	11-21-15	11-21-15	
2-Hexanone	ND	0.0049	EPA 8260C	11-21-15	11-21-15	
Dibromochloromethane	ND	0.00099	EPA 8260C	11-21-15	11-21-15	
1,2-Dibromoethane	ND	0.00099	EPA 8260C	11-21-15	11-21-15	
Chlorobenzene	ND	0.00099	EPA 8260C	11-21-15	11-21-15	
1,1,1,2-Tetrachloroethane	ND	0.00099	EPA 8260C	11-21-15	11-21-15	
Ethylbenzene	ND	0.00099	EPA 8260C	11-21-15	11-21-15	
m,p-Xylene	ND	0.0020	EPA 8260C	11-21-15	11-21-15	
o-Xylene	ND	0.00099	EPA 8260C	11-21-15	11-21-15	
Styrene	ND	0.00099	EPA 8260C	11-21-15	11-21-15	
Bromoform	ND	0.00099	EPA 8260C	11-21-15	11-21-15	
Isopropylbenzene	ND	0.00099	EPA 8260C	11-21-15	11-21-15	
Bromobenzene	ND	0.00099	EPA 8260C	11-21-15	11-21-15	
1,1,2,2-Tetrachloroethane	ND	0.00099	EPA 8260C	11-21-15	11-21-15	
1,2,3-Trichloropropane	ND	0.00099	EPA 8260C	11-21-15	11-21-15	
n-Propylbenzene	ND	0.00099	EPA 8260C	11-21-15	11-21-15	
2-Chlorotoluene	ND	0.00099	EPA 8260C	11-21-15	11-21-15	
4-Chlorotoluene	ND	0.00099	EPA 8260C	11-21-15	11-21-15	
1,3,5-Trimethylbenzene	ND	0.00099	EPA 8260C	11-21-15	11-21-15	
tert-Butylbenzene	ND	0.00099	EPA 8260C	11-21-15	11-21-15	
1,2,4-Trimethylbenzene	ND	0.00099	EPA 8260C	11-21-15	11-21-15	
sec-Butylbenzene	ND	0.00099	EPA 8260C	11-21-15	11-21-15	
1,3-Dichlorobenzene	ND	0.00099	EPA 8260C	11-21-15	11-21-15	
p-Isopropyltoluene	ND	0.00099	EPA 8260C	11-21-15	11-21-15	
1,4-Dichlorobenzene	ND	0.00099	EPA 8260C	11-21-15	11-21-15	
1,2-Dichlorobenzene	ND	0.00099	EPA 8260C	11-21-15	11-21-15	
n-Butylbenzene	ND	0.00099	EPA 8260C	11-21-15	11-21-15	
1,2-Dibromo-3-chloropropane	ND	0.0049	EPA 8260C	11-21-15	11-21-15	
1,2,4-Trichlorobenzene	ND	0.00099	EPA 8260C	11-21-15	11-21-15	
Hexachlorobutadiene	ND	0.0049	EPA 8260C	11-21-15	11-21-15	
Naphthalene	ND	0.00099	EPA 8260C	11-21-15	11-21-15	
1,2,3-Trichlorobenzene	ND	0.00099	EPA 8260C	11-21-15	11-21-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>Dibromofluoromethane</i>	<i>114</i>	<i>76-131</i>				
<i>Toluene-d8</i>	<i>114</i>	<i>80-126</i>				
<i>4-Bromofluorobenzene</i>	<i>114</i>	<i>60-146</i>				

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Matrix: Soil
 Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	EL295-3:12					
Laboratory ID:	11-185-03					
Dichlorodifluoromethane	ND	0.0011	EPA 8260C	11-21-15	11-21-15	
Chloromethane	ND	0.0056	EPA 8260C	11-21-15	11-21-15	
Vinyl Chloride	ND	0.0011	EPA 8260C	11-21-15	11-21-15	
Bromomethane	ND	0.0011	EPA 8260C	11-21-15	11-21-15	
Chloroethane	ND	0.0056	EPA 8260C	11-21-15	11-21-15	
Trichlorofluoromethane	ND	0.0011	EPA 8260C	11-21-15	11-21-15	
1,1-Dichloroethene	ND	0.0011	EPA 8260C	11-21-15	11-21-15	
Acetone	ND	0.0056	EPA 8260C	11-21-15	11-21-15	
Iodomethane	ND	0.0056	EPA 8260C	11-21-15	11-21-15	
Carbon Disulfide	ND	0.0011	EPA 8260C	11-21-15	11-21-15	
Methylene Chloride	ND	0.0056	EPA 8260C	11-21-15	11-21-15	
(trans) 1,2-Dichloroethene	ND	0.0011	EPA 8260C	11-21-15	11-21-15	
Methyl t-Butyl Ether	ND	0.0011	EPA 8260C	11-21-15	11-21-15	
1,1-Dichloroethane	ND	0.0011	EPA 8260C	11-21-15	11-21-15	
Vinyl Acetate	ND	0.0056	EPA 8260C	11-21-15	11-21-15	
2,2-Dichloropropane	ND	0.0011	EPA 8260C	11-21-15	11-21-15	
(cis) 1,2-Dichloroethene	ND	0.0011	EPA 8260C	11-21-15	11-21-15	
2-Butanone	ND	0.0056	EPA 8260C	11-21-15	11-21-15	
Bromochloromethane	ND	0.0011	EPA 8260C	11-21-15	11-21-15	
Chloroform	ND	0.0011	EPA 8260C	11-21-15	11-21-15	
1,1,1-Trichloroethane	ND	0.0011	EPA 8260C	11-21-15	11-21-15	
Carbon Tetrachloride	ND	0.0011	EPA 8260C	11-21-15	11-21-15	
1,1-Dichloropropene	ND	0.0011	EPA 8260C	11-21-15	11-21-15	
Benzene	ND	0.0011	EPA 8260C	11-21-15	11-21-15	
1,2-Dichloroethane	ND	0.0011	EPA 8260C	11-21-15	11-21-15	
Trichloroethene	ND	0.0011	EPA 8260C	11-21-15	11-21-15	
1,2-Dichloropropane	ND	0.0011	EPA 8260C	11-21-15	11-21-15	
Dibromomethane	ND	0.0011	EPA 8260C	11-21-15	11-21-15	
Bromodichloromethane	ND	0.0011	EPA 8260C	11-21-15	11-21-15	
2-Chloroethyl Vinyl Ether	ND	0.0056	EPA 8260C	11-21-15	11-21-15	
(cis) 1,3-Dichloropropene	ND	0.0011	EPA 8260C	11-21-15	11-21-15	
Methyl Isobutyl Ketone	ND	0.0056	EPA 8260C	11-21-15	11-21-15	
Toluene	ND	0.0056	EPA 8260C	11-21-15	11-21-15	
(trans) 1,3-Dichloropropene	ND	0.0011	EPA 8260C	11-21-15	11-21-15	

Date of Report: December 1, 2015
 Samples Submitted: November 19, 2015
 Laboratory Reference: 1511-185
 Project: 21-1-16700-051

VOLATILES EPA 8260C
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	EL295-3:12					
Laboratory ID:	11-185-03					
1,1,2-Trichloroethane	ND	0.0011	EPA 8260C	11-21-15	11-21-15	
Tetrachloroethene	ND	0.0011	EPA 8260C	11-21-15	11-21-15	
1,3-Dichloropropane	ND	0.0011	EPA 8260C	11-21-15	11-21-15	
2-Hexanone	ND	0.0056	EPA 8260C	11-21-15	11-21-15	
Dibromochloromethane	ND	0.0011	EPA 8260C	11-21-15	11-21-15	
1,2-Dibromoethane	ND	0.0011	EPA 8260C	11-21-15	11-21-15	
Chlorobenzene	ND	0.0011	EPA 8260C	11-21-15	11-21-15	
1,1,1,2-Tetrachloroethane	ND	0.0011	EPA 8260C	11-21-15	11-21-15	
Ethylbenzene	ND	0.0011	EPA 8260C	11-21-15	11-21-15	
m,p-Xylene	ND	0.0022	EPA 8260C	11-21-15	11-21-15	
o-Xylene	ND	0.0011	EPA 8260C	11-21-15	11-21-15	
Styrene	ND	0.0011	EPA 8260C	11-21-15	11-21-15	
Bromoform	ND	0.0011	EPA 8260C	11-21-15	11-21-15	
Isopropylbenzene	ND	0.0011	EPA 8260C	11-21-15	11-21-15	
Bromobenzene	ND	0.0011	EPA 8260C	11-21-15	11-21-15	
1,1,2,2-Tetrachloroethane	ND	0.0011	EPA 8260C	11-21-15	11-21-15	
1,2,3-Trichloropropane	ND	0.0011	EPA 8260C	11-21-15	11-21-15	
n-Propylbenzene	ND	0.0011	EPA 8260C	11-21-15	11-21-15	
2-Chlorotoluene	ND	0.0011	EPA 8260C	11-21-15	11-21-15	
4-Chlorotoluene	ND	0.0011	EPA 8260C	11-21-15	11-21-15	
1,3,5-Trimethylbenzene	ND	0.0011	EPA 8260C	11-21-15	11-21-15	
tert-Butylbenzene	ND	0.0011	EPA 8260C	11-21-15	11-21-15	
1,2,4-Trimethylbenzene	ND	0.0011	EPA 8260C	11-21-15	11-21-15	
sec-Butylbenzene	ND	0.0011	EPA 8260C	11-21-15	11-21-15	
1,3-Dichlorobenzene	ND	0.0011	EPA 8260C	11-21-15	11-21-15	
p-Isopropyltoluene	ND	0.0011	EPA 8260C	11-21-15	11-21-15	
1,4-Dichlorobenzene	ND	0.0011	EPA 8260C	11-21-15	11-21-15	
1,2-Dichlorobenzene	ND	0.0011	EPA 8260C	11-21-15	11-21-15	
n-Butylbenzene	ND	0.0011	EPA 8260C	11-21-15	11-21-15	
1,2-Dibromo-3-chloropropane	ND	0.0056	EPA 8260C	11-21-15	11-21-15	
1,2,4-Trichlorobenzene	ND	0.0011	EPA 8260C	11-21-15	11-21-15	
Hexachlorobutadiene	ND	0.0056	EPA 8260C	11-21-15	11-21-15	
Naphthalene	ND	0.0011	EPA 8260C	11-21-15	11-21-15	
1,2,3-Trichlorobenzene	ND	0.0011	EPA 8260C	11-21-15	11-21-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>Dibromofluoromethane</i>	<i>115</i>	<i>76-131</i>				
<i>Toluene-d8</i>	<i>112</i>	<i>80-126</i>				
<i>4-Bromofluorobenzene</i>	<i>114</i>	<i>60-146</i>				

Date of Report: December 1, 2015
 Samples Submitted: November 19, 2015
 Laboratory Reference: 1511-185
 Project: 21-1-16700-051

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:	MB1121S1					
Dichlorodifluoromethane	ND	0.0010	EPA 8260C	11-21-15	11-21-15	
Chloromethane	ND	0.0050	EPA 8260C	11-21-15	11-21-15	
Vinyl Chloride	ND	0.0010	EPA 8260C	11-21-15	11-21-15	
Bromomethane	ND	0.0010	EPA 8260C	11-21-15	11-21-15	
Chloroethane	ND	0.0050	EPA 8260C	11-21-15	11-21-15	
Trichlorofluoromethane	ND	0.0010	EPA 8260C	11-21-15	11-21-15	
1,1-Dichloroethene	ND	0.0010	EPA 8260C	11-21-15	11-21-15	
Acetone	ND	0.0050	EPA 8260C	11-21-15	11-21-15	
Iodomethane	ND	0.0050	EPA 8260C	11-21-15	11-21-15	
Carbon Disulfide	ND	0.0010	EPA 8260C	11-21-15	11-21-15	
Methylene Chloride	ND	0.0050	EPA 8260C	11-21-15	11-21-15	
(trans) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	11-21-15	11-21-15	
Methyl t-Butyl Ether	ND	0.0010	EPA 8260C	11-21-15	11-21-15	
1,1-Dichloroethane	ND	0.0010	EPA 8260C	11-21-15	11-21-15	
Vinyl Acetate	ND	0.0050	EPA 8260C	11-21-15	11-21-15	
2,2-Dichloropropane	ND	0.0010	EPA 8260C	11-21-15	11-21-15	
(cis) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	11-21-15	11-21-15	
2-Butanone	ND	0.0050	EPA 8260C	11-21-15	11-21-15	
Bromochloromethane	ND	0.0010	EPA 8260C	11-21-15	11-21-15	
Chloroform	ND	0.0010	EPA 8260C	11-21-15	11-21-15	
1,1,1-Trichloroethane	ND	0.0010	EPA 8260C	11-21-15	11-21-15	
Carbon Tetrachloride	ND	0.0010	EPA 8260C	11-21-15	11-21-15	
1,1-Dichloropropene	ND	0.0010	EPA 8260C	11-21-15	11-21-15	
Benzene	ND	0.0010	EPA 8260C	11-21-15	11-21-15	
1,2-Dichloroethane	ND	0.0010	EPA 8260C	11-21-15	11-21-15	
Trichloroethene	ND	0.0010	EPA 8260C	11-21-15	11-21-15	
1,2-Dichloropropane	ND	0.0010	EPA 8260C	11-21-15	11-21-15	
Dibromomethane	ND	0.0010	EPA 8260C	11-21-15	11-21-15	
Bromodichloromethane	ND	0.0010	EPA 8260C	11-21-15	11-21-15	
2-Chloroethyl Vinyl Ether	ND	0.0050	EPA 8260C	11-21-15	11-21-15	
(cis) 1,3-Dichloropropene	ND	0.0010	EPA 8260C	11-21-15	11-21-15	
Methyl Isobutyl Ketone	ND	0.0050	EPA 8260C	11-21-15	11-21-15	
Toluene	ND	0.0050	EPA 8260C	11-21-15	11-21-15	
(trans) 1,3-Dichloropropene	ND	0.0010	EPA 8260C	11-21-15	11-21-15	

Date of Report: December 1, 2015
 Samples Submitted: November 19, 2015
 Laboratory Reference: 1511-185
 Project: 21-1-16700-051

VOLATILES by EPA 8260C
METHOD BLANK QUALITY CONTROL
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB1121S1					
1,1,2-Trichloroethane	ND	0.0010	EPA 8260C	11-21-15	11-21-15	
Tetrachloroethene	ND	0.0010	EPA 8260C	11-21-15	11-21-15	
1,3-Dichloropropane	ND	0.0010	EPA 8260C	11-21-15	11-21-15	
2-Hexanone	ND	0.0050	EPA 8260C	11-21-15	11-21-15	
Dibromochloromethane	ND	0.0010	EPA 8260C	11-21-15	11-21-15	
1,2-Dibromoethane	ND	0.0010	EPA 8260C	11-21-15	11-21-15	
Chlorobenzene	ND	0.0010	EPA 8260C	11-21-15	11-21-15	
1,1,1,2-Tetrachloroethane	ND	0.0010	EPA 8260C	11-21-15	11-21-15	
Ethylbenzene	ND	0.0010	EPA 8260C	11-21-15	11-21-15	
m,p-Xylene	ND	0.0020	EPA 8260C	11-21-15	11-21-15	
o-Xylene	ND	0.0010	EPA 8260C	11-21-15	11-21-15	
Styrene	ND	0.0010	EPA 8260C	11-21-15	11-21-15	
Bromoform	ND	0.0010	EPA 8260C	11-21-15	11-21-15	
Isopropylbenzene	ND	0.0010	EPA 8260C	11-21-15	11-21-15	
Bromobenzene	ND	0.0010	EPA 8260C	11-21-15	11-21-15	
1,1,2,2-Tetrachloroethane	ND	0.0010	EPA 8260C	11-21-15	11-21-15	
1,2,3-Trichloropropane	ND	0.0010	EPA 8260C	11-21-15	11-21-15	
n-Propylbenzene	ND	0.0010	EPA 8260C	11-21-15	11-21-15	
2-Chlorotoluene	ND	0.0010	EPA 8260C	11-21-15	11-21-15	
4-Chlorotoluene	ND	0.0010	EPA 8260C	11-21-15	11-21-15	
1,3,5-Trimethylbenzene	ND	0.0010	EPA 8260C	11-21-15	11-21-15	
tert-Butylbenzene	ND	0.0010	EPA 8260C	11-21-15	11-21-15	
1,2,4-Trimethylbenzene	ND	0.0010	EPA 8260C	11-21-15	11-21-15	
sec-Butylbenzene	ND	0.0010	EPA 8260C	11-21-15	11-21-15	
1,3-Dichlorobenzene	ND	0.0010	EPA 8260C	11-21-15	11-21-15	
p-Isopropyltoluene	ND	0.0010	EPA 8260C	11-21-15	11-21-15	
1,4-Dichlorobenzene	ND	0.0010	EPA 8260C	11-21-15	11-21-15	
1,2-Dichlorobenzene	ND	0.0010	EPA 8260C	11-21-15	11-21-15	
n-Butylbenzene	ND	0.0010	EPA 8260C	11-21-15	11-21-15	
1,2-Dibromo-3-chloropropane	ND	0.0050	EPA 8260C	11-21-15	11-21-15	
1,2,4-Trichlorobenzene	ND	0.0010	EPA 8260C	11-21-15	11-21-15	
Hexachlorobutadiene	ND	0.0050	EPA 8260C	11-21-15	11-21-15	
Naphthalene	ND	0.0010	EPA 8260C	11-21-15	11-21-15	
1,2,3-Trichlorobenzene	ND	0.0010	EPA 8260C	11-21-15	11-21-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>Dibromofluoromethane</i>	<i>112</i>	<i>76-131</i>				
<i>Toluene-d8</i>	<i>110</i>	<i>80-126</i>				
<i>4-Bromofluorobenzene</i>	<i>112</i>	<i>60-146</i>				

Date of Report: December 1, 2015
 Samples Submitted: November 19, 2015
 Laboratory Reference: 1511-185
 Project: 21-1-16700-051

**VOLATILES by EPA 8260C
 SB/SBD QUALITY CONTROL**

Matrix: Soil
 Units: mg/kg

Analyte	Result		Spike Level		Percent Recovery		Recovery	RPD		Flags
					Recovery	Limits	RPD	Limit		
SPIKE BLANKS										
Laboratory ID:	SB1121S1									
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	0.0514	0.0519	0.0500	0.0500	103	104	68-126	1	15	
Benzene	0.0492	0.0516	0.0500	0.0500	98	103	75-121	5	15	
Trichloroethene	0.0457	0.0485	0.0500	0.0500	91	97	75-116	6	15	
Toluene	0.0479	0.0500	0.0500	0.0500	96	100	80-115	4	15	
Chlorobenzene	0.0463	0.0482	0.0500	0.0500	93	96	76-120	4	15	
<i>Surrogate:</i>										
Dibromofluoromethane					100	101	76-131			
Toluene-d8					95	103	80-126			
4-Bromofluorobenzene					95	101	60-146			

Date of Report: December 1, 2015
 Samples Submitted: November 19, 2015
 Laboratory Reference: 1511-185
 Project: 21-1-16700-051

VOLATILES EPA 8260C
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Matrix: Water
 Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	EL295-1:GW					
Laboratory ID:	11-185-04					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	11-20-15	11-20-15	
Chloromethane	ND	1.0	EPA 8260C	11-20-15	11-20-15	
Vinyl Chloride	ND	0.20	EPA 8260C	11-20-15	11-20-15	
Bromomethane	ND	0.25	EPA 8260C	11-20-15	11-20-15	
Chloroethane	ND	1.0	EPA 8260C	11-20-15	11-20-15	
Trichlorofluoromethane	ND	0.20	EPA 8260C	11-20-15	11-20-15	
1,1-Dichloroethene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
Acetone	ND	5.0	EPA 8260C	11-20-15	11-20-15	
Iodomethane	ND	2.2	EPA 8260C	11-20-15	11-20-15	
Carbon Disulfide	ND	0.20	EPA 8260C	11-20-15	11-20-15	
Methylene Chloride	ND	1.0	EPA 8260C	11-20-15	11-20-15	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
Methyl t-Butyl Ether	ND	0.20	EPA 8260C	11-20-15	11-20-15	
1,1-Dichloroethane	ND	0.20	EPA 8260C	11-20-15	11-20-15	
Vinyl Acetate	ND	1.0	EPA 8260C	11-20-15	11-20-15	
2,2-Dichloropropane	ND	0.20	EPA 8260C	11-20-15	11-20-15	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
2-Butanone	ND	5.0	EPA 8260C	11-20-15	11-20-15	
Bromochloromethane	ND	0.20	EPA 8260C	11-20-15	11-20-15	
Chloroform	ND	0.20	EPA 8260C	11-20-15	11-20-15	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	11-20-15	11-20-15	
Carbon Tetrachloride	ND	0.20	EPA 8260C	11-20-15	11-20-15	
1,1-Dichloropropene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
Benzene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
1,2-Dichloroethane	ND	0.20	EPA 8260C	11-20-15	11-20-15	
Trichloroethene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
1,2-Dichloropropane	ND	0.20	EPA 8260C	11-20-15	11-20-15	
Dibromomethane	ND	0.20	EPA 8260C	11-20-15	11-20-15	
Bromodichloromethane	ND	0.20	EPA 8260C	11-20-15	11-20-15	
2-Chloroethyl Vinyl Ether	ND	18	EPA 8260C	11-20-15	11-20-15	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260C	11-20-15	11-20-15	
Toluene	ND	1.0	EPA 8260C	11-20-15	11-20-15	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	11-20-15	11-20-15	

Date of Report: December 1, 2015
 Samples Submitted: November 19, 2015
 Laboratory Reference: 1511-185
 Project: 21-1-16700-051

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	EL295-1:GW					
Laboratory ID:	11-185-04					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	11-20-15	11-20-15	
Tetrachloroethene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
1,3-Dichloropropane	ND	0.20	EPA 8260C	11-20-15	11-20-15	
2-Hexanone	ND	2.0	EPA 8260C	11-20-15	11-20-15	
Dibromochloromethane	ND	0.20	EPA 8260C	11-20-15	11-20-15	
1,2-Dibromoethane	ND	0.20	EPA 8260C	11-20-15	11-20-15	
Chlorobenzene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	11-20-15	11-20-15	
Ethylbenzene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
m,p-Xylene	ND	0.40	EPA 8260C	11-20-15	11-20-15	
o-Xylene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
Styrene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
Bromoform	ND	1.0	EPA 8260C	11-20-15	11-20-15	
Isopropylbenzene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
Bromobenzene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	11-20-15	11-20-15	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	11-20-15	11-20-15	
n-Propylbenzene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
2-Chlorotoluene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
4-Chlorotoluene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
tert-Butylbenzene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
sec-Butylbenzene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
p-Isopropyltoluene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
n-Butylbenzene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	11-20-15	11-20-15	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
Hexachlorobutadiene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
Naphthalene	ND	1.4	EPA 8260C	11-20-15	11-20-15	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>Dibromofluoromethane</i>	<i>106</i>	<i>71-131</i>				
<i>Toluene-d8</i>	<i>100</i>	<i>80-120</i>				
<i>4-Bromofluorobenzene</i>	<i>94</i>	<i>80-120</i>				

Date of Report: December 1, 2015
 Samples Submitted: November 19, 2015
 Laboratory Reference: 1511-185
 Project: 21-1-16700-051

VOLATILES EPA 8260C
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Matrix: Water
 Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	EL295-2:GW					
Laboratory ID:	11-185-05					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	11-20-15	11-20-15	
Chloromethane	ND	1.0	EPA 8260C	11-20-15	11-20-15	
Vinyl Chloride	ND	0.20	EPA 8260C	11-20-15	11-20-15	
Bromomethane	ND	0.25	EPA 8260C	11-20-15	11-20-15	
Chloroethane	ND	1.0	EPA 8260C	11-20-15	11-20-15	
Trichlorofluoromethane	ND	0.20	EPA 8260C	11-20-15	11-20-15	
1,1-Dichloroethene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
Acetone	ND	5.0	EPA 8260C	11-20-15	11-20-15	
Iodomethane	ND	2.2	EPA 8260C	11-20-15	11-20-15	
Carbon Disulfide	ND	0.20	EPA 8260C	11-20-15	11-20-15	
Methylene Chloride	ND	1.0	EPA 8260C	11-20-15	11-20-15	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
Methyl t-Butyl Ether	ND	0.20	EPA 8260C	11-20-15	11-20-15	
1,1-Dichloroethane	ND	0.20	EPA 8260C	11-20-15	11-20-15	
Vinyl Acetate	ND	1.0	EPA 8260C	11-20-15	11-20-15	
2,2-Dichloropropane	ND	0.20	EPA 8260C	11-20-15	11-20-15	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
2-Butanone	ND	5.0	EPA 8260C	11-20-15	11-20-15	
Bromochloromethane	ND	0.20	EPA 8260C	11-20-15	11-20-15	
Chloroform	0.35	0.20	EPA 8260C	11-20-15	11-20-15	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	11-20-15	11-20-15	
Carbon Tetrachloride	ND	0.20	EPA 8260C	11-20-15	11-20-15	
1,1-Dichloropropene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
Benzene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
1,2-Dichloroethane	ND	0.20	EPA 8260C	11-20-15	11-20-15	
Trichloroethene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
1,2-Dichloropropane	ND	0.20	EPA 8260C	11-20-15	11-20-15	
Dibromomethane	ND	0.20	EPA 8260C	11-20-15	11-20-15	
Bromodichloromethane	ND	0.20	EPA 8260C	11-20-15	11-20-15	
2-Chloroethyl Vinyl Ether	ND	18	EPA 8260C	11-20-15	11-20-15	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260C	11-20-15	11-20-15	
Toluene	ND	1.0	EPA 8260C	11-20-15	11-20-15	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	11-20-15	11-20-15	

Date of Report: December 1, 2015
 Samples Submitted: November 19, 2015
 Laboratory Reference: 1511-185
 Project: 21-1-16700-051

VOLATILES EPA 8260C
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	EL295-2:GW					
Laboratory ID:	11-185-05					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	11-20-15	11-20-15	
Tetrachloroethene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
1,3-Dichloropropane	ND	0.20	EPA 8260C	11-20-15	11-20-15	
2-Hexanone	ND	2.0	EPA 8260C	11-20-15	11-20-15	
Dibromochloromethane	ND	0.20	EPA 8260C	11-20-15	11-20-15	
1,2-Dibromoethane	ND	0.20	EPA 8260C	11-20-15	11-20-15	
Chlorobenzene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	11-20-15	11-20-15	
Ethylbenzene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
m,p-Xylene	ND	0.40	EPA 8260C	11-20-15	11-20-15	
o-Xylene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
Styrene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
Bromoform	ND	1.0	EPA 8260C	11-20-15	11-20-15	
Isopropylbenzene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
Bromobenzene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	11-20-15	11-20-15	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	11-20-15	11-20-15	
n-Propylbenzene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
2-Chlorotoluene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
4-Chlorotoluene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
tert-Butylbenzene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
sec-Butylbenzene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
p-Isopropyltoluene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
n-Butylbenzene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	11-20-15	11-20-15	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
Hexachlorobutadiene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
Naphthalene	ND	1.4	EPA 8260C	11-20-15	11-20-15	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>Dibromofluoromethane</i>	<i>108</i>	<i>71-131</i>				
<i>Toluene-d8</i>	<i>100</i>	<i>80-120</i>				
<i>4-Bromofluorobenzene</i>	<i>94</i>	<i>80-120</i>				

Date of Report: December 1, 2015
 Samples Submitted: November 19, 2015
 Laboratory Reference: 1511-185
 Project: 21-1-16700-051

VOLATILES EPA 8260C
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Matrix: Water
 Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	EL295-3:GW					
Laboratory ID:	11-185-06					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	11-20-15	11-20-15	
Chloromethane	ND	1.0	EPA 8260C	11-20-15	11-20-15	
Vinyl Chloride	ND	0.20	EPA 8260C	11-20-15	11-20-15	
Bromomethane	ND	0.25	EPA 8260C	11-20-15	11-20-15	
Chloroethane	ND	1.0	EPA 8260C	11-20-15	11-20-15	
Trichlorofluoromethane	ND	0.20	EPA 8260C	11-20-15	11-20-15	
1,1-Dichloroethene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
Acetone	ND	5.0	EPA 8260C	11-20-15	11-20-15	
Iodomethane	ND	2.2	EPA 8260C	11-20-15	11-20-15	
Carbon Disulfide	ND	0.20	EPA 8260C	11-20-15	11-20-15	
Methylene Chloride	ND	1.0	EPA 8260C	11-20-15	11-20-15	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
Methyl t-Butyl Ether	ND	0.20	EPA 8260C	11-20-15	11-20-15	
1,1-Dichloroethane	0.24	0.20	EPA 8260C	11-20-15	11-20-15	
Vinyl Acetate	ND	1.0	EPA 8260C	11-20-15	11-20-15	
2,2-Dichloropropane	ND	0.20	EPA 8260C	11-20-15	11-20-15	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
2-Butanone	ND	5.0	EPA 8260C	11-20-15	11-20-15	
Bromochloromethane	ND	0.20	EPA 8260C	11-20-15	11-20-15	
Chloroform	ND	0.20	EPA 8260C	11-20-15	11-20-15	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	11-20-15	11-20-15	
Carbon Tetrachloride	ND	0.20	EPA 8260C	11-20-15	11-20-15	
1,1-Dichloropropene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
Benzene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
1,2-Dichloroethane	ND	0.20	EPA 8260C	11-20-15	11-20-15	
Trichloroethene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
1,2-Dichloropropane	ND	0.20	EPA 8260C	11-20-15	11-20-15	
Dibromomethane	ND	0.20	EPA 8260C	11-20-15	11-20-15	
Bromodichloromethane	ND	0.20	EPA 8260C	11-20-15	11-20-15	
2-Chloroethyl Vinyl Ether	ND	18	EPA 8260C	11-20-15	11-20-15	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260C	11-20-15	11-20-15	
Toluene	ND	1.0	EPA 8260C	11-20-15	11-20-15	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	11-20-15	11-20-15	

Date of Report: December 1, 2015
 Samples Submitted: November 19, 2015
 Laboratory Reference: 1511-185
 Project: 21-1-16700-051

VOLATILES EPA 8260C
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	EL295-3:GW					
Laboratory ID:	11-185-06					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	11-20-15	11-20-15	
Tetrachloroethene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
1,3-Dichloropropane	ND	0.20	EPA 8260C	11-20-15	11-20-15	
2-Hexanone	ND	2.0	EPA 8260C	11-20-15	11-20-15	
Dibromochloromethane	ND	0.20	EPA 8260C	11-20-15	11-20-15	
1,2-Dibromoethane	ND	0.20	EPA 8260C	11-20-15	11-20-15	
Chlorobenzene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	11-20-15	11-20-15	
Ethylbenzene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
m,p-Xylene	ND	0.40	EPA 8260C	11-20-15	11-20-15	
o-Xylene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
Styrene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
Bromoform	ND	1.0	EPA 8260C	11-20-15	11-20-15	
Isopropylbenzene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
Bromobenzene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	11-20-15	11-20-15	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	11-20-15	11-20-15	
n-Propylbenzene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
2-Chlorotoluene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
4-Chlorotoluene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
tert-Butylbenzene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
sec-Butylbenzene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
p-Isopropyltoluene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
n-Butylbenzene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	11-20-15	11-20-15	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
Hexachlorobutadiene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
Naphthalene	ND	1.4	EPA 8260C	11-20-15	11-20-15	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>Dibromofluoromethane</i>	<i>109</i>	<i>71-131</i>				
<i>Toluene-d8</i>	<i>100</i>	<i>80-120</i>				
<i>4-Bromofluorobenzene</i>	<i>95</i>	<i>80-120</i>				

Date of Report: December 1, 2015
 Samples Submitted: November 19, 2015
 Laboratory Reference: 1511-185
 Project: 21-1-16700-051

VOLATILES by EPA 8260C
METHOD BLANK QUALITY CONTROL
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Matrix: Water
 Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB1120W1					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	11-20-15	11-20-15	
Chloromethane	ND	1.0	EPA 8260C	11-20-15	11-20-15	
Vinyl Chloride	ND	0.20	EPA 8260C	11-20-15	11-20-15	
Bromomethane	ND	0.25	EPA 8260C	11-20-15	11-20-15	
Chloroethane	ND	1.0	EPA 8260C	11-20-15	11-20-15	
Trichlorofluoromethane	ND	0.20	EPA 8260C	11-20-15	11-20-15	
1,1-Dichloroethene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
Acetone	ND	5.0	EPA 8260C	11-20-15	11-20-15	
Iodomethane	ND	2.2	EPA 8260C	11-20-15	11-20-15	
Carbon Disulfide	ND	0.20	EPA 8260C	11-20-15	11-20-15	
Methylene Chloride	ND	1.0	EPA 8260C	11-20-15	11-20-15	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
Methyl t-Butyl Ether	ND	0.20	EPA 8260C	11-20-15	11-20-15	
1,1-Dichloroethane	ND	0.20	EPA 8260C	11-20-15	11-20-15	
Vinyl Acetate	ND	1.0	EPA 8260C	11-20-15	11-20-15	
2,2-Dichloropropane	ND	0.20	EPA 8260C	11-20-15	11-20-15	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
2-Butanone	ND	5.0	EPA 8260C	11-20-15	11-20-15	
Bromochloromethane	ND	0.20	EPA 8260C	11-20-15	11-20-15	
Chloroform	ND	0.20	EPA 8260C	11-20-15	11-20-15	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	11-20-15	11-20-15	
Carbon Tetrachloride	ND	0.20	EPA 8260C	11-20-15	11-20-15	
1,1-Dichloropropene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
Benzene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
1,2-Dichloroethane	ND	0.20	EPA 8260C	11-20-15	11-20-15	
Trichloroethene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
1,2-Dichloropropane	ND	0.20	EPA 8260C	11-20-15	11-20-15	
Dibromomethane	ND	0.20	EPA 8260C	11-20-15	11-20-15	
Bromodichloromethane	ND	0.20	EPA 8260C	11-20-15	11-20-15	
2-Chloroethyl Vinyl Ether	ND	18	EPA 8260C	11-20-15	11-20-15	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260C	11-20-15	11-20-15	
Toluene	ND	1.0	EPA 8260C	11-20-15	11-20-15	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	11-20-15	11-20-15	

Date of Report: December 1, 2015
 Samples Submitted: November 19, 2015
 Laboratory Reference: 1511-185
 Project: 21-1-16700-051

VOLATILES by EPA 8260C
METHOD BLANK QUALITY CONTROL
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB1120W1					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	11-20-15	11-20-15	
Tetrachloroethene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
1,3-Dichloropropane	ND	0.20	EPA 8260C	11-20-15	11-20-15	
2-Hexanone	ND	2.0	EPA 8260C	11-20-15	11-20-15	
Dibromochloromethane	ND	0.20	EPA 8260C	11-20-15	11-20-15	
1,2-Dibromoethane	ND	0.20	EPA 8260C	11-20-15	11-20-15	
Chlorobenzene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	11-20-15	11-20-15	
Ethylbenzene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
m,p-Xylene	ND	0.40	EPA 8260C	11-20-15	11-20-15	
o-Xylene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
Styrene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
Bromoform	ND	1.0	EPA 8260C	11-20-15	11-20-15	
Isopropylbenzene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
Bromobenzene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	11-20-15	11-20-15	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	11-20-15	11-20-15	
n-Propylbenzene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
2-Chlorotoluene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
4-Chlorotoluene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
tert-Butylbenzene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
sec-Butylbenzene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
p-Isopropyltoluene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
n-Butylbenzene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	11-20-15	11-20-15	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
Hexachlorobutadiene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
Naphthalene	ND	1.4	EPA 8260C	11-20-15	11-20-15	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	11-20-15	11-20-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>		<i>Control Limits</i>			
<i>Dibromofluoromethane</i>	<i>105</i>		<i>71-131</i>			
<i>Toluene-d8</i>	<i>99</i>		<i>80-120</i>			
<i>4-Bromofluorobenzene</i>	<i>93</i>		<i>80-120</i>			

Date of Report: December 1, 2015
 Samples Submitted: November 19, 2015
 Laboratory Reference: 1511-185
 Project: 21-1-16700-051

**VOLATILES by EPA 8260C
 SB/SBD QUALITY CONTROL**

Matrix: Water
 Units: ug/L

Analyte	Result		Spike Level		Percent Recovery		Recovery	RPD		Flags
					Recovery	Limits	RPD	Limit		
SPIKE BLANKS										
Laboratory ID:	SB1120W1									
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	8.87	8.62	10.0	10.0	89	86	62-132	3	20	
Benzene	9.63	9.60	10.0	10.0	96	96	75-121	0	15	
Trichloroethene	8.82	8.67	10.0	10.0	88	87	65-115	2	15	
Toluene	9.57	9.63	10.0	10.0	96	96	78-116	1	15	
Chlorobenzene	9.20	8.92	10.0	10.0	92	89	77-118	3	15	
<i>Surrogate:</i>										
Dibromofluoromethane					99	104	71-131			
Toluene-d8					97	98	80-120			
4-Bromofluorobenzene					91	91	80-120			

Date of Report: December 1, 2015
 Samples Submitted: November 19, 2015
 Laboratory Reference: 1511-185
 Project: 21-1-16700-051

**TOTAL METALS
 EPA 6010C/7471B**

Matrix: Soil
 Units: mg/kg (ppm)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	11-185-01					
Client ID:	EL295-1:0.5					
Arsenic	ND	12	6010C	11-23-15	11-23-15	
Barium	57	3.0	6010C	11-23-15	11-23-15	
Cadmium	ND	0.59	6010C	11-23-15	11-23-15	
Chromium	12	0.59	6010C	11-23-15	11-23-15	
Lead	ND	5.9	6010C	11-23-15	11-23-15	
Mercury	ND	0.30	7471B	11-20-15	11-20-15	
Selenium	ND	12	6010C	11-23-15	11-23-15	
Silver	ND	1.2	6010C	11-23-15	11-23-15	

Lab ID:	11-185-02					
Client ID:	EL295-2:4.5					
Arsenic	ND	12	6010C	11-23-15	11-23-15	
Barium	91	3.1	6010C	11-23-15	11-23-15	
Cadmium	ND	0.62	6010C	11-23-15	11-23-15	
Chromium	23	0.62	6010C	11-23-15	11-23-15	
Lead	ND	6.2	6010C	11-23-15	11-23-15	
Mercury	ND	0.31	7471B	11-20-15	11-20-15	
Selenium	ND	12	6010C	11-23-15	11-23-15	
Silver	ND	1.2	6010C	11-23-15	11-23-15	

Date of Report: December 1, 2015
 Samples Submitted: November 19, 2015
 Laboratory Reference: 1511-185
 Project: 21-1-16700-051

**TOTAL METALS
 EPA 6010C/7471B**

Matrix: Soil
 Units: mg/kg (ppm)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	11-185-03					
Client ID:	EL295-3:12					
Arsenic	ND	11	6010C	11-23-15	11-23-15	
Barium	65	2.8	6010C	11-23-15	11-23-15	
Cadmium	ND	0.56	6010C	11-23-15	11-23-15	
Chromium	32	0.56	6010C	11-23-15	11-23-15	
Copper	29	1.1	6010C	11-23-15	11-23-15	
Lead	ND	5.6	6010C	11-23-15	11-23-15	
Mercury	ND	0.28	7471B	11-20-15	11-20-15	
Nickel	29	2.8	6010C	11-23-15	11-23-15	
Selenium	ND	11	6010C	11-23-15	11-23-15	
Silver	ND	1.1	6010C	11-23-15	11-23-15	
Zinc	33	2.8	6010C	11-23-15	11-23-15	

Date of Report: December 1, 2015
 Samples Submitted: November 19, 2015
 Laboratory Reference: 1511-185
 Project: 21-1-16700-051

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

Date Extracted: 11-20&23-15
 Date Analyzed: 11-20&23-15

 Matrix: Soil
 Units: mg/kg (ppm)

 Lab ID: MB1123SM1&MB1120S1

Analyte	Method	Result	PQL
Arsenic	6010C	ND	10
Barium	6010C	ND	2.5
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	1.0
Zinc	6010C	ND	2.5

Date of Report: December 1, 2015
 Samples Submitted: November 19, 2015
 Laboratory Reference: 1511-185
 Project: 21-1-16700-051

**TOTAL METALS
 EPA 6010C/7471B
 DUPLICATE QUALITY CONTROL**

Date Extracted: 11-20&23-15
 Date Analyzed: 11-20&23-15

Matrix: Soil
 Units: mg/kg (ppm)

Lab ID: 11-185-02

Analyte	Sample Result	Duplicate Result	RPD	PQL	Flags
Arsenic	ND	ND	NA	10	
Barium	73.4	73.8	1	2.5	
Cadmium	ND	ND	NA	0.50	
Chromium	18.6	18.2	2	0.50	
Copper	43.2	44.1	2	1.0	
Lead	ND	ND	NA	5.0	
Mercury	ND	ND	NA	0.25	
Nickel	13.4	14.3	7	2.5	
Selenium	ND	ND	NA	10	
Silver	ND	ND	NA	1.0	
Zinc	37.5	39.4	5	2.5	

Date of Report: December 1, 2015
 Samples Submitted: November 19, 2015
 Laboratory Reference: 1511-185
 Project: 21-1-16700-051

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

Date Extracted: 11-20&23-15

Date Analyzed: 11-20&23-15

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: 11-185-02

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Arsenic	100	103	103	100	100	2	
Barium	100	168	94	170	97	2	
Cadmium	50.0	50.7	101	51.5	103	2	
Chromium	100	116	97	117	99	2	
Copper	50.0	90.7	95	90.3	94	0	
Lead	250	242	97	247	99	2	
Mercury	0.500	0.514	103	0.523	105	2	
Nickel	100	113	100	115	102	1	
Selenium	100	97.3	97	101	101	4	
Silver	25.0	22.9	92	23.3	93	2	
Zinc	100	134	97	137	99	2	

Date of Report: December 1, 2015
 Samples Submitted: November 19, 2015
 Laboratory Reference: 1511-185
 Project: 21-1-16700-051

**TOTAL METALS
 EPA 200.8/7470A**

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	11-185-05					
Client ID:	EL295-2:GW					
Arsenic	ND	3.3	200.8	11-23-15	11-23-15	
Barium	49	28	200.8	11-23-15	11-23-15	
Cadmium	ND	4.4	200.8	11-23-15	11-23-15	
Chromium	ND	11	200.8	11-23-15	11-23-15	
Lead	1.9	1.1	200.8	11-23-15	11-23-15	
Mercury	ND	0.50	7470A	11-24-15	11-24-15	
Selenium	ND	5.6	200.8	11-23-15	11-23-15	
Silver	ND	11	200.8	11-23-15	11-23-15	

Date of Report: December 1, 2015
 Samples Submitted: November 19, 2015
 Laboratory Reference: 1511-185
 Project: 21-1-16700-051

**TOTAL METALS
 EPA 200.8/7470A
 METHOD BLANK QUALITY CONTROL**

Date Extracted: 11-23&24-15
 Date Analyzed: 11-23&24-15

 Matrix: Water
 Units: ug/L (ppb)

 Lab ID: MB1123WM1&MB1124W1

Analyte	Method	Result	PQL
Arsenic	200.8	ND	3.3
Barium	200.8	ND	28
Cadmium	200.8	ND	4.4
Chromium	200.8	ND	11
Lead	200.8	ND	1.1
Mercury	7470A	ND	0.50
Selenium	200.8	ND	5.6
Silver	200.8	ND	11

Date of Report: December 1, 2015
 Samples Submitted: November 19, 2015
 Laboratory Reference: 1511-185
 Project: 21-1-16700-051

**TOTAL METALS
 EPA 200.8/7470A
 DUPLICATE QUALITY CONTROL**

Date Extracted: 11-23&24-15
 Date Analyzed: 11-23&24-15

Matrix: Water
 Units: ug/L (ppb)

Lab ID: 11-185-05

Analyte	Sample Result	Duplicate Result	RPD	PQL	Flags
Arsenic	ND	3.52	NA	3.3	
Barium	49.3	49.0	0	28	
Cadmium	ND	ND	NA	4.4	
Chromium	ND	ND	NA	11	
Lead	1.90	1.91	0	1.1	
Mercury	ND	ND	NA	0.50	
Selenium	ND	ND	NA	5.6	
Silver	ND	ND	NA	11	

Date of Report: December 1, 2015
 Samples Submitted: November 19, 2015
 Laboratory Reference: 1511-185
 Project: 21-1-16700-051

**TOTAL METALS
 EPA 200.8/7470A
 MS/MSD QUALITY CONTROL**

Date Extracted: 11-23&24-15
 Date Analyzed: 11-23&24-15

Matrix: Water
 Units: ug/L (ppb)

Lab ID: 11-185-05

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Arsenic	111	114	103	117	105	3	
Barium	111	164	103	166	105	1	
Cadmium	111	114	103	116	105	2	
Chromium	111	127	114	129	116	2	
Lead	111	113	100	114	101	1	
Mercury	12.5	13.5	108	12.5	100	8	
Selenium	111	113	102	114	103	1	
Silver	111	112	101	112	101	0	

Date of Report: December 1, 2015
 Samples Submitted: November 19, 2015
 Laboratory Reference: 1511-185
 Project: 21-1-16700-051

DISSOLVED METALS
EPA 200.8/7470A

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	EPA Method	Date	Date	Flags
				Prepared	Analyzed	
Lab ID:	11-185-04					
Client ID:	EL295-1:GW					
Arsenic	ND	3.0	200.8	11-19-15	11-20-15	
Barium	ND	25	200.8	11-19-15	11-20-15	
Cadmium	ND	4.0	200.8	11-19-15	11-20-15	
Chromium	ND	10	200.8	11-19-15	11-20-15	
Lead	ND	1.0	200.8	11-19-15	11-20-15	
Mercury	ND	0.50	7470A	11-19-15	11-24-15	
Selenium	ND	5.0	200.8	11-19-15	11-20-15	
Silver	ND	10	200.8	11-19-15	11-20-15	

Lab ID:	11-185-06					
Client ID:	EL295-3:GW					
Arsenic	ND	3.0	200.8	11-19-15	11-20-15	
Barium	ND	25	200.8	11-19-15	11-20-15	
Cadmium	ND	4.0	200.8	11-19-15	11-20-15	
Chromium	ND	10	200.8	11-19-15	11-20-15	
Lead	ND	1.0	200.8	11-19-15	11-20-15	
Mercury	ND	0.50	7470A	11-19-15	11-24-15	
Selenium	ND	5.0	200.8	11-19-15	11-20-15	
Silver	ND	10	200.8	11-19-15	11-20-15	

Date of Report: December 1, 2015
Samples Submitted: November 19, 2015
Laboratory Reference: 1511-185
Project: 21-1-16700-051

**DISSOLVED METALS
EPA 200.8
METHOD BLANK QUALITY CONTROL**

Date Filtered: 11-19-15
Date Analyzed: 11-20-15

Matrix: Water
Units: ug/L (ppb)

Lab ID: MB1119F1

Analyte	Method	Result	PQL
Arsenic	200.8	ND	3.0
Barium	200.8	ND	25
Cadmium	200.8	ND	4.0
Chromium	200.8	ND	10
Lead	200.8	ND	1.0
Selenium	200.8	ND	5.0
Silver	200.8	ND	10

Date of Report: December 1, 2015
Samples Submitted: November 19, 2015
Laboratory Reference: 1511-185
Project: 21-1-16700-051

**DISSOLVED MERCURY
EPA 7470A
METHOD BLANK QUALITY CONTROL**

Date Filtered: 11-19-15
Date Analyzed: 11-24-15

Matrix: Water
Units: ug/L (ppb)

Lab ID: MB1119F1

Analyte	Method	Result	PQL
Mercury	7470A	ND	0.50

Date of Report: December 1, 2015
 Samples Submitted: November 19, 2015
 Laboratory Reference: 1511-185
 Project: 21-1-16700-051

**DISSOLVED METALS
 EPA 200.8
 DUPLICATE QUALITY CONTROL**

Date Filtered: 11-19-15
 Date Analyzed: 11-20-15

Matrix: Water
 Units: ug/L (ppb)

Lab ID: 11-185-06

Analyte	Sample Result	Duplicate Result	RPD	PQL	Flags
Arsenic	ND	ND	NA	3.0	
Barium	ND	ND	NA	25	
Cadmium	ND	ND	NA	4.0	
Chromium	ND	ND	NA	10	
Lead	ND	ND	NA	1.0	
Selenium	ND	ND	NA	5.0	
Silver	ND	ND	NA	10	

Date of Report: December 1, 2015
Samples Submitted: November 19, 2015
Laboratory Reference: 1511-185
Project: 21-1-16700-051

**DISSOLVED MERCURY
EPA 7470A
DUPLICATE QUALITY CONTROL**

Date Filtered: 11-19-15
Date Analyzed: 11-24-15

Matrix: Water
Units: ug/L (ppb)

Lab ID: 11-185-04

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

Date of Report: December 1, 2015
 Samples Submitted: November 19, 2015
 Laboratory Reference: 1511-185
 Project: 21-1-16700-051

**DISSOLVED METALS
 EPA 200.8
 MS/MSD QUALITY CONTROL**

Date Filtered: 11-19-15
 Date Analyzed: 11-20-15

Matrix: Water
 Units: ug/L (ppb)

Lab ID: 11-185-06

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Arsenic	200	207	104	209	105	1	
Barium	200	207	104	208	104	0	
Cadmium	200	199	99	197	99	1	
Chromium	200	182	91	183	91	0	
Lead	200	194	97	192	96	1	
Selenium	200	216	108	215	108	0	
Silver	200	192	96	190	95	1	

Date of Report: December 1, 2015
Samples Submitted: November 19, 2015
Laboratory Reference: 1511-185
Project: 21-1-16700-051

**DISSOLVED MERCURY
EPA 7470A
MS/MSD QUALITY CONTROL**

Date Filtered: 11-19-15
Date Analyzed: 11-24-15

Matrix: Water
Units: ug/L (ppb)

Lab ID: 11-185-04

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Mercury	12.5	12.1	97	12.2	97	0	

Date of Report: December 1, 2015
Samples Submitted: November 19, 2015
Laboratory Reference: 1511-185
Project: 21-1-16700-051

% MOISTURE

Date Analyzed: 11-19-15

Client ID	Lab ID	% Moisture
EL295-1:0.5	11-185-01	16
EL295-2:4.5	11-185-02	20
EL295-3:12	11-185-03	11



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-naphthalene) 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



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Analytical Laboratory Testing Services

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Chain of Custody

Laboratory Number: **11-185**

Company: Shannon & Wilson
Project Number: 21-1-16700-051
Project Name: EL295
Project Manager: Agnes Tinoo
Sampled by: Jeff Weirss

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	Laboratory Tests																				
						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	EL295-1: 0.5	11/8/15	1100	Soil	5	X	X	X	X								X									X
2	EL295-2: 4.5	11/8/15	1000	Soil	5	X	X	X	X								X									
3	EL295-3: 12	11/8/15	900	Soil	6	X	X	X	X								X									
4	EL295-1: 5w	11/8/15	1130	Water	8			X	X	X															X	
5	EL295-2: 5w	11/8/15	1030	Water	8			X	X	X															X	
6	EL295-3: 5w	11/8/15	930	Water	8			X	X	X															X	
7	TRIP BLANKS	-	-	Water	4																					
Relinquished		Signature	Company	Date	Time	Comments/Special Instructions																				
Received		<u>J. Weir</u>	<u>S&W</u>	<u>11/8/15</u>	<u>1500</u>	Dissolved metals not field filtered PAH, PCB, TCLP, Cu, Ni, Zn - only data follow-up-up																				
Relinquished			<u>OSRE</u>	<u>11/9/15</u>	<u>1200</u>	D = dissolved metals T = Total metals (H) = HOLD for																				
Received						Chromatograms with final report <input type="checkbox"/>																				

APPENDIX C

**IMPORTANT INFORMATION ABOUT YOUR
GEOTECHNICAL/ENVIRONMENTAL REPORT**



Date: January 25, 2016
To: Mr. Mark Menard
Sound Transit

IMPORTANT INFORMATION ABOUT YOUR GEOTECHNICAL/ENVIRONMENTAL REPORT

CONSULTING SERVICES ARE PERFORMED FOR SPECIFIC PURPOSES AND FOR SPECIFIC CLIENTS.

Consultants prepare reports to meet the specific needs of specific individuals. A report prepared for a civil engineer may not be adequate for a construction contractor or even another civil engineer. Unless indicated otherwise, your consultant prepared your report expressly for you and expressly for the purposes you indicated. No one other than you should apply this report for its intended purpose without first conferring with the consultant. No party should apply this report for any purpose other than that originally contemplated without first conferring with the consultant.

THE CONSULTANT'S REPORT IS BASED ON PROJECT-SPECIFIC FACTORS.

A geotechnical/environmental report is based on a subsurface exploration plan designed to consider a unique set of project-specific factors. Depending on the project, these may include: the general nature of the structure and property involved; its size and configuration; its historical use and practice; the location of the structure on the site and its orientation; other improvements such as access roads, parking lots, and underground utilities; and the additional risk created by scope-of-service limitations imposed by the client. To help avoid costly problems, ask the consultant to evaluate how any factors that change subsequent to the date of the report may affect the recommendations. Unless your consultant indicates otherwise, your report should not be used: (1) when the nature of the proposed project is changed (for example, if an office building will be erected instead of a parking garage, or if a refrigerated warehouse will be built instead of an unrefrigerated one, or chemicals are discovered on or near the site); (2) when the size, elevation, or configuration of the proposed project is altered; (3) when the location or orientation of the proposed project is modified; (4) when there is a change of ownership; or (5) for application to an adjacent site. Consultants cannot accept responsibility for problems that may occur if they are not consulted after factors which were considered in the development of the report have changed.

SUBSURFACE CONDITIONS CAN CHANGE.

Subsurface conditions may be affected as a result of natural processes or human activity. Because a geotechnical/environmental report is based on conditions that existed at the time of subsurface exploration, construction decisions should not be based on a report whose adequacy may have been affected by time. Ask the consultant to advise if additional tests are desirable before construction starts; for example, groundwater conditions commonly vary seasonally.

Construction operations at or adjacent to the site and natural events such as floods, earthquakes, or groundwater fluctuations may also affect subsurface conditions and, thus, the continuing adequacy of a geotechnical/environmental report. The consultant should be kept apprised of any such events, and should be consulted to determine if additional tests are necessary.

MOST RECOMMENDATIONS ARE PROFESSIONAL JUDGMENTS.

Site exploration and testing identifies actual surface and subsurface conditions only at those points where samples are taken. The data were extrapolated by your consultant, who then applied judgment to render an opinion about overall subsurface conditions. The actual interface between materials may be far more gradual or abrupt than your report indicates. Actual conditions in areas not sampled may differ from those predicted in your report. While nothing can be done to prevent such situations, you and your consultant can work together to help reduce their impacts. Retaining your consultant to observe subsurface construction operations can be particularly beneficial in this respect.

A REPORT'S CONCLUSIONS ARE PRELIMINARY.

The conclusions contained in your consultant's report are preliminary because they must be based on the assumption that conditions revealed through selective exploratory sampling are indicative of actual conditions throughout a site. Actual subsurface conditions can be discerned only during earthwork; therefore, you should retain your consultant to observe actual conditions and to provide conclusions. Only the consultant who prepared the report is fully familiar with the background information needed to determine whether or not the report's recommendations based on those conclusions are valid and whether or not the contractor is abiding by applicable recommendations. The consultant who developed your report cannot assume responsibility or liability for the adequacy of the report's recommendations if another party is retained to observe construction.

THE CONSULTANT'S REPORT IS SUBJECT TO MISINTERPRETATION.

Costly problems can occur when other design professionals develop their plans based on misinterpretation of a geotechnical/environmental report. To help avoid these problems, the consultant should be retained to work with other project design professionals to explain relevant geotechnical, geological, hydrogeological, and environmental findings, and to review the adequacy of their plans and specifications relative to these issues.

BORING LOGS AND/OR MONITORING WELL DATA SHOULD NOT BE SEPARATED FROM THE REPORT.

Final boring logs developed by the consultant are based upon interpretation of field logs (assembled by site personnel), field test results, and laboratory and/or office evaluation of field samples and data. Only final boring logs and data are customarily included in geotechnical/environmental reports. These final logs should not, under any circumstances, be redrawn for inclusion in architectural or other design drawings, because drafters may commit errors or omissions in the transfer process.

To reduce the likelihood of boring log or monitoring well misinterpretation, contractors should be given ready access to the complete geotechnical engineering/environmental report prepared or authorized for their use. If access is provided only to the report prepared for you, you should advise contractors of the report's limitations, assuming that a contractor was not one of the specific persons for whom the report was prepared, and that developing construction cost estimates was not one of the specific purposes for which it was prepared. While a contractor may gain important knowledge from a report prepared for another party, the contractor should discuss the report with your consultant and perform the additional or alternative work believed necessary to obtain the data specifically appropriate for construction cost estimating purposes. Some clients hold the mistaken impression that simply disclaiming responsibility for the accuracy of subsurface information always insulates them from attendant liability. Providing the best available information to contractors helps prevent costly construction problems and the adversarial attitudes that aggravate them to a disproportionate scale.

READ RESPONSIBILITY CLAUSES CLOSELY.

Because geotechnical/environmental engineering is based extensively on judgment and opinion, it is far less exact than other design disciplines. This situation has resulted in wholly unwarranted claims being lodged against consultants. To help prevent this problem, consultants have developed a number of clauses for use in their contracts, reports, and other documents. These responsibility clauses are not exculpatory clauses designed to transfer the consultant's liabilities to other parties; rather, they are definitive clauses that identify where the consultant's responsibilities begin and end. Their use helps all parties involved recognize their individual responsibilities and take appropriate action. Some of these definitive clauses are likely to appear in your report, and you are encouraged to read them closely. Your consultant will be pleased to give full and frank answers to your questions.

The preceding paragraphs are based on information provided by the
ASFE/Association of Engineering Firms Practicing in the Geosciences, Silver Spring, Maryland