May 8, 2018

Ms. Shannon Straws Seattle City Light P.O. Box 30423 Seattle, Washington 98124

**SUBJECT: ENVIRONMENTAL CHARACTERIZATION REPORT** 

**Phinney Former Substation Property** 

6109 Phinney Avenue North

Seattle, Washington

**Project Number: 1267-013-01** 

Dear Ms. Straws:

SoundEarth Strategies, Inc. (SoundEarth) has prepared this letter report to present the results of the environmental assessment of near-surface soil, the concrete pad, and electrical conduits within the concrete pad at the Phinney Former Substation Property, located at 6109 Phinney Avenue North in Seattle, Washington (the Property). The Property consists of one irregularly shaped tax parcel (King County Parcel No. 9523101290) that covers a total of approximately 6,000 square feet (0.14 acre) of land. The Property was acquired by Seattle City Light in 1948 and used to house equipment for the transmission of power. Equipment was de-energized and removed from the Property in 1994. The Property location is shown on Figure 1. A site plan with exploration locations is shown on Figures 2 through 4.

The purpose of this investigation was to investigate the presence and concentrations of metals, petroleum hydrocarbons, pesticides, herbicides, and polychlorinated biphenyls (PCBs) in near-surface soil and the concrete pad at the Property, as well as potential asbestos-containing material (ACM) in the electrical conduits present within the concrete pad. Sampling for metals, petroleum hydrocarbons, and PCBs was conducted to address potential impacts that may have resulted from historical Seattle City Light operations at the Property or from surface water run-off from the equipment and fencing to the landscaping areas and concrete pad. Sampling for pesticides and herbicides was conducted to address potential impacts that may have resulted from historical vegetation management activities within the landscaping areas. This investigation was conducted in general accordance with the proposal prepared by SoundEarth dated January 25, 2018. This letter report summarizes the field activities and results of the investigation and provides SoundEarth's conclusions regarding the extent of impacts to soil and concrete and the potential presence of ACM in the electrical conduit.

#### **FIELD WORK**

To evaluate soil conditions at the Property, SoundEarth conducted a near-surface soil investigation on February 13, 2018. In addition, concrete samples were collected from the concrete pad and asbestos samples were collected from electrical conduits within the concrete pad.

The investigation consisted of collecting soil samples from 12 sampling areas (Areas 1 through 12), as shown on Figure 2. Two to five discrete soil samples were collected from each area at depths of 0 to 0.5 foot below ground surface (bgs). Ground cover, vegetation, and organic material were removed from the surface prior to sample collection, and each discrete sample was collected using pre-cleaned stainless-steel tools. Each sample was screened in the field for potential evidence of contamination using visual observations and notations of odor, and by conducting headspace analysis using a photoionization detector (PID) to detect the presence of volatile organic vapors.

In addition to the soil samples, SoundEarth collected six discrete concrete samples from the uppermost 1 inch of the concrete in two composite concrete sampling areas within the fenced yard of the Property (Concrete Areas 1 and 2; Figure 2). The samples were collected using a Roto Hammer with a pre-cleaned steel chipping bit.

The soil and concrete samples were placed directly into laboratory-supplied 4-ounce jars that were labeled with a unique sample ID, placed on ice in a cooler, and delivered to OnSite Environmental, Inc. (OnSite) of Redmond, Washington, under standard chain-of-custody protocols. Discrete soil and concrete samples were composited by the laboratory (one composite for each area) to ensure homogeneity in each composite sample. Each composite soil sample was analyzed for one or more of the following:

- Diesel- and lube oil-range petroleum hydrocarbons (DRPH and ORPH, respectively) by Northwest Total Petroleum Hydrocarbon (NWTPH) Method NWTPH-Dx
- Chlorinated acid herbicides by U.S. Environmental Protection Agency (EPA) Method 8151A
- Organochlorine pesticides by EPA Method 8081B
- Resource Conservation and Recovery Act (RCRA) 8 metals by EPA Methods 7471B and 6010D
- PCBs by EPA Method 8082A

Each composite concrete sample was analyzed for the following:

- DRPH and ORPH by Method NWTPH-Dx
- RCRA 8 metals by EPA Methods 7471B and 6010D
- PCBs by EPA Method 8082A

Samples of material collected from the electrical conduits within the concrete slab were analyzed for bulk asbestos fibers by EPA Methods 600/M4-82-020 and 600/R-93-116.

Analytical results of composite samples were compared to project screening levels, which were established for this project by dividing the Washington State Model Toxics Control Act (MTCA) cleanup level for each analyte by the number of discrete sub-samples from which the composite sample was comprised. If the screening level for any analyte was exceeded by the result of a composite sample, the individual discrete sub-samples from that area were then analyzed for that analyte. This sampling methodology ensures that each Composite Soil Sample Area is in compliance with MTCA cleanup levels.

Concentrations of DRPH, ORPH, herbicides, and PCBs were not detected above the applicable MTCA cleanup levels or project screening levels in any of the analyzed composite samples. Analytical results

from the composite soil sampling indicated that concentrations of arsenic and lead exceeding the applicable MTCA Method A cleanup levels are present in Areas 1 and 3, respectively. Various metals were detected in composite samples at concentrations exceeding the applicable project screening levels but below the applicable MTCA Method A cleanup levels. These include cadmium in Areas 4 and 11; lead in Areas 1, 2, 4 through 7, and 11; and mercury in Areas 3 and 6. Additionally, the composite sample from Area 3 contained a concentration of dieldrin exceeding the applicable project screening level. Discrete sub-samples from each of these areas were subsequently analyzed for the analytes that were found to exceed the applicable project screening levels. The remaining metals and pesticides were not detected at concentrations above the applicable MTCA cleanup levels or project screening levels in any of the composited samples.

To further assess the depths of arsenic, lead, and mercury impacts in soil due to discrete sample exceedances, SoundEarth returned to the Property on March 16, 2018, to advance hand auger borings to a depth of 4 feet bgs in each of the impacted areas, except for Area 1, where refusal was encountered at 2.75 feet bgs, and Areas 4 and 6, where refusal was encountered at 3.5 feet bgs due to rocky soil conditions. In areas with multiple discrete sub-samples exhibiting concentrations that exceeded the applicable MTCA cleanup levels, hand auger borings were advanced in the location of the highest concentration of each analyte detected within that area. For incremental depth analysis, discrete soil samples were collected from each hand auger boring at depths of 1, 2, 3, and 4 feet bgs, except for the boring in Area 1 (where the bottom sample was collected at 2.75 feet bgs) and Areas 4 and 6 (where the bottom samples were collected at 3.5 feet bgs), due to augering limitations. Each sample was screened in the field for potential evidence of contamination using visual observations and notations of odor and by conducting headspace analysis using a PID to detect the presence of volatile organic vapors. Samples were placed directly into laboratory-supplied 4-ounce jars that were labelled with a unique sample ID, placed on ice in a cooler, and delivered to OnSite under standard chain-of-custody protocols. Samples collected from 1 and 2 feet bgs were analyzed for one or more of the following: arsenic, lead, and mercury. Samples collected below 2 feet bgs in each hand auger boring were not analyzed since no contaminants of concern were detected at concentrations exceeding the applicable cleanup levels in the corresponding overlying 2-foot samples.

#### **SOIL CONDITIONS AND ANALYTICAL RESULTS**

Shallow soil conditions at the Property generally consisted of medium dense, moist, dark brown to reddish brown, silty sand with variable amounts of gravel and organic material to the maximum depth of exploration of 4 feet bgs. Field screening of near-surface and hand auger soil samples from each of the sampling areas revealed no obvious visual or olfactory indications of soil contamination. No elevated PID readings were observed in any of the soil samples.

The analytical results for the soil samples collected during the investigation at the Property are presented in Tables 1 through 6 and on Figures 2 through 4. The laboratory analytical reports for the samples collected are included in Attachment B.

#### **Soil Sample Results**

Composite and discrete soil sample analytical results are presented in Tables 1 through 5 and Figures 2 and 3, and are summarized below:

 Petroleum hydrocarbons. DRPH or ORPH or both were detected in all composite soil samples submitted for analysis at concentrations below the applicable MTCA Method A cleanup levels and project screening levels. Based on these results, no discrete soil samples were analyzed for DRPH or ORPH.

- Chlorinated acid herbicides. The chlorinated acid herbicide pentachlorophenol was detected at a concentration below the MTCA Method B cleanup level and the project screening level in the composite soil sample collected from the southern portion of Area 6. Herbicides were not detected in composite soil samples collected from any of the other sampling areas. Based on these results, no discrete soil samples were analyzed for herbicides.
- Organochlorine pesticides. The organochlorine pesticide dieldrin was detected at a concentration below the MTCA Method B cleanup level but exceeding the applicable project screening level in the composite soil sample collected from Area 3.
  - One or more of the other pesticides, including alpha-chlordane, 4,4'-DDE, 4,4'-DDD, and 4,4'-DDT, were detected at concentrations below the applicable MTCA cleanup levels (if established) and project screening levels in composite soil samples collected from Areas 1 through 9 and 11.
  - To further evaluate dieldrin concentrations in Area 3, the two discrete soil samples collected from this area were analyzed. Dieldrin was not detected at concentrations exceeding the MTCA Method B cleanup level in either of these discrete soil samples.
- RCRA 8 Metals. Arsenic was detected at a concentration exceeding the MTCA Method A cleanup level of 20 milligrams per kilogram (mg/kg) in the composite sample collected from Area 1 (76 mg/kg). Lead was detected at a concentration exceeding the MTCA Method A cleanup level of 250 mg/kg in the composite sample collected from Area 3 (300 mg/kg), and at concentrations below the cleanup level but above the applicable project screening levels in the composite samples collected from Areas 1, 2, 4 through 7, and 11. Cadmium was detected at concentrations of 0.75 and 0.64 mg/kg in the composite samples collected from Areas 4 and 11, respectively; these concentrations are below the applicable MTCA Method A cleanup level of 2 mg/kg, but above the applicable project screening levels for these samples. Mercury was detected at concentrations of 1.6 and 1.0 mg/kg in Areas 3 and the southern portion of Area 6, respectively; these concentrations are below the applicable MTCA Method A cleanup level of 2 mg/kg, but above the applicable project screening level for these samples.

To further evaluate metals concentrations in areas where composite sample concentrations exceeded the MTCA Method A cleanup levels and/or the project screening levels, discrete soil samples from Areas 1 through 7 and 11 were analyzed for the applicable metals. Arsenic was detected at concentrations exceeding the MTCA Method A cleanup level in discrete soil samples collected from the eastern and central portions of Area 1 (110 and 70 mg/kg, respectively). Lead was detected at concentrations exceeding the MTCA Method A cleanup level in discrete soil samples collected from Area 3 (270 and 320 mg/kg), the southern portion of Area 4 (340 mg/kg), the northwestern portion of Area 5 (320 mg/kg), and the northern portion of Area 6 (270 mg/kg). Mercury was detected at concentrations exceeding the MTCA Method A cleanup level in discrete soil samples collected from the western portion of Area 3 (2.4 mg/kg) and the southeastern portion of Area 6 (2.6 mg/kg).

The two discrete soil samples with the highest concentrations of lead (PH-3-SS2 at 320 mg/kg and PH-4-SS3 at 340 mg/kg) and the discrete soil sample with the highest concentration of arsenic (PH-1-SS1 at 110 mg/kg) were analyzed for toxicity characteristic leaching procedure (TCLP) lead and arsenic to determine whether these areas should be designated as a dangerous

waste disposal area. TCLP lead and arsenic were not detected in these samples above the laboratory reporting limits. Concentrations of mercury detected in discrete soil samples from Areas 3 and 6 (2.4 and 2.6 mg/kg, respectively) were not above the level where TCLP analysis for mercury is required for soil disposal.

 PCBs. PCBs were not detected above the laboratory reporting limit in any of the composite soil samples submitted for analysis. Based on these results, no discrete soil samples were analyzed for PCBs.

#### **Hand Auger Soil Sample Results**

Based on the discrete soil sample analytical results, hand auger borings were advanced to depths of 2.75 to 4 feet bgs in Areas 1 and 3 through 6 to evaluate the depth of arsenic, lead, and mercury impacts in soil. Discrete soil samples were collected at 1-foot depth intervals in each of the hand auger borings and analyzed for one or more of these metals. Discrete hand auger soil sample analytical results are presented in Table 6 and shown on Figure 4.

Concentrations of arsenic, lead, and mercury were not detected above the applicable MTCA Method A cleanup levels in the 1- or 2-foot samples collected from any of the hand auger borings. Based on this data, the samples collected below 2 feet bgs were not analyzed.

#### **Composite Concrete Sample Results**

Composite concrete sample analytical results are presented in Tables 1, 4A, and 5 and are summarized below:

- Petroleum Hydrocarbons. DRPH and ORPH were not detected above laboratory reporting limits in either of the analyzed composite concrete samples.
- RCRA 8 Metals. Arsenic was detected at concentrations exceeding the MTCA Method A cleanup level in the composite concrete samples collected from Concrete Area 1 and Concrete Area 2 (23 and 26 mg/kg, respectively). Concentrations of barium, chromium, and lead were detected at concentrations below the applicable cleanup levels and project screening levels in composite concrete samples from both concrete areas.
- PCBs. PCBs were not detected above laboratory reporting limits in either of the analyzed composite concrete samples.

#### **Asbestos Sample Results**

Asbestos was not detected in any of the three samples collected from the electrical conduits within the concrete slab.

#### **DATA VALIDATION**

SoundEarth contracted with Validata, LLC to conduct a Stage 2A level quality assurance/quality control (QA/QC) review of the analytical results for soil and concrete. The data was reviewed using the guidance and QC criteria documented in *USEPA National Functional Guidelines for Organic Data Review* (EPA 1999 and 2008) and *USEPA National Functional Guidelines for Inorganic Data Review* (EPA 2010 and 2014). The QC requirements that were reviewed included sample receipt, handling, holding times, recoveries for method blanks, surrogates, spikes, field duplicates, and reporting limits.

DRPH and ORPH results for composite soil samples from Areas 1 and 4 through 12 were qualified as estimated since the laboratory indicated that hydrocarbons in the diesel range are impacting the oil range results. DRPH and ORPH results for the composite soil sample from Area 3 were qualified as estimated since the laboratory indicated that hydrocarbons in the oil range are impacting the diesel range results. The alpha-Chlordane result for the composite soil sample from Area 3 was qualified as estimated due to a relative percent difference (RPD) of detected concentrations between the two columns that exceeded 40 percent. Lead results for all discrete soil samples were qualified as estimated because the laboratory duplicate RPD for lead was outside control limits due to sample inhomogeneity.

All QA/QC criteria were confirmed to be acceptable for the soil and concrete samples, and the analytical results are considered to be acceptable for use. Copies of the Validata, LLC Data Validation Reports are provided as Attachment C.

#### **CONCLUSIONS AND RECOMMENDATIONS**

The results of the soil investigation indicate that in some locations, near-surface soils within the substation are impacted with arsenic, lead, and mercury at concentrations exceeding the applicable MTCA cleanup levels. Discrete near-surface soil samples (0 to 0.5 foot bgs) from Area 1 contained concentrations of arsenic exceeding the cleanup level. Discrete near-surface soil samples from Areas 3 through 5 and the northern portion of Area 6 contained concentrations of lead exceeding the cleanup level. Discrete near-surface soil samples from Areas 3 and the southeastern portion of Area 6 also contained concentrations of mercury exceeding the cleanup level. Concentrations of arsenic, lead, and mercury did not exceed the applicable cleanup levels in any of the discrete hand auger samples collected at or below one-foot bgs from Areas 1 and 3 through 6, indicating that impacts in these areas are limited to the upper 1 foot of soil. Samples exhibiting the highest concentrations of arsenic and lead did not exceed TCLP limits for these analytes.

No evidence of impacts from DRPH, ORPH, pesticides, herbicides, PCBs, or other metals above the applicable MTCA cleanup levels was observed in any of the near-surface soil samples collected within the substation.

Concentrations of arsenic above the applicable MTCA Method A cleanup level were identified in composite concrete samples collected from the two concrete pad areas within the fenced yard of the Property. DPRH, ORPH, and PCBs were not detected at concentrations above the applicable cleanup levels in samples from either of the composite concrete areas.

A Remediation Recommendation and Scoping Memorandum providing guidance for remediation work to address the identified near-surface soil and concrete impacts is included as Attachment A.

#### **LIMITATIONS**

The services described in this report were performed consistent with generally accepted professional consulting principles and practices. No other warranty, expressed or implied, is made. These services were performed consistent with our agreement with our client. This report is solely for the use and information of our client unless otherwise noted. Any reliance on this report by a third party is at such party's sole risk.

Opinions and recommendations contained in this report are derived, in part, from data gathered by others, and from conditions evaluated when services were performed, and are intended only for the client, purposes, locations, time frames, and project parameters indicated. We do not warrant and are not responsible for the accuracy or validity of work performed by others, or for the impacts of changes in environmental standards, practices, or regulations subsequent to performance of services. We do not warrant the use of segregated portions of this report.

Respectfully,

SoundEarth Strategies, Inc.

Clare Tochilin, LG

Project Hydrogeologist

Senior Scientist

Attachments: Figure 1, Property Location Map

Figure 2, Composite Soil and Concrete Sample Analytical Results

Figure 3, Discrete Soil Sub-Sample Analytical Results for Metals and Dieldrin

Figure 4, Hand Auger Soil Sample Analytical Results for Metals

Table 1, Composite Soil and Concrete Sample Analytical Results for DRPH and ORPH

Table 2, Composite Soil Sample Analytical Results for Herbicides Table 3A, Composite Soil Sample Analytical Results for Pesticides

Table 3B, Discrete Soil Sample Analytical Results for Pesticides

Table 4A, Composite Soil and Concrete Sample Analytical Results for RCRA 8 Metals

Table 4B, Discrete Soil Sample Analytical Results for RCRA 8 Metals

Table 5, Composite Soil and Concrete Sample Analytical Results for PCBs

Table 6, Hand Auger Soil Sample Analytical Results for Metals

A, Remediation Recommendation and Scoping Memorandum

B, Laboratory Analytical Reports

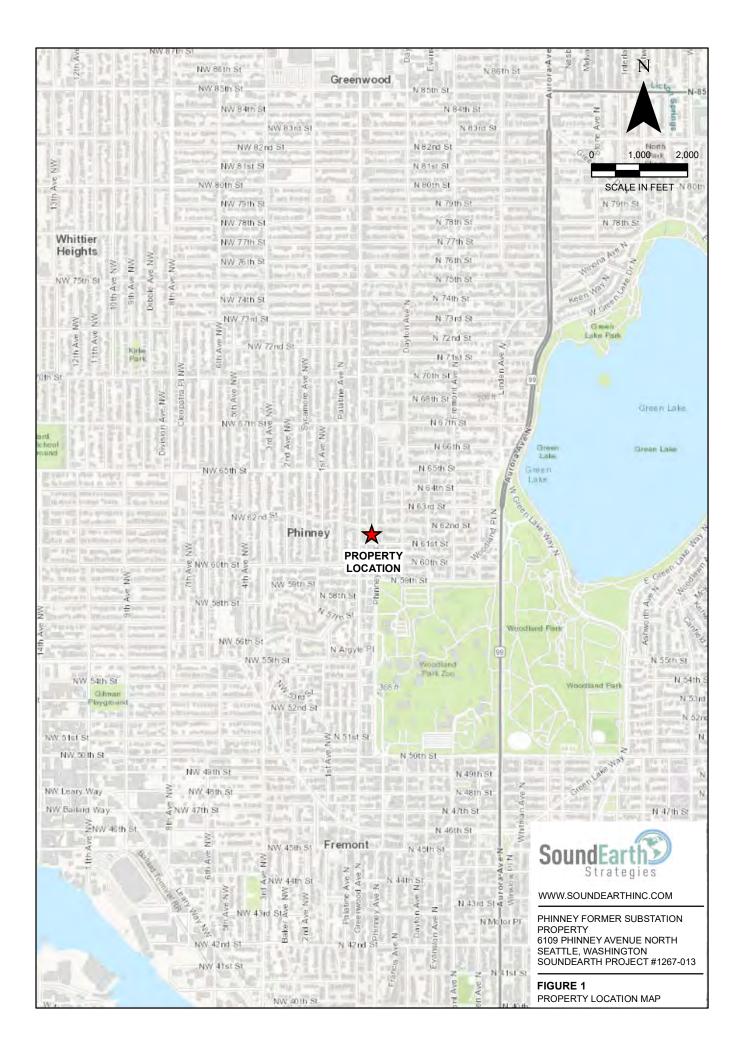
OnSite Environmental, Inc. #1802-150 OnSite Environmental, Inc. #1802-151 OnSite Environmental, Inc. #1802-151B OnSite Environmental, Inc. #1803-167 NVL Laboratories, Inc. #1803172.00

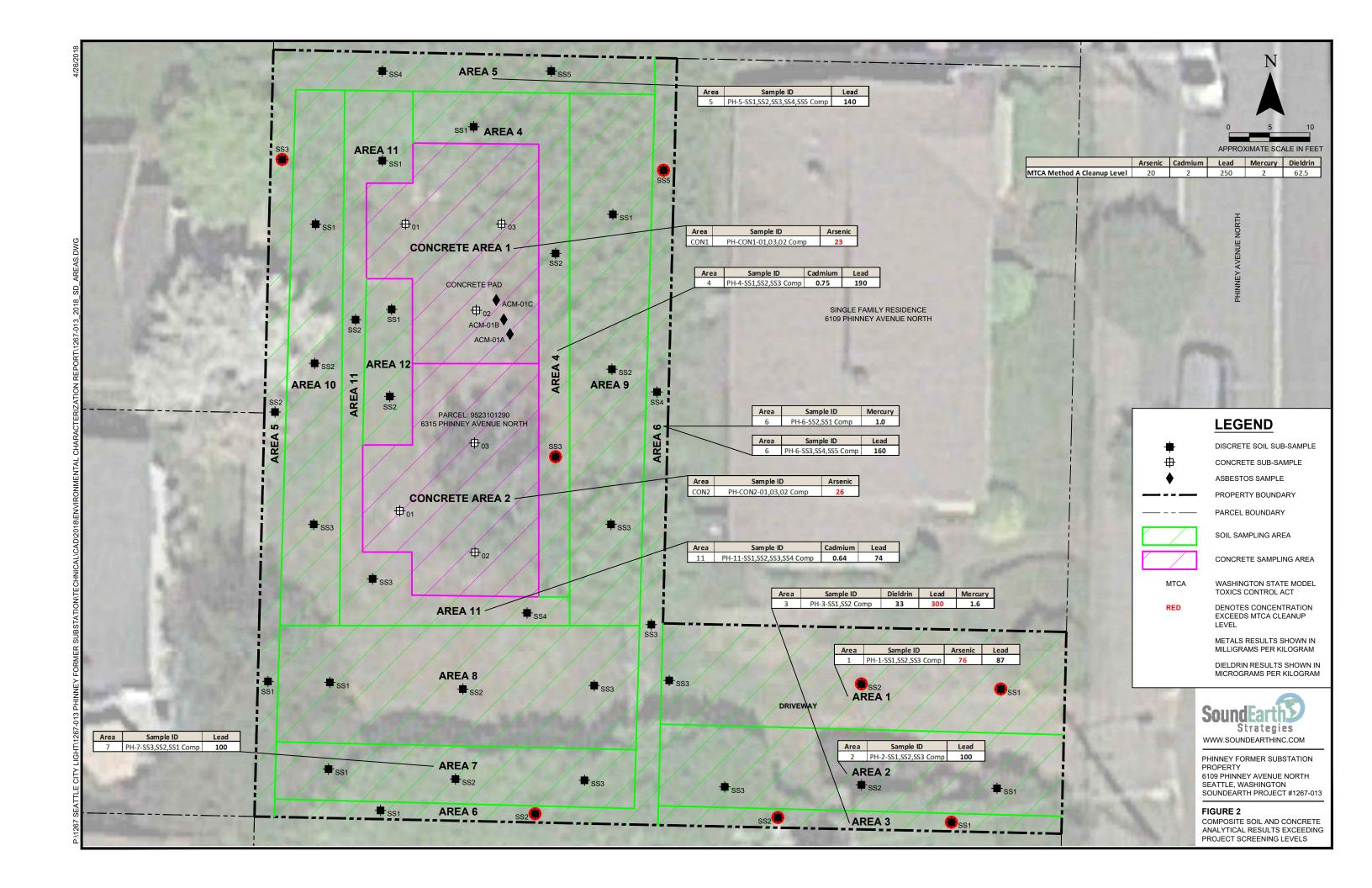
C, Data Validation Reports

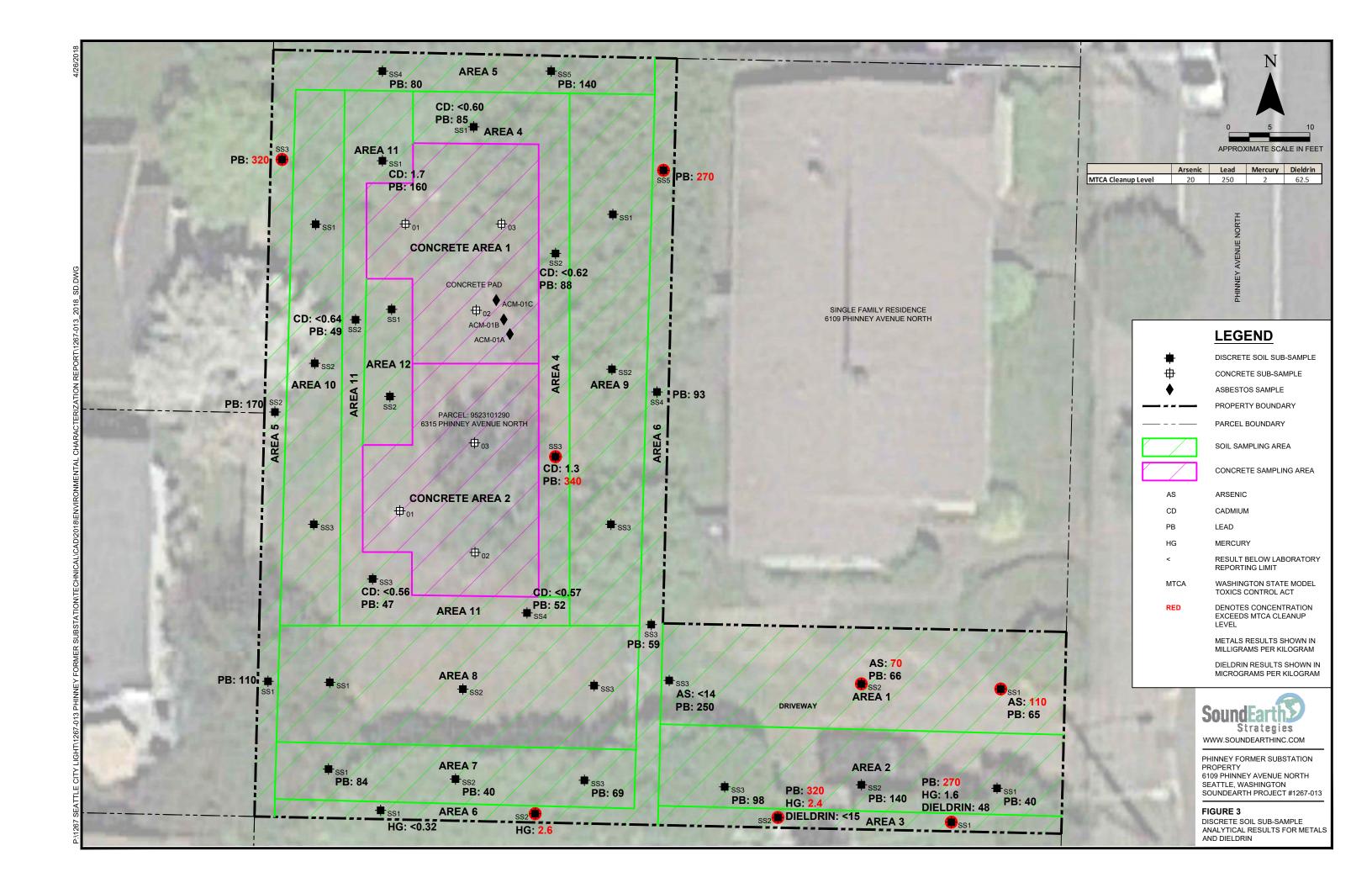
cc: Ms. Jennifer Kindred, Seattle City Light

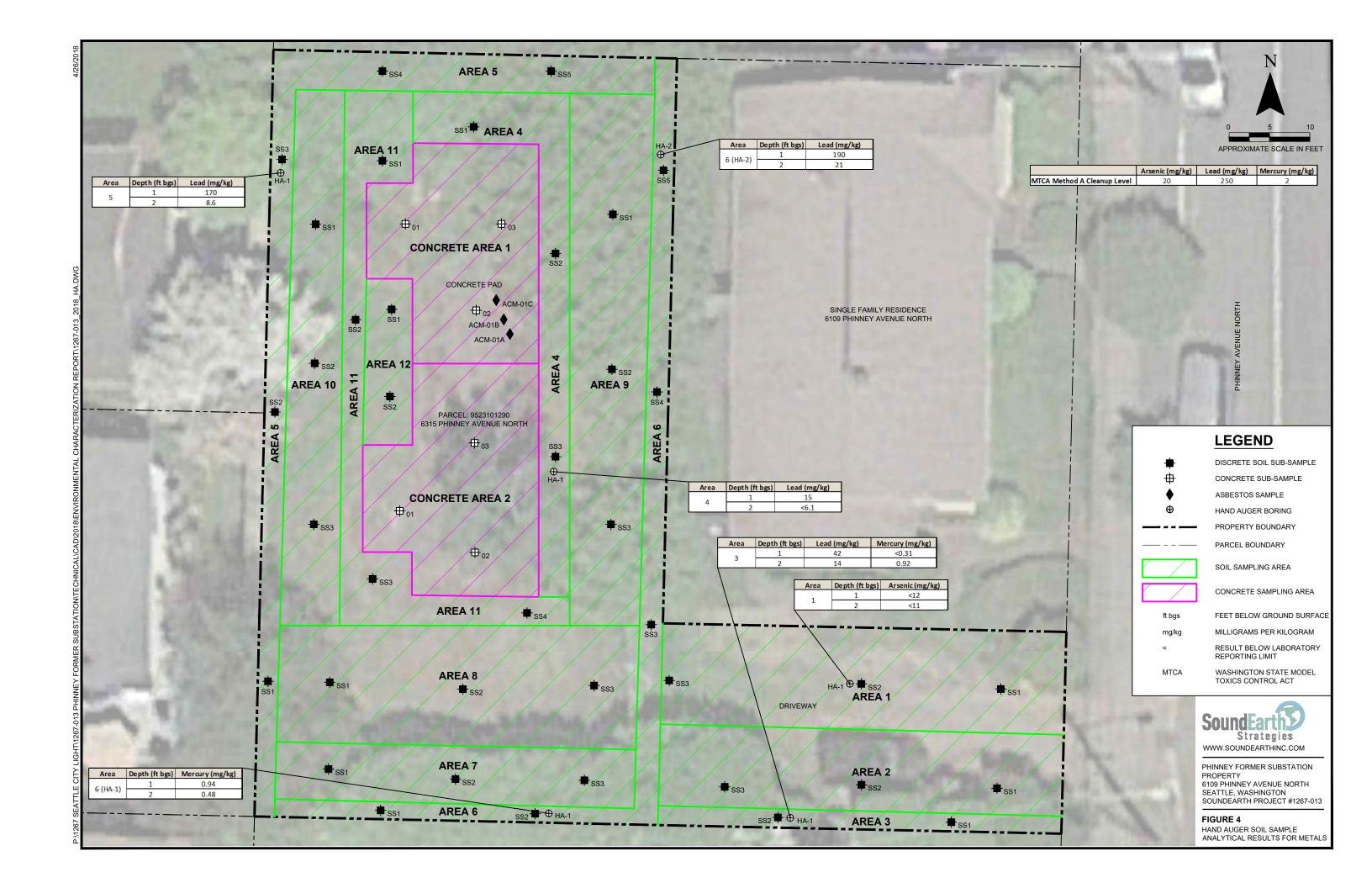
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# **TABLES** SoundEarth Strategies, Inc.



## Table 1 Composite Soil and Concrete Sample Analytical Results for DRPH and ORPH Phinney Former Substation Property 6109 Phinney Avenue North Seattle, Washington

					Analytical Results (mi	illigrams per kilogram)
Sample ID	Sampled By	Date Sampled	Sample Type	<b>Depth</b> (feet bgs)	DRPH <sup>(1)</sup>	ORPH <sup>(1)</sup>
PH-1-SS1,SS2,SS3 Comp			Soil	0 - 0.5	<41 <sup>U1, J</sup>	570 <sup>J</sup>
PH-2-SS1,SS2,SS3 Comp			Soil	0 - 0.5	<29	210
PH-3-SS1,SS2 Comp			Soil	0 - 0.5	95 <sup>N, J</sup>	690 <sup>J</sup>
PH-4-SS1,SS2,SS3 Comp			Soil	0 - 0.5	130 <sup>J</sup>	370 <sup>N1, J</sup>
PH-5-SS1,SS2,SS3,SS4,SS5 Comp			Soil	0 - 0.5	99 <sup>J</sup>	290 <sup>N1, J</sup>
PH-6-SS2,SS1 Comp			Soil	0 - 0.5	110	590
PH-6-SS3,SS4,SS5 Comp			Soil	0 - 0.5	87 <sup>J</sup>	370 <sup>N1, J</sup>
PH-7-SS3,SS2,SS1 Comp	SoundEarth	02/13/18	Soil	0 - 0.5	51 <sup>J</sup>	140 <sup>N1, J</sup>
PH-8-SS1,SS2,SS3 Comp			Soil	0 - 0.5	66 <sup>J</sup>	140 <sup>N1, J</sup>
PH-9-SS1,SS2,SS3 Comp			Soil	0 - 0.5	66 <sup>J</sup>	250 <sup>N1, J</sup>
PH-10-SS1,SS2,SS3 Comp			Soil	0 - 0.5	160 <sup>J</sup>	420 <sup>N1, J</sup>
PH-11-SS1,SS2,SS3,SS4 Comp			Soil	0 - 0.5	140 <sup>J</sup>	270 <sup>N1, J</sup>
PH-12-SS1,SS2 Comp			Soil	0 - 0.5	49 <sup>J</sup>	72 <sup>N1, J</sup>
PH-CON1-01,03,02 Comp			Concrete		<26	<52
PH-CON2-01,03,02 Comp			Concrete		<26	<52
MTCA Cleanup Level for Soil <sup>(2)</sup>					2,000	2,000

#### NOTES

Sample analyses conducted by OnSite Environmental, Inc. of Redmond, Washington.

#### OnSite Environmental, Inc. Laboratory Notes:

#### Data Validation Report Note:

< = not detected at a concentration exceeding the laboratory reporting limit

-- = not applicable

bgs = below ground surface

DRPH = diesel-range petroleum hydrocarbons

MTCA = Washington State Model Toxics Control Act

NWTPH = Northwest Total Petroleum Hydrocarbon

ORPH = oil-range petroleum hydrocarbons

 ${\bf SoundEarth = SoundEarth \ Strategies, \ Inc.}$ 

<sup>(1)</sup> Analyzed by Method NWTPH-Dx.

<sup>&</sup>lt;sup>(2)</sup>MTCA Cleanup Regulation, Chapter 173-340-900 of WAC, Table 740-1 Method A Cleanup Levels for Soil, Unrestricted Land Uses, revised November 2007.

 $<sup>^{\</sup>rm N1}\,{\rm Hydrocarbons}$  in the diesel range are impacting the lube oil range result.

<sup>&</sup>lt;sup>N</sup>Hydrocarbons in the lube oil range are impacting the diesel range result.

<sup>&</sup>lt;sup>U1</sup>The practical quantitation limit is elevated due to interferences present in the sample.

 $<sup>^{\</sup>rm I}$  The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.



## Table 2 Composite Soil Sample Analytical Results for Herbicides Phinney Former Substation Property 6109 Phinney Avenue North Seattle, Washington

							Anal	lytical Result	s <sup>(1)</sup> (microgran	ns per kilogra	ım)			
Sample ID	Sampled By	Date Sampled	<b>Depth</b> (feet bgs)	Dalapon	Dicamba	МСРР	МСРА	Dichlorprop	2,4-D	Pentachlorophenol	2,4,5-TP (Silvex)	2,4,5-T	2,4-DB	Dinoseb
PH-1-SS1,SS2,SS3 Comp			0 - 0.5	<270	<11	<1,100	<1,100	<84	<11	<5.6	<11	<11	<11	<11
PH-2-SS1,SS2,SS3 Comp			0 - 0.5	<260	<11	<1,100	<1,100	<81	<11	<5.5	<11	<11	<11	<11
PH-3-SS1,SS2 Comp			0 - 0.5	<310	<13	<1,300	<1,300	<97	<13	<6.5	<13	<13	<13	<13
PH-4-SS1,SS2,SS3 Comp			0 - 0.5	<280	<11	<1,100	<1,100	<85	<11	<5.7	<11	<11	<11	<11
PH-5-SS1,SS2,SS3,SS4,SS5 Comp			0 - 0.5	<280	<11	<1,100	<1,100	<86	<11	<5.7	<11	<11	<11	<11
PH-6-SS2,SS1 Comp			0 - 0.5	<280	<11	<1,100	<1,100	<86	<11	6.4	<12	<12	<12	<11
PH-6-SS3,SS4,SS5 Comp	SoundEarth	02/13/18	0 - 0.5	<290	<12	<1,200	<1,200	<89	<12	<6.0	<12	<12	<12	<12
PH-7-SS3,SS2,SS1 Comp			0 - 0.5	<260	<11	<1,100	<1,100	<82	<11	<5.5	<11	<11	<11	<11
PH-8-SS1,SS2,SS3 Comp			0 - 0.5	<260	<10	<1,000	<1,000	<79	<10	<5.3	<11	<11	<11	<11
PH-9-SS1,SS2,SS3 Comp			0 - 0.5	<280	<11	<1,100	<1,100	<86	<11	<5.8	<12	<12	<12	<12
PH-10-SS1,SS2,SS3 Comp			0 - 0.5	<260	<11	<1,100	<1,100	<81	<11	<5.4	<11	<11	<11	<11
PH-11-SS1,SS2,SS3,SS4 Comp			0 - 0.5	<270	<11	<1,100	<1,100	<83	<11	<5.6	<11	<11	<11	<11
PH-12-SS1,SS2 Comp			0 - 0.5	<260	<11	<1,000	<1,000	<79	<11	<5.3	<11	<11	<11	<11
MTCA Cleanup Level for Soil		·		<b>2,400,000</b> <sup>(2)</sup>	<b>2,400,000</b> <sup>(2)</sup>	<b>80,000</b> <sup>(2)</sup>	<b>10,000</b> <sup>(2)</sup>	NE	800,000 <sup>(2)</sup>	<b>2,500</b> <sup>(3)</sup>	<b>640,000</b> <sup>(2)</sup>	<b>800,000</b> <sup>(2)</sup>	640,000 <sup>(2)</sup>	<b>80,000</b> <sup>(2)</sup>

#### NOTES:

 $Sample\ analyses\ conducted\ by\ On Site\ Environmental,\ Inc.\ of\ Redmond,\ Washington.$ 

< = not detected at a concentration exceeding the laboratory reporting limit

2,4-D = 2,4-dichlorophenoxyacetic acid

 $2,\!4,\!5\text{-TP} = 2\text{-}(2,\!4,\!5\text{-trichlorophenoxy}) propanoic acid$ 

2,4,5-T = 2,4,5-trichlorophenoxyacetic acid

2,4-DB = 4-(2,4-dichlorophenoxy)butyric acid

bgs = below ground surface

CLARC = Cleanup Levels and Risk Calculations EPA = U.S. Environmental Protection Agency MCPA = 2-methyl-4-chlorophenoxyacetic acid

 $\label{eq:MCPP} \textbf{MCPP} = \textbf{mecoprop} \ \textbf{or} \ \textbf{methylchlorophenoxypropionic} \ \textbf{acid}$ 

MTCA = Washington State Model Toxics Control Act

NE = not established

 $SoundEarth = SoundEarth \ Strategies, \ Inc.$ 

<sup>&</sup>lt;sup>(1)</sup>Analyzed by EPA Method 8151A.

<sup>(2)</sup>MTCA Cleanup Regulation, Chapter 173-340 of WAC, CLARC, Soil, Method B, Non cancer, Direct Contact, CLARC Website <a href="https://fortress.wa.gov/ecy/clarc/CLARCHome.aspx">https://fortress.wa.gov/ecy/clarc/CLARCHome.aspx</a>.

<sup>(3)</sup>MTCA Cleanup Regulation, Chapter 173-340 of WAC, CLARC, Soil, Method B, Cancer, Direct Contact, CLARC Website <a href="https://fortress.wa.gov/ecy/clarc/CLARCHome.aspx">https://fortress.wa.gov/ecy/clarc/CLARCHome.aspx</a>.



# Table 3A Composite Soil Sample Analytical Results for Pesticides Phinney Former Substation Property 6109 Phinney Avenue North Seattle, Washington

			Analytical Results <sup>(1)</sup> (micrograms per kilogram)																				
Sample ID	Date Sampled	Depth (feet bgs)	alpha-BHC	gamma-BHC	beta-BHC	delta-BHC	Heptachlor	Aldrin	Heptachlor Epoxide	gamma-Chlordane	alpha-Chlordane	4,4'-DDE	Endosulfan I	Dieldrin	Endrin	4,4'-DDD	Endosulfan II	4,4'-DDT	Endrin Aldehyde	Methoxychlor	Endosulfan Sulfate	Endrin Ketone	Toxaphene
PH-1-SS1,SS2,SS3 Comp		0 - 0.5	<5.9	<5.9	<5.9	<5.9	<5.9	<5.9	<5.9	<12	<12	<12	<5.9	<12	<12	<12	<12	17	<12	<12	<12	<12	<59
PH-2-SS1,SS2,SS3 Comp		0 - 0.5	<5.7	<5.7	<5.7	<5.7	<5.7	<5.7	<5.7	<11	<11	<11	<5.7	<11	<11	<11	<11	12	<11	<11	<11	<11	<57
PH-3-SS1,SS2 Comp		0 - 0.5	<6.9	<6.9	<6.9	<6.9	<6.9	<6.9	<6.9	<14	41 <sup>P, J</sup>	<14	<6.9	33*	<14	<14	<14	33	<14	<14	<14	<14	<69
PH-4-SS1,SS2,SS3 Comp		0 - 0.5	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<12	<12	<12	<6.0	<12	<12	<12	<12	52	<12	<12	<12	<12	<60
PH-5-SS1,SS2,SS3,SS4,SS5 Comp		0 - 0.5	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<12	<12	<12	<6.0	<12	<12	<12	<12	22	<12	<12	<12	<12	<60
PH-6-SS2,SS1 Comp		0 - 0.5	<6.1	<6.1	<6.1	<6.1	<6.1	<6.1	<6.1	<12	<12	41	<6.1	<12	<12	12	<12	270	<12	<12	<12	<12	<61
PH-6-SS3,SS4,SS5 Comp	02/13/18	0 - 0.5	<6.3	<6.3	<6.3	<6.3	<6.3	<6.3	<6.3	<13	<13	<13	<6.3	<13	<13	<13	<13	48	<13	<13	<13	<13	<63
PH-7-SS3,SS2,SS1 Comp		0 - 0.5	<5.8	<5.8	<5.8	<5.8	<5.8	<5.8	<5.8	<12	<12	<12	<5.8	<12	<12	<12	<12	57	<12	<12	<12	<12	<58
PH-8-SS1,SS2,SS3 Comp	1	0 - 0.5	<5.6	<5.6	<5.6	<5.6	<5.6	<5.6	<5.6	<11	<11	<11	<5.6	<11	<11	<11	<11	18	<11	<11	<11	<11	<56
PH-9-SS1,SS2,SS3 Comp		0 - 0.5	<6.1	<6.1	<6.1	<6.1	<6.1	<6.1	<6.1	<12	<12	<12	<6.1	<12	<12	<12	<12	25	<12	<12	<12	<12	<61
PH-10-SS1,SS2,SS3 Comp		0 - 0.5	<5.7	<5.7	<5.7	<5.7	<5.7	<5.7	<5.7	<11	<11	<11	<5.7	<11	<11	<11	<11	<11	<11	<11	<11	<11	<57
PH-11-SS1,SS2,SS3,SS4 Comp		0 - 0.5	<5.9	<5.9	<5.9	<5.9	<5.9	<5.9	<5.9	<12	<12	<12	<5.9	<12	<12	<12	<12	12	<12	<12	<12	<12	<59
PH-12-SS1,SS2 Comp		0 - 0.5	<5.6	<5.6	<5.6	<5.6	<5.6	<5.6	<5.6	<11	<11	<11	<5.6	<11	<11	<11	<11	<11	<11	<11	<11	<11	<56
MTCA Cleanup Level for Soil			158.73 <sup>(2)</sup>	909 <sup>(2)</sup>	555 <sup>(2)</sup>	NE	<b>222</b> <sup>(2)</sup>	<b>58.8</b> <sup>(2)</sup>	<b>109.89</b> <sup>(2)</sup>	NE	NE	2,941 <sup>(2)</sup>	NE	<b>62.5</b> <sup>(2)</sup>	<b>24,000</b> <sup>(3)</sup>	<b>4,166</b> <sup>(2)</sup>	NE	<b>2,941</b> <sup>(2)</sup>	NE	400,000 <sup>(3)</sup>	480,000 <sup>(3)</sup>	NE	909 <sup>(2)</sup>

#### NOTES:

**Bold** denotes concentration exceeds Project Screening Level but below MTCA Cleanup Level.

Sample analyses conducted by OnSite Environmental, Inc. of Redmond, Washington.

\*Project Screening Level for dieldrin (31.25 micrograms per kilogram) determined by dividing the MTCA Cleanup Level by the number of discrete samples composited.

#### OnSite Environmental, Inc. Laboratory Note:

#### <u>Data Validation Report Note:</u>

< = not detected at a concentration exceeding the laboratory reporting limit

bgs = below ground surface

BHC = hexachlorocyclohexane

CLARC = Cleanup Levels and Risk Calculations

 ${\sf DDD} = {\sf dichlorodiphenyldichloroethane}$ 

 ${\tt DDE = dichlorodiphenyldichloroethylene}$ 

 ${\sf DDT} = {\sf dichlorodiphenyltrichloroethane}$ 

EPA = U.S. Environmental Protection Agency

MTCA = Washington State Model Toxics Control Act

NE = not established

<sup>(1)</sup>Analyzed by EPA Method 8081B.

<sup>(2)</sup> MTCA Cleanup Regulation, Chapter 173-340 of WAC, CLARC, Soil, Method B, Cancer, Direct Contact, CLARC Website <a href="https://fortress.wa.gov/ecy/clarc/CLARCHome.aspx">https://fortress.wa.gov/ecy/clarc/CLARCHome.aspx</a>.

<sup>(3)</sup> MTCA Cleanup Regulation, Chapter 173-340 of WAC, CLARC, Soil, Method B, Non cancer, Direct Contact, CLARC Website <a href="https://fortress.wa.gov/ecy/clarc/CLARCHome.aspx">https://fortress.wa.gov/ecy/clarc/CLARCHome.aspx</a>.

 $<sup>^{\</sup>text{P}}$ The relative percent difference of the detected concentrations between the two columns is greater than 40.

<sup>&</sup>lt;sup>1</sup>The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.



## Table 4A Composite Soil and Concrete Sample Analytical Results for RCRA 8 Metals Phinney Former Substation Property 6109 Phinney Avenue North Seattle, Washington

	Date		Douth			Analy	rtical Results (mi	lligrams per kild	gram)		
Sample ID	Sampled	Sample Type	<b>Depth</b> (feet bgs)	Arsenic <sup>(1)</sup>	Barium <sup>(1)</sup>	Cadmium <sup>(1)</sup>	Chromium <sup>(1)</sup>	Lead <sup>(1)</sup>	Mercury <sup>(2)</sup>	Selenium <sup>(1)</sup>	Silver <sup>(1)</sup>
PH-1-SS1,SS2,SS3 Comp		Soil	0 - 0.5	76	110	<0.59	29	87	<0.30	<12	<1.2
PH-2-SS1,SS2,SS3 Comp		Soil	0 - 0.5	<11	46	<0.57	16	100	<0.29	<11	<1.1
PH-3-SS1,SS2 Comp		Soil	0 - 0.5	<14	92	0.79	32	300	1.6	<14	<1.4
PH-4-SS1,SS2,SS3 Comp		Soil	0 - 0.5	<12	62	0.75	27	190	<0.30	<12	<1.2
PH-5-SS1,SS2,SS3,SS4,SS5 Comp		Soil	0 - 0.5	<12	99	<0.60	22	140	<0.30	<12	<1.2
PH-6-SS2,SS1 Comp		Soil	0 - 0.5	<12	59	0.61	17	120	1.0	<12	<1.2
PH-6-SS3,SS4,SS5 Comp		Soil	0 - 0.5	<13	130	<0.63	27	160	<0.32	<13	<1.3
PH-7-SS3,SS2,SS1 Comp	02/13/18	Soil	0 - 0.5	<12	45	<0.58	24	100	<0.29	<12	<1.2
PH-8-SS1,SS2,SS3 Comp		Soil	0 - 0.5	<11	28	<0.56	15	61	<0.28	<11	<1.1
PH-9-SS1,SS2,SS3 Comp		Soil	0 - 0.5	<12	53	<0.61	15	81	<0.31	<12	<1.2
PH-10-SS1,SS2,SS3 Comp		Soil	0 - 0.5	<11	54	<0.57	15	80	<0.29	<11	<1.1
PH-11-SS1,SS2,SS3,SS4 Comp		Soil	0 - 0.5	<12	46	0.64	15	74	<0.29	<12	<1.2
PH-12-SS1,SS2 Comp		Soil	0 - 0.5	<11	31	0.59	15	72	0.36	<11	<1.1
PH-CON1-01,03,02 Comp		Concrete		23	83	<0.52	19	<5.2	<0.26	<10	<1.0
PH-CON2-01,03,02 Comp		Concrete		26	87	<0.52	20	5.9	<0.26	<10	<1.0
MTCA Cleanup Level for Soil		•	•	<b>20</b> <sup>(3)</sup>	<b>16,000</b> <sup>(4)</sup>	<b>2</b> <sup>(3)</sup>	2,000 <sup>(3)</sup>	<b>250</b> <sup>(3)</sup>	<b>2</b> <sup>(3)</sup>	<b>400</b> <sup>(4)</sup>	<b>400</b> <sup>(4)</sup>

#### NOTES:

Red denotes concentration exceeds MTCA cleanup level for soil.

**Bold** denotes concentration exceeds Project Screening Level for soil.

Project Screening Levels are variable and determined by dividing the MTCA Cleanup Level by the number of discrete samples composited.

< = not detected at a concentration exceeding the laboratory reporting limit

bgs = below ground surface

CLARC = Cleanup Levels and Risk Calculations

EPA = U.S. Environmental Protection Agency

MTCA = Washington State Model Toxics Control Act

RCRA = Resource Conservation and Recovery Act

<sup>&</sup>lt;sup>(1)</sup>Analyzed by EPA Method 6010D.

<sup>&</sup>lt;sup>(2)</sup>Analyzed by EPA Method 7471B.

<sup>(3)</sup> MTCA Cleanup Regulation, Chapter 173-340-900 of WAC, Table 740-1 Method A Cleanup Levels for Soil, Unrestricted Land Uses, revised November 2007.

<sup>(4)</sup> MTCA Cleanup Regulation, Chapter 173-340 of WAC, CLARC, Soil, Method B, Noncancer, Direct Contact, CLARC Website <a href="https://fortress.wa.gov/ecy/clarc/CLARCHome.aspx">https://fortress.wa.gov/ecy/clarc/CLARCHome.aspx</a>.



## Table 5 Composite Soil and Concrete Sample Analytical Results for PCBs Phinney Former Substation Property 6109 Phinney Avenue North Seattle, Washington

					Analytical Results <sup>(1)</sup> (milligrams per kilogram)							
Sample ID	Sampled By	Date Sampled	Sample Type	<b>Depth</b> (feet bgs)	Arocolor 1016	Arocolor 1221	Arocolor 1232	Arocolor 1242	Arocolor 1248	Arocolor 1254	Arocolor 1260	Total PCBs <sup>(2)</sup>
PH-1-SS1,SS2,SS3 Comp			Soil	0 - 0.5	<0.059	<0.059	<0.059	<0.059	<0.059	<0.059	<0.059	<0.059
PH-2-SS1,SS2,SS3 Comp			Soil	0 - 0.5	<0.057	<0.057	<0.057	<0.057	< 0.057	<0.057	<0.057	<0.057
PH-3-SS1,SS2 Comp			Soil	0 - 0.5	<0.069	<0.069	<0.069	<0.069	<0.069	<0.069	<0.069	<0.069
PH-4-SS1,SS2,SS3 Comp			Soil	0 - 0.5	<0.060	<0.060	<0.060	<0.060	<0.060	<0.060	<0.060	<0.060
PH-5-SS1,SS2,SS3,SS4,SS5 Comp			Soil	0 - 0.5	<0.060	<0.060	<0.060	<0.060	<0.060	<0.060	<0.060	<0.060
PH-6-SS2,SS1 Comp			Soil	0 - 0.5	<0.061	<0.061	<0.061	<0.061	< 0.061	<0.061	<0.061	<0.061
PH-6-SS3,SS4,SS5 Comp			Soil	0 - 0.5	< 0.063	< 0.063	< 0.063	< 0.063	< 0.063	< 0.063	<0.063	<0.063
PH-7-SS3,SS2,SS1 Comp	SoundEarth	02/13/18	Soil	0 - 0.5	<0.058	<0.058	<0.058	<0.058	<0.058	<0.058	<0.058	<0.058
PH-8-SS1,SS2,SS3 Comp			Soil	0 - 0.5	<0.056	<0.056	<0.056	<0.056	<0.056	<0.056	<0.056	<0.056
PH-9-SS1,SS2,SS3 Comp			Soil	0 - 0.5	<0.061	<0.061	< 0.061	<0.061	<0.061	<0.061	<0.061	< 0.061
PH-10-SS1,SS2,SS3 Comp			Soil	0 - 0.5	<0.057	<0.057	<0.057	<0.057	<0.057	<0.057	<0.057	<0.057
PH-11-SS1,SS2,SS3,SS4 Comp			Soil	0 - 0.5	<0.059	<0.059	<0.059	<0.059	< 0.059	<0.059	<0.059	<0.059
PH-12-SS1,SS2 Comp			Soil	0 - 0.5	<0.056	<0.056	<0.056	<0.056	<0.056	<0.056	<0.056	<0.056
PH-CON1-01,03,02 Comp			Concrete	1	<0.052	<0.052	<0.052	<0.052	<0.052	<0.052	<0.052	<0.052
PH-CON2-01,03,02 Comp			Concrete	1	<0.052	<0.052	<0.052	<0.052	<0.052	<0.052	<0.052	<0.052
MTCA Cleanup Level for Soil (3)	•	•	•	•			-	-	-		-	1.0

#### NOTES:

Sample analyses conducted by OnSite Environmental, Inc. of Redmond, Washington.

< = not detected at a concentration exceeding the laboratory reporting limit

bgs = below ground surface

EPA = U.S. Environmental Protection Agency

MTCA = Washington State Model Toxics Control Act

PCB = polychlorinated biphenyl

SoundEarth = SoundEarth Strategies, Inc.

<sup>(1)</sup> Analyzed by EPA Method 8082A.

<sup>&</sup>lt;sup>(2)</sup>MTCA Cleanup Regulation, Chapter 173-340-900 of WAC, Table 740-1 Method A Cleanup Levels for Soil, Unrestricted Land Uses, revised November 2007.

<sup>&</sup>lt;sup>(3)</sup>Total PCBs are calculated by summing the detected PCB concentrations.



# Table 6 Hand Auger Soil Sample Analytical Results for Metals Phinney Former Substation Property 6109 Phinney Avenue North Seattle, Washington

	Date	Depth	Analytic	al Results (milligrams per	kilogram)
Sample ID	Sampled	(feet bgs)	Arsenic <sup>(1)</sup>	Lead <sup>(1)</sup>	Mercury <sup>(2)</sup>
PH-01-HA1-01		1	<12		
PH-01-HA1-02		2	<11		
PH-03-HA1-01		1		42	<0.31
PH-03-HA1-02		2		14	0.92
PH-04-HA1-01		1		15	
PH-04-HA1-02	03/16/18	2		<6.1	
PH-05-HA1-01	03/10/18	1		170	
PH-05-HA1-02		2		8.6	
PH-06-HA1-01		1			0.94
PH-06-HA1-02		2			0.48
PH-06-HA2-01		1		190	
PH-06-HA2-02		2		21	
TCA Cleanup Level for S	Soil <sup>(3)</sup>	•	20	250	2

#### NOTES:

Sample analyses conducted by OnSite Environmental Inc. of Redmond, Washington.

- -- = not analyzed
- < = less than laboratory reporting limit

bgs = below ground surface

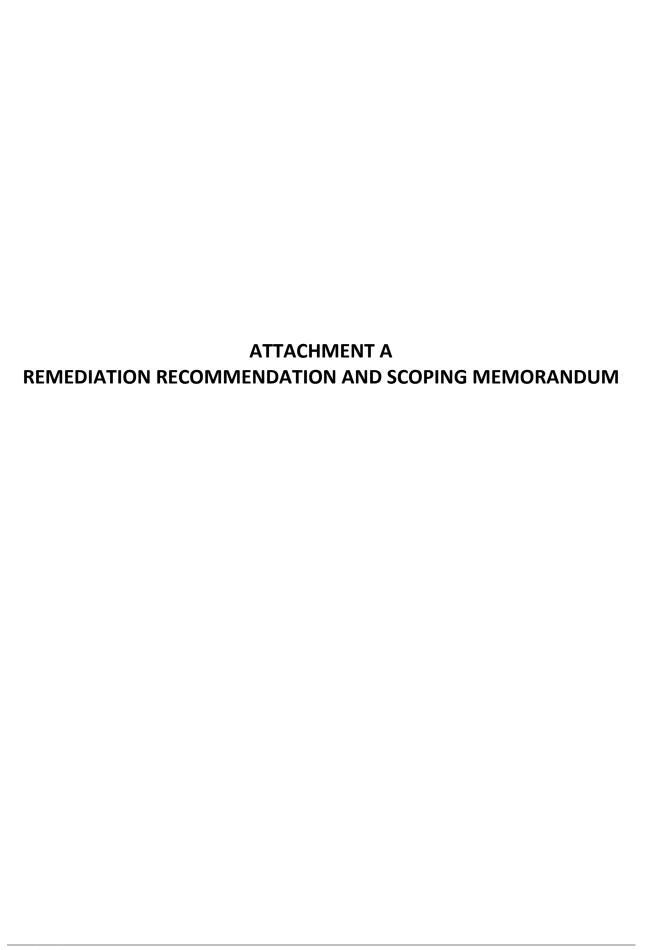
EPA = U.S. Environmental Protection Agency

MTCA = Washington State Model Toxics Control Act

 $<sup>^{\</sup>rm (1)}\textsc{Samples}$  analyzed by EPA Method 6010D.

 $<sup>\</sup>ensuremath{^{(2)}}\textsc{Samples}$  analyzed by EPA Method 7471B.

<sup>(3)</sup> MTCA Cleanup Regulation, Chapter 173-340-900 of WAC, Table 740-1 Method A Cleanup Levels for Soil, Unrestricted Land Uses, revised November 2007.



May 8, 2018

Ms. Shannon Straws Seattle City Light P.O. Box 30423 Seattle, Washington 98124

SUBJECT: ATTACHMENT A—REMEDIATION RECOMMENDATION AND SCOPING MEMORANDUM

**Phinney Former Substation Property** 

**6109 Phinney Avenue North** 

Seattle, Washington

**Project Number: 1267-013-01** 

Dear Ms. Straws:

SoundEarth Strategies, Inc. (SoundEarth) has prepared this memorandum as an attachment to the Environmental Characterization Report to provide guidance for remediation work to address identified near-surface soil and concrete impacts at the Phinney Former Substation Property, located at 6109 Phinney Avenue North in Seattle, Washington (the Property).

#### **REMEDIATION SCOPE**

Based on the results of the near-surface and hand auger soil investigations, SoundEarth has prepared the following recommendations, which detail remediation work elements that will remove contaminated soil and concrete identified at the Property and verify that the remaining soil does not exceed applicable Washington State Model Toxic Control Act (MTCA) cleanup levels. SoundEarth has identified the following remediation work elements for Seattle City Light's selected remediation contractor:

- Prepare a health and safety plan.
- Perform public and private utility locates.
- Prepare and implement a temporary erosion and sediment control plan, as well as monitoring and updating control measures, as needed.
- Obtain applicable permitting, which may include fill and grading permits and street use permits. It is recommended that the contractor be responsible for submitting a traffic control plan as necessary.
- Install temporary security fencing around the Property.
- Excavate contaminated soil to a depth of 12 inches below ground surface (bgs), as indicated in Figure C-1. The actual depth of contamination will be determined by verification sample results in each area. It is recommended that confirmation samples be collected at the minimum proposed excavation depth and resampled following additional excavation if contamination remains above MTCA cleanup levels.

- Preserve vegetation in the landscaped areas as directed by Seattle City Light. An air knife and vacuum truck may be used to remove soil around root systems of selected trees. It is recommended that the soil be replaced the same day using clean amended soil as specified by Seattle City Light. An arborist representing Seattle City Light may be on-site during these activities.
- Backfill and compaction of excavated areas per Seattle City Light's restoration plan.
- Haul soil for disposal at a properly permitted and authorized solid waste landfill. It is recommended that the contractor coordinate with all disposal facilities. Seattle City Light will obtain necessary bill(s) of lading prior to the start of work.
- Protect utilities, fences, adjacent structures, and vegetation outside of the excavation area, or as directed by Seattle City Light.
- Implement dust control measures during soil disturbing activities.

Based on discrete near-surface and hand auger soil sample results, recommended excavation activities include the removal of impacted soil to the following depths (Figure C-1):

■ 12 inches bgs in the central and eastern portion of Area 1, all of Area 3, the southern portion of Area 4, the northwestern portion of Area 5, and the northern portion of Area 6. These 12-inch-deep excavation areas are shown shaded in green on Figure C-1.

The Environmental Representative will be present during remediation activities and will be responsible for the following:

- Observe and document field activities, including erosion control measures.
- Monitor remediation activities for compliance with applicable environmental codes and regulations.
- Collect confirmation soil samples from excavated areas.
- Observe backfilling activities.

In addition, if vactor removal of soils from vegetation roots is required, a Certified Arborist will be onsite to observe vactor excavation activities and restoration work in the root zones.

Samples collected during remediation activities will be submitted to Seattle City Light's contracted environmental laboratory. Sampling strategies and locations will be defined in consultation with Seattle City Light. Chemical analyses for soil will include arsenic, lead, and mercury, depending on the remedial area. Samples will be analyzed on a 24-hour turnaround time. Laboratory reports will undergo data validation.

Respectfully,

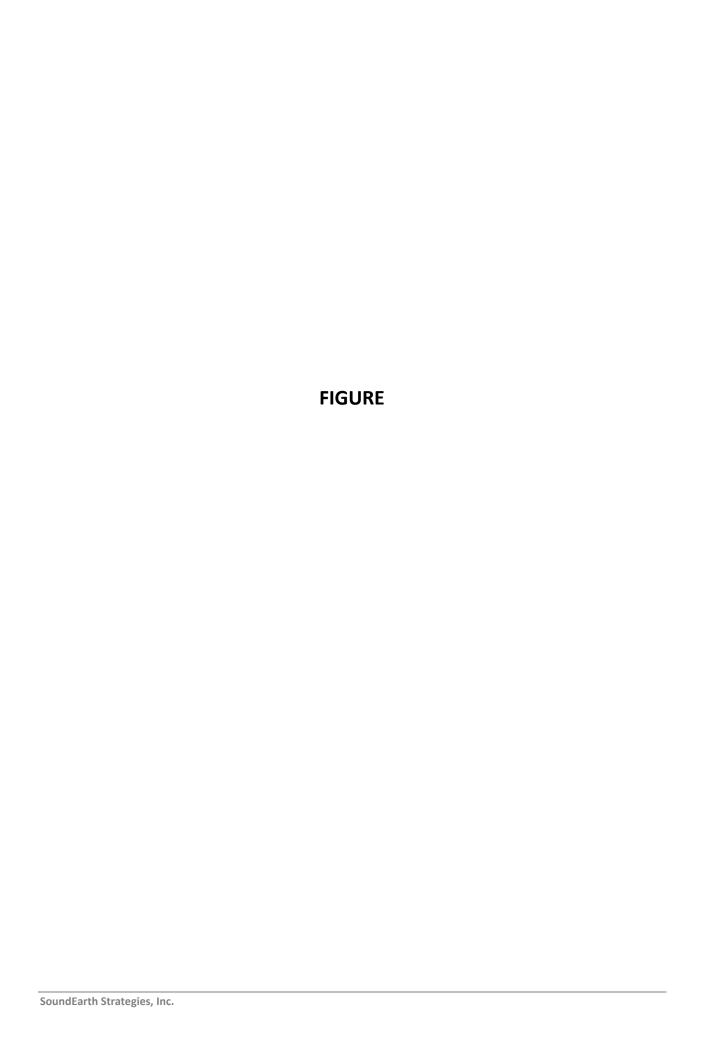
SoundEarth Strategies, Inc.

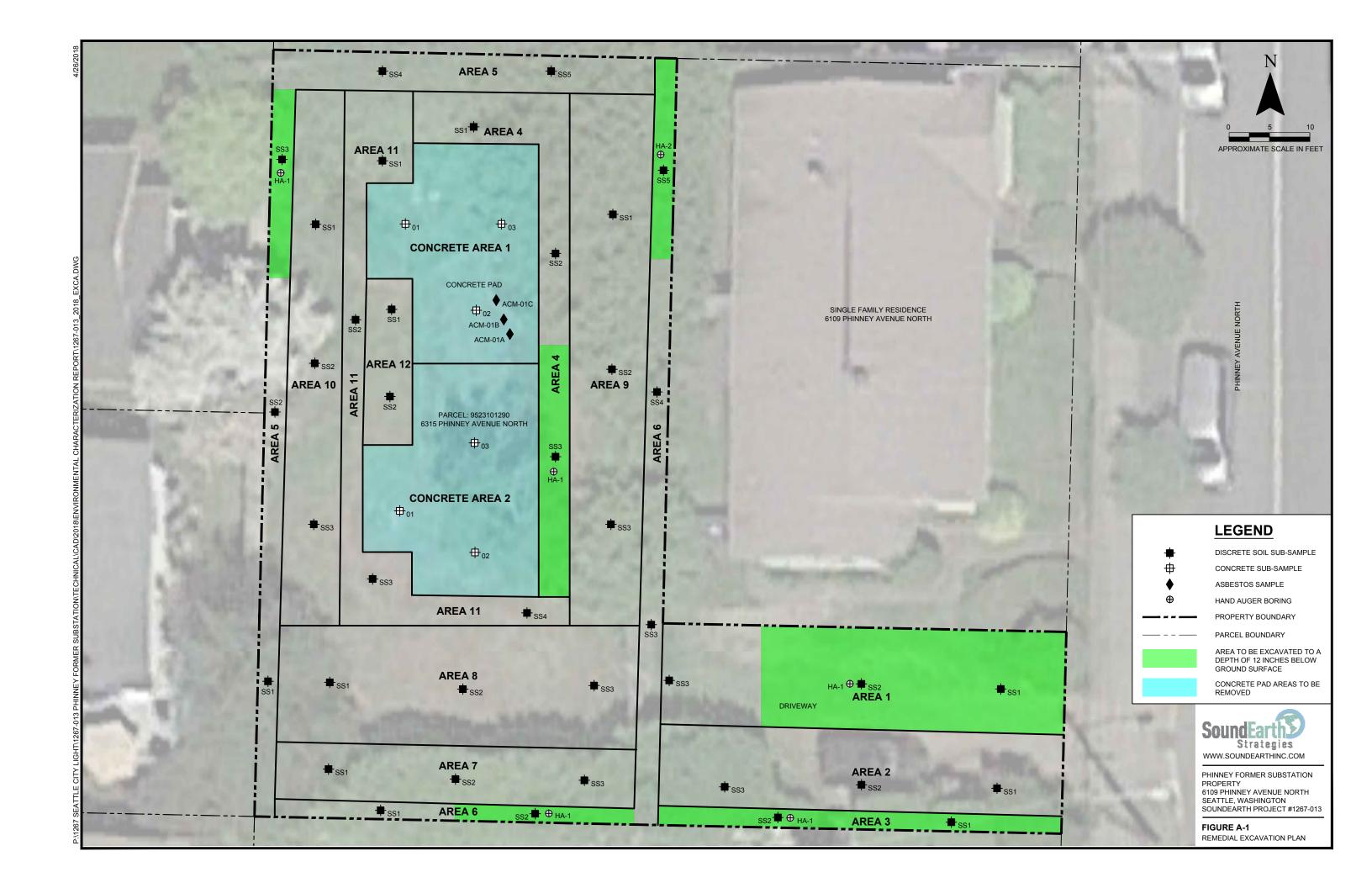
Clare Tochilin, LG

Project Hydrogeologist Senior Scientist

Figure A-1, Remedial Excavation Plan Attachment:

CJT/CER:rt/hsb





## ATTACHMENT B LABORATORY ANALYTICAL REPORTS





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

February 27, 2018

Rob Roberts Sound Earth Strategies 2811 Fairview Avenue East, Suite 2000 Seattle, WA 98102

Re: Analytical Data for Project 1267-013

Laboratory Reference No. 1802-150

Dear Rob:

Enclosed are the analytical results and associated quality control data for samples submitted on February 14, 2018.

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

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

Sincerely,

David Baumeister Project Manager

**Enclosures** 

Project: 1267-013

#### **Case Narrative**

Samples were collected on February 13, 2018 and received by the laboratory on February 14, 2018. 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.

Project: 1267-013

#### **NWTPH-Dx**

Matrix: Soil

Units: mg/Kg (ppm)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	PH-CON2-01,03,02 Comp.					
Laboratory ID:	02-150-01,02,03 Comp.					
Diesel Range Organics	ND	26	NWTPH-Dx	2-15-18	2-16-18	
Lube Oil Range Organics	ND	52	NWTPH-Dx	2-15-18	2-16-18	
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	100	50-150				
Olland ID	DI CON 04 00 00 0 0					
Client ID:	PH-CON1-01,03,02 Comp.					
Laboratory ID:	02-150-04,05,06 Comp.					
Diesel Range Organics	ND	26	NWTPH-Dx	2-15-18	2-16-18	
Lube Oil Range Organics	ND	52	NWTPH-Dx	2-15-18	2-16-18	
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	78	50-150				

Project: 1267-013

#### **NWTPH-Dx QUALITY CONTROL**

Matrix: Soil

Units: mg/Kg (ppm)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0215S2					
Diesel Range Organics	ND	25	NWTPH-Dx	2-15-18	2-16-18	
Lube Oil Range Organics	ND	50	NWTPH-Dx	2-15-18	2-16-18	
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	87	50-150				

					Source	Perce	ent	Recovery		RPD	
Analyte	Res	ult	Spike	Level	Result	Recov	ery	Limits	RPD	Limit	Flags
DUPLICATE											
Laboratory ID:	02-150-01,0	2,03 Comp.									
	ORIG	DUP									
Diesel Range	ND	ND	NA	NA		NA		NA	NA	NA	
Lube Oil Range	ND	ND	NA	NA		NA	ı	NA	NA	NA	
Surrogate:											
o-Terphenyl						100	94	50-150			

Project: 1267-013

#### PCBs EPA 8082A

Matrix: Soil

Units: mg/Kg (ppm)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	PH-CON2-01,03,02 Comp	).				
Laboratory ID:	02-150-01,02,03 Comp					
Aroclor 1016	ND	0.052	EPA 8082A	2-20-18	2-20-18	
Aroclor 1221	ND	0.052	EPA 8082A	2-20-18	2-20-18	
Aroclor 1232	ND	0.052	EPA 8082A	2-20-18	2-20-18	
Aroclor 1242	ND	0.052	EPA 8082A	2-20-18	2-20-18	
Aroclor 1248	ND	0.052	EPA 8082A	2-20-18	2-20-18	
Aroclor 1254	ND	0.052	EPA 8082A	2-20-18	2-20-18	
Aroclor 1260	ND	0.052	EPA 8082A	2-20-18	2-20-18	
Surrogate:	Percent Recovery	Control Limits				
DCB	86	40-134				
Client ID:	PH-CON1-01,03,02 Comp	).				
Laboratory ID:	02-150-04,05,06 Comp					
Aroclor 1016	ND	0.052	EPA 8082A	2-20-18	2-20-18	
Aroclor 1221	ND	0.052	EPA 8082A	2-20-18	2-20-18	
Aroclor 1232	ND	0.052	EPA 8082A	2-20-18	2-20-18	
Aroclor 1242	ND	0.052	EPA 8082A	2-20-18	2-20-18	
Aroclor 1248	ND	0.052	EPA 8082A	2-20-18	2-20-18	
Aroclor 1254	ND	0.052	EPA 8082A	2-20-18	2-20-18	
Aroclor 1260	ND	0.052	EPA 8082A	2-20-18	2-20-18	
Surrogate:	Percent Recovery	Control Limits			_	
DCB	89	40-134				

DCB 89 40-134



Project: 1267-013

#### PCBs EPA 8082A QUALITY CONTROL

Matrix: Soil

Units: mg/Kg (ppm)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0220S2					
Aroclor 1016	ND	0.050	EPA 8082A	2-20-18	2-20-18	
Aroclor 1221	ND	0.050	EPA 8082A	2-20-18	2-20-18	
Aroclor 1232	ND	0.050	EPA 8082A	2-20-18	2-20-18	
Aroclor 1242	ND	0.050	EPA 8082A	2-20-18	2-20-18	
Aroclor 1248	ND	0.050	EPA 8082A	2-20-18	2-20-18	
Aroclor 1254	ND	0.050	EPA 8082A	2-20-18	2-20-18	
Aroclor 1260	ND	0.050	EPA 8082A	2-20-18	2-20-18	
_						

Surrogate: Percent Recovery Control Limits DCB 90 40-134

Analyte	Re	sult	Spike	Level	Source Result		rcent covery	Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS											
Laboratory ID:	SB02	220S2									
	SB	SBD	SB	SBD		SB	SBD				
Aroclor 1260	0.456	0.463	0.500	0.500	N/A	91	93	56-130	2	15	
Surrogate:											
DCB						86	91	40-134			

Project: 1267-013

#### TOTAL METALS EPA 6010D/7471B

Matrix: Soil

Units: mg/kg (ppm)

				Date	Date	
Analyte	Result	PQL	EPA Method	Prepared	Analyzed	Flags
Lab ID: Client ID:	02-150-01,02,03 Comp. PH-CON2-01,03,02 Comp.					
Arsenic	26	10	6010D	2-23-18	2-26-18	
Barium	87	5.2	6010D	2-23-18	2-26-18	
Cadmium	ND	0.52	6010D	2-23-18	2-26-18	
Chromium	20	0.52	6010D	2-23-18	2-26-18	
Lead	5.9	5.2	6010D	2-23-18	2-26-18	
Mercury	ND	0.26	7471B	2-21-18	2-21-18	
Selenium	ND	10	6010D	2-23-18	2-26-18	
Silver	ND	1.0	6010D	2-23-18	2-26-18	

Lab ID: Client ID:	02-150-04,05,06 Comp. PH-CON1-01,03,02 Comp.					
Arsenic	23	10	6010D	2-23-18	2-26-18	
Barium	83	2.6	6010D	2-23-18	2-26-18	
Cadmium	ND	0.52	6010D	2-23-18	2-26-18	
Chromium	19	0.52	6010D	2-23-18	2-26-18	
Lead	ND	5.2	6010D	2-23-18	2-26-18	
Mercury	ND	0.26	7471B	2-21-18	2-21-18	
Selenium	ND	10	6010D	2-23-18	2-26-18	
Silver	ND	1.0	6010D	2-23-18	2-26-18	

Project: 1267-013

## TOTAL METALS EPA 6010D/7471B METHOD BLANK QUALITY CONTROL

Date Extracted: 2-21&23-18

Date Analyzed: 2-21&26-18

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: MB0223SH1&MB0221S2

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

Project: 1267-013

## TOTAL METALS EPA 6010D/7471B DUPLICATE QUALITY CONTROL

Date Extracted: 2-21&23-18
Date Analyzed: 2-21&26-18

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: 02-150-01,02,03 Comp.

Analyte	Sample Result	Duplicate Result	RPD	PQL	Flags
Arsenic	24.6	26.8	9	10	
Barium	84.1	88.7	5	5	
Cadmium	ND	ND	NA	0.50	
Chromium	19.3	20.5	6	0.50	
Lead	5.65	5.00	12	5.0	
Mercury	ND	ND	NA	0.25	
Selenium	ND	ND	NA	10	
Silver	ND	ND	NA	1.0	

Project: 1267-013

# TOTAL METALS EPA 6010D/7471B MS/MSD QUALITY CONTROL

Date Extracted: 2-21&23-18
Date Analyzed: 2-21&26-18

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: 02-150-01,02,03 Comp.

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Arsenic	100	119	94	122	98	3	
Barium	100	174	90	179	95	3	
Cadmium	50.0	44.9	90	46.4	93	3	
Chromium	100	101	82	104	85	2	
Lead	250	214	83	222	87	4	
Mercury	0.500	0.514	103	0.509	102	1	
Selenium	100	99.1	99	101	101	2	
Silver	25.0	20.1	80	20.9	83	4	

Date of Report: February 27, 2018 Samples Submitted: February 14, 2018 Laboratory Reference: 1802-150 Project: 1267-013

### % MOISTURE

Date Analyzed: 2-15-18

Client ID	Lab ID	% Moisture
PH-CON2-01,03,02 Comp.	02-150-01,02,03 Comp.	4
PH-CON1-01,03,02 Comp.	02-150-04,05,06 Comp.	4



#### **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.

7 -

ND - Not Detected at PQL

PQL - Practical Quantitation Limit

RPD - Relative Percent Difference



MA	OnSite	
	<b>Environmental Inc.</b>	r-

# **Chain of Custody**

	1	1
Page	of	

	Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052		furnaround Re (in working d			L	abo	orat	ory	Nur	nbe	er:	0	2 -	- 1	5	0									
Project SCI Project 20	Phone: (425) 883-3881 · www.onsite-env.com  any:  And Earth Strategies  t Number:  07-013  t Name:  Phinney Substation  t Manager:  L Loberts  ed by:  2h Wetter   Kevin Bartelt  Sample Identification	2	Days andard (7 Days PH analysis 5 D  (other)	1 Day 3 Days ays)	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx ( Acid / SG Clean-up)	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A				% Moisture
1	PH-(0N2-01	2/13/1		5011	1										A											1/
2	PH-CON 2 -03		1042		1				X						X				\X							X
3	PH - (0N) - 12		1110												4				0							
4	PH-CON 1-01		1133						N						N				0							1/
4	PH-CON1-03		1158						X						X				X							IV.
6	PH-(0N1-02	1	1210	1	1				X						U				(							$\backslash \backslash$
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Relin	quished						1	- 1	U	-0																
Rece	rived												Data	a Pad	ckage	: St	anda	rd 🗆	Le	vel III		Leve	el IV [	1		
Revie	ewed/Date		Reviewed/D	ate									Chro	omat	ogran	ns wi	th fin	al rep	ort [	Ele	ectron	ic Dat	a Deliv	erables	s (EDD	s) 🗌

### Sample/Cooler Receipt and Acceptance Checklist

Client Project Name/Number: 1267-013		Initiated by:									
OnSite Project Number: 02-150	Date Initiated: 2/14/18										
1.0 Cooler Verification											
1.1 Were there custody seals on the outside of the cooler?	Yes	No	(N/A)	1 2 3 4							
1.2 Were the custody seals intact?	Yes	No	N/A	1 2 3 4							
1.3 Were the custody seals signed and dated by last custodian?	Yes	No	N/A	1 2 3 4							
1.4 Were the samples delivered on ice or blue ice?	Yes	No		1 2 3 4							
1.5 Were samples received between 0-6 degrees Celsius?	Yes	No	Temperature:	3							
1.6 Have shipping bills (if any) been attached to the back of this form?	Yes	WA									
1.7 How were the samples delivered?	Client	Courie	UPS/FedEx	OSE Pickup	Other						
2.0 Chain of Custody Verification											
2.1 Was a Chain of Custody submitted with the samples?	Yes	No		1 2 3 4							
2.2 Was the COC legible and written in permanent ink?	Yes	No		1 2 3 4							
2.3 Have samples been relinquished and accepted by each custodian?	Yes	No		1 2 3 4							
2.4 Did the sample labels (ID, date, time, preservative) agree with COC?	ves	No		1 2 3 4							
2.5 Were all of the samples listed on the COC submitted?	Ves	No		1 2 3 4							
2.6 Were any of the samples submitted omitted from the COC?	(Yes)	65		1 2 3 4							
3.0 Sample Verification											
3.1 Were any sample containers broken or compromised?	Yes	(No)		1 2 3 4							
3.2 Were any sample labels missing or illegible?	Yes	No		1 2 3 4							
3.3 Have the correct containers been used for each analysis requested?	Ves	No		1 2 3 4							
3.4 Have the samples been correctly preserved?	Yes	No	(N/A)	1 2 3 4							
3.5 Are volatiles samples free from headspace and bubbles greater than 6mm?	Yes	No	WA	1 2 3 4							
3.6 Is there sufficient sample submitted to perform requested analyses?	Yes	No		1 2 3 4							
3.7 Have any holding times already expired or will expire in 24 hours?	Yes	No	4	1 2 3 4							
3.8 Was method 5035A used?	Yes	No	N/A	1 2 3 4							
3.9 If 5035A was used, which sampling option was used (#1, 2, or 3).	#		(N/A)	1 2 3 4							

Exphra jas submitted

1 - Discuss issue in Case Narrative

<sup>3 -</sup> Client contacted to discuss problem

<sup>2 -</sup> Process Sample As-is

<sup>4 -</sup> Sample cannot be analyzed or client does not wish to proceed





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

March 5, 2018

Rob Roberts Sound Earth Strategies 2811 Fairview Avenue East, Suite 2000 Seattle, WA 98102

Re: Analytical Data for Project 1267-013

Laboratory Reference No. 1802-151

Dear Rob:

Enclosed are the analytical results and associated quality control data for samples submitted on February 14, 2018.

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

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

Sincerely,

David Baumeister Project Manager

**Enclosures** 



Date of Report: March 5, 2018

Samples Submitted: February 14, 2018 Laboratory Reference: 1802-151

Project: 1267-013

#### **Case Narrative**

Samples were collected on February 13, 2018 and received by the laboratory on February 14, 2018. They were maintained at the laboratory at a temperature of 2°C to 6°C.

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

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

#### Total Metals EPA 6010D/7471B Analysis

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

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

Project: 1267-013

#### **NWTPH-Dx**

Matrix: Soil

0 0 11 7				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	PH-6-SS2,SS1 Comp.					
Laboratory ID:	02-151-01,02 Comp.					
Diesel Range Organics	110	30	NWTPH-Dx	2-15-18	2-16-18	
Lube Oil Range Organics	590	61	NWTPH-Dx	2-15-18	2-16-18	
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	111	50-150				
Client ID:	PH-7-SS3,SS2,SS1 Comp.					
Laboratory ID:	02-151-03,04,05 Comp.					
Diesel Range Organics	51	29	NWTPH-Dx	2-15-18	2-16-18	
Lube Oil Range Organics	140	58	NWTPH-Dx	2-15-18	2-16-18	N1
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	105	50-150				
· ·						
Client ID:	PH-8-SS1,SS2,SS3 Comp.					
Laboratory ID:	02-151-06,07,08 Comp.		NIM/TOLL D	0.45.40	0.40.40	
Diesel Range Organics	66 140	28 56	NWTPH-Dx	2-15-18	2-16-18	NIA
Lube Oil Range Organics Surrogate:	Percent Recovery	Control Limits	NWTPH-Dx	2-15-18	2-16-18	N1
o-Terphenyl	92	50-150				
0-Telphenyl	32	30-130				
Client ID:	PH-6-SS3,SS4,SS5 Comp.					
Laboratory ID:	02-151-09,10,11 Comp.					
Diesel Range Organics	87	32	NWTPH-Dx	2-15-18	2-16-18	
Lube Oil Range Organics	370	63	NWTPH-Dx	2-15-18	2-16-18	N1
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	94	50-150				
Client ID:	PH-9-SS1,SS2,SS3 Comp.					
Laboratory ID:	02-151-12,13,14 Comp.					
Diesel Range Organics	66	31	NWTPH-Dx	2-15-18	2-16-18	
Lube Oil Range Organics	250	61	NWTPH-Dx	2-15-18	2-16-18	N1
Surrogate:	Percent Recovery	Control Limits	TTTT DX	2 10 10	2 10 10	
o-Terphenyl	98	50-150				
- r - 7		· <del></del>				
Client ID:	PH-1-SS1,SS2,SS3 Comp.					
Laboratory ID:	02-151-15,16,17 Comp.					
Diesel Range Organics	ND	41 59	NWTPH-Dx	2-15-18	2-20-18	U1
Lube Oil	e Oil <b>570</b>		NWTPH-Dx	2-15-18	2-20-18	
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	92	50-150				

Project: 1267-013

#### **NWTPH-Dx**

Matrix: Soil

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	PH-2-SS1,SS2,SS3 Comp.	•		•	•	
Laboratory ID:	02-151-18,19,20 Comp.					
Diesel Range Organics	ND	29	NWTPH-Dx	2-15-18	2-16-18	
Lube Oil	210	57	NWTPH-Dx	2-15-18	2-16-18	
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	102	50-150				
Client ID:	PH-3-SS1,SS2 Comp.					
Laboratory ID:	02-151-21,22 Comp.					
Diesel Range Organics	95	34	NWTPH-Dx	2-15-18	2-20-18	N
Lube Oil Range Organics	690	69	NWTPH-Dx	2-15-18	2-20-18	
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	104	50-150				
Client ID: Ph	I-5-SS1,SS2,SS3,SS4,SS5 Com	n				
Laboratory ID:	02-151-23,24,25,26,27 Comp.	φ.				
Diesel Range Organics	99	30	NWTPH-Dx	2-15-18	2-21-18	
Lube Oil Range Organics	290	60	NWTPH-Dx	2-15-18	2-21-18	N1
Surrogate:	Percent Recovery	Control Limits	NWIII DX	2 10 10	22110	.,,,
o-Terphenyl	94	50-150				
Client ID:	PH-12-SS1,SS2 Comp.					
Laboratory ID:	02-151-28,29 Comp.					
Diesel Range Organics	49	28	NWTPH-Dx	2-15-18	2-16-18	
Lube Oil Range Organics	72	56	NWTPH-Dx	2-15-18	2-16-18	N1
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	97	50-150				
Client ID:	PH-11-SS1,SS2,SS3,SS4 Comp.					
Laboratory ID:	02-151-30,31,32,33 Comp.					
Diesel Range Organics	140	29	NWTPH-Dx	2-15-18	2-16-18	
Lube Oil Range Organics	270	59	NWTPH-Dx	2-15-18	2-16-18	N1
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	111	50-150				
Client ID:	PH-10-SS1,SS2,SS3 Comp.					
Laboratory ID:	02-151-34,35,36 Comp.					
Diesel Range Organics	160	29	NWTPH-Dx	2-15-18	2-20-18	
Lube Oil Range Organics	420	29 57	NWTPH-Dx	2-15-16 2-15-18	2-20-16 2-20-18	N1
Surrogate:	Percent Recovery	Control Limits	INVVII-II-DX	2-13-10	Z-ZU-10	INI
o-Terphenyl	119	50-150				
о-тырнынуі	119	JU-130				

Date of Report: March 5, 2018

Samples Submitted: February 14, 2018 Laboratory Reference: 1802-151

Project: 1267-013

#### **NWTPH-Dx**

Matrix: Soil

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	PH-4-SS1,SS2,SS3 Comp.					
Laboratory ID:	02-151-37,38,39 Comp.					
Diesel Range Organics	130	30	NWTPH-Dx	2-15-18	2-20-18	
Lube Oil Range Organics	370	60	NWTPH-Dx	2-15-18	2-20-18	N1
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	116	50-150				

Date of Report: March 5, 2018 Samples Submitted: February 14, 2018

Laboratory Reference: 1802-151

Project: 1267-013

#### NWTPH-Dx QUALITY CONTROL

Matrix: Soil

Units: mg/Kg (ppm)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0215S2					
Diesel Range Organics	ND	25	NWTPH-Dx	2-15-18	2-16-18	
Lube Oil Range Organics	ND	50	NWTPH-Dx	2-15-18	2-16-18	
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	87	50-150				

Analyte	Res	sult	Spike	Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE										
Laboratory ID:	02-150-01,0	02,03 Comp.								
	ORIG	DUP								
Diesel Range	ND	ND	NA	NA		NA	NA	NA	NA	
Lube Oil Range	ND	ND	NA	NA		NA	NA	NA	NA	
Surrogate:										
o-Terphenyl						100 94	50-150			
Laboratory ID:	02-151-01	,02 Comp.								
•	ORIG	DUP								
Diesel Range Organics	92.9	84.6	NA	NA		NA	NA	9	NA	
Lube Oil Range Organics	<b>486</b>	475	NA	NA		NA	NA	2	NA	
Surrogate:						111 117	50-150			

o-Terphenyl 111 117 50-150

Project: 1267-013

#### PCBs EPA 8082A

Matrix: Soil

Units: mg/Kg (ppm)

oring. Hig/rtg (pp				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	PH-6-SS2,SS1 Comp.					
Laboratory ID:	02-151-01,02 Comp.					
Aroclor 1016	ND	0.061	EPA 8082A	2-20-18	2-20-18	
Aroclor 1221	ND	0.061	EPA 8082A	2-20-18	2-20-18	
Aroclor 1232	ND	0.061	EPA 8082A	2-20-18	2-20-18	
Aroclor 1242	ND	0.061	EPA 8082A	2-20-18	2-20-18	
Aroclor 1248	ND	0.061	EPA 8082A	2-20-18	2-20-18	
Aroclor 1254	ND	0.061	EPA 8082A	2-20-18	2-20-18	
Aroclor 1260	ND	0.061	EPA 8082A	2-20-18	2-20-18	
Surrogate:	Percent Recovery	Control Limits				
DCB	65	40-134				
Client ID:	PH-7-SS3,SS2,SS1 Comp	).				
Laboratory ID:	02-151-03,04,05 Comp					
Aroclor 1016	ND	0.058	EPA 8082A	2-20-18	2-20-18	
Aroclor 1221	ND	0.058	EPA 8082A	2-20-18	2-20-18	
Aroclor 1232	ND	0.058	EPA 8082A	2-20-18	2-20-18	
Aroclor 1242	ND	0.058	EPA 8082A	2-20-18	2-20-18	
Aroclor 1248	ND	0.058	EPA 8082A	2-20-18	2-20-18	
Aroclor 1254	ND	0.058	EPA 8082A	2-20-18	2-20-18	
Aroclor 1260	ND	0.058	EPA 8082A	2-20-18	2-20-18	
Surrogate:	Percent Recovery	Control Limits				
DCB	71	40-134				
Client ID:	PH-8-SS1,SS2,SS3 Comp	<b>)</b> .				
Laboratory ID:	02-151-06,07,08 Comp					
Aroclor 1016	ND	0.056	EPA 8082A	2-20-18	2-20-18	
Aroclor 1221	ND	0.056	EPA 8082A	2-20-18	2-20-18	
Aroclor 1232	ND	0.056	EPA 8082A	2-20-18	2-20-18	
Aroclor 1242	ND	0.056	EPA 8082A	2-20-18	2-20-18	
Aroclor 1248	ND	0.056	EPA 8082A	2-20-18	2-20-18	
Aroclor 1254	ND	0.056	EPA 8082A	2-20-18	2-20-18	
Aroclor 1260	ND	0.056	EPA 8082A	2-20-18	2-20-18	
Surrogate:	Percent Recovery	Control Limits				
DCB	74	40-134				

Project: 1267-013

#### PCBs EPA 8082A

Matrix: Soil

ing/rtg (ppin)				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	PH-6-SS3,SS4,SS5 Comp.					
Laboratory ID:	02-151-09,10,11 Comp.					
Aroclor 1016	ND	0.063	EPA 8082A	2-20-18	2-20-18	
Aroclor 1221	ND	0.063	EPA 8082A	2-20-18	2-20-18	
Aroclor 1232	ND	0.063	EPA 8082A	2-20-18	2-20-18	
Aroclor 1242	ND	0.063	EPA 8082A	2-20-18	2-20-18	
Aroclor 1248	ND	0.063	EPA 8082A	2-20-18	2-20-18	
Aroclor 1254	ND	0.063	EPA 8082A	2-20-18	2-20-18	
Aroclor 1260	ND	0.063	EPA 8082A	2-20-18	2-20-18	
Surrogate:	Percent Recovery	Control Limits				
DCB	78	40-134				
Client ID:	PH-9-SS1,SS2,SS3 Comp.	ı				
Laboratory ID:	02-151-12,13,14 Comp.					
Aroclor 1016	ND	0.061	EPA 8082A	2-20-18	2-20-18	
Aroclor 1221	ND	0.061	EPA 8082A	2-20-18	2-20-18	
Aroclor 1232	ND	0.061	EPA 8082A	2-20-18	2-20-18	
Aroclor 1242	ND	0.061	EPA 8082A	2-20-18	2-20-18	
Aroclor 1248	ND	0.061	EPA 8082A	2-20-18	2-20-18	
Aroclor 1254	ND	0.061	EPA 8082A	2-20-18	2-20-18	
Aroclor 1260	ND	0.061	EPA 8082A	2-20-18	2-20-18	
Surrogate:	Percent Recovery	Control Limits				
DCB	69	40-134				
Client ID:	PH-1-SS1,SS2,SS3 Comp.					
Laboratory ID:	02-151-15,16,17 Comp.					
Aroclor 1016	ND	0.059	EPA 8082A	2-20-18	2-20-18	
Aroclor 1221	ND	0.059	EPA 8082A	2-20-18	2-20-18	
Aroclor 1232	ND	0.059	EPA 8082A	2-20-18	2-20-18	
Aroclor 1242	ND	0.059	EPA 8082A	2-20-18	2-20-18	
Aroclor 1248	ND	0.059	EPA 8082A	2-20-18	2-20-18	
Aroclor 1254	ND	0.059	EPA 8082A	2-20-18	2-20-18	
Aroclor 1260	ND	0.059	EPA 8082A	2-20-18	2-20-18	
Surrogate:	Percent Recovery	Control Limits				
DCB	82	40-134				

Project: 1267-013

### PCBs EPA 8082A

Matrix: Soil

Onito. Highty (ppin)				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	PH-2-SS1,SS2,SS3 Comp.					
Laboratory ID:	02-151-18,19,20 Comp.					
Aroclor 1016	ND	0.057	EPA 8082A	2-20-18	2-20-18	
Aroclor 1221	ND	0.057	EPA 8082A	2-20-18	2-20-18	
Aroclor 1232	ND	0.057	EPA 8082A	2-20-18	2-20-18	
Aroclor 1242	ND	0.057	EPA 8082A	2-20-18	2-20-18	
Aroclor 1248	ND	0.057	EPA 8082A	2-20-18	2-20-18	
Aroclor 1254	ND	0.057	EPA 8082A	2-20-18	2-20-18	
Aroclor 1260	ND	0.057	EPA 8082A	2-20-18	2-20-18	
Surrogate:	Percent Recovery	Control Limits				
DCB	88	40-134				
Client ID:	PH-3-SS1,SS2 Comp.					
Laboratory ID:	02-151-21,22 Comp.					
Aroclor 1016	ND	0.069	EPA 8082A	2-20-18	2-20-18	
Aroclor 1221	ND	0.069	EPA 8082A	2-20-18	2-20-18	
Aroclor 1232	ND	0.069	EPA 8082A	2-20-18	2-20-18	
Aroclor 1242	ND	0.069	EPA 8082A	2-20-18	2-20-18	
Aroclor 1248	ND	0.069	EPA 8082A	2-20-18	2-20-18	
Aroclor 1254	ND	0.069	EPA 8082A	2-20-18	2-20-18	
Aroclor 1260	ND	0.069	EPA 8082A	2-20-18	2-20-18	
Surrogate:	Percent Recovery	Control Limits				
DCB	73	40-134				
Client ID:	PH-5-SS1,SS2,SS3,SS4,SS5 Con	np.				
Laboratory ID:	02-151-23,24,25,26,27 Comp	-				
Aroclor 1016	ND	0.060	EPA 8082A	2-20-18	2-20-18	
Aroclor 1221	ND	0.060	EPA 8082A	2-20-18	2-20-18	
Aroclor 1232	ND	0.060	EPA 8082A	2-20-18	2-20-18	
Aroclor 1242	ND	0.060	EPA 8082A	2-20-18	2-20-18	
Aroclor 1248	ND	0.060	EPA 8082A	2-20-18	2-20-18	
Aroclor 1254	ND	0.060	EPA 8082A	2-20-18	2-20-18	
Aroclor 1260	ND	0.060	EPA 8082A	2-20-18	2-20-18	
Surrogate:	Percent Recovery	Control Limits				
DCB	76	40-134				

Project: 1267-013

### PCBs EPA 8082A

Matrix: Soil

5 5 (11	,			Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	PH-12-SS1,SS2 Comp.					
Laboratory ID:	02-151-28,29 Comp.					
Aroclor 1016	ND	0.056	EPA 8082A	2-20-18	2-20-18	
Aroclor 1221	ND	0.056	EPA 8082A	2-20-18	2-20-18	
Aroclor 1232	ND	0.056	EPA 8082A	2-20-18	2-20-18	
Aroclor 1242	ND	0.056	EPA 8082A	2-20-18	2-20-18	
Aroclor 1248	ND	0.056	EPA 8082A	2-20-18	2-20-18	
Aroclor 1254	ND	0.056	EPA 8082A	2-20-18	2-20-18	
Aroclor 1260	ND	0.056	EPA 8082A	2-20-18	2-20-18	
Surrogate:	Percent Recovery	Control Limits				
DCB	84	40-134				
Client ID:	PH-11-SS1,SS2,SS3,SS4 Com	p.				
Laboratory ID:	02-151-30,31,32,33 Comp.					
Aroclor 1016	ND	0.059	EPA 8082A	2-20-18	2-20-18	
Aroclor 1221	ND	0.059	EPA 8082A	2-20-18	2-20-18	
Aroclor 1232	ND	0.059	EPA 8082A	2-20-18	2-20-18	
Aroclor 1242	ND	0.059	EPA 8082A	2-20-18	2-20-18	
Aroclor 1248	ND	0.059	EPA 8082A	2-20-18	2-20-18	
Aroclor 1254	ND	0.059	EPA 8082A	2-20-18	2-20-18	
Aroclor 1260	ND	0.059	EPA 8082A	2-20-18	2-20-18	
Surrogate:	Percent Recovery	Control Limits				
DCB	70	40-134				
Client ID:	PH-10-SS1,SS2,SS3 Comp.					
Laboratory ID:	02-151-34,35,36 Comp.					
Aroclor 1016	ND	0.057	EPA 8082A	2-20-18	2-20-18	
Aroclor 1221	ND	0.057	EPA 8082A	2-20-18	2-20-18	
Aroclor 1232	ND	0.057	EPA 8082A	2-20-18	2-20-18	
Aroclor 1242	ND	0.057	EPA 8082A	2-20-18	2-20-18	
Aroclor 1248	ND	0.057	EPA 8082A	2-20-18	2-20-18	
Aroclor 1254	ND	0.057	EPA 8082A	2-20-18	2-20-18	
Aroclor 1260	ND	0.057	EPA 8082A	2-20-18	2-20-18	
Surrogate:	Percent Recovery	Control Limits				
DCB	82	40-134				

Date of Report: March 5, 2018

Samples Submitted: February 14, 2018 Laboratory Reference: 1802-151

Project: 1267-013

#### PCBs EPA 8082A

Matrix: Soil

Units: mg/Kg (ppm)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	PH-4-SS1,SS2,SS3 Comp.					
Laboratory ID:	02-151-37,38,39 Comp.					
Aroclor 1016	ND	0.060	EPA 8082A	2-20-18	2-20-18	
Aroclor 1221	ND	0.060	EPA 8082A	2-20-18	2-20-18	
Aroclor 1232	ND	0.060	EPA 8082A	2-20-18	2-20-18	
Aroclor 1242	ND	0.060	EPA 8082A	2-20-18	2-20-18	
Aroclor 1248	ND	0.060	EPA 8082A	2-20-18	2-20-18	
Aroclor 1254	ND	0.060	EPA 8082A	2-20-18	2-20-18	
Aroclor 1260	ND	0.060	EPA 8082A	2-20-18	2-20-18	
Curromotor	Doroont Doogyory	Control Limita				

Surrogate: Percent Recovery Control Limits DCB 82 40-134

Project: 1267-013

#### PCBs EPA 8082A QUALITY CONTROL

Matrix: Soil

Units: mg/Kg (ppm)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0220S2					
Aroclor 1016	ND	0.050	EPA 8082A	2-20-18	2-20-18	
Aroclor 1221	ND	0.050	EPA 8082A	2-20-18	2-20-18	
Aroclor 1232	ND	0.050	EPA 8082A	2-20-18	2-20-18	
Aroclor 1242	ND	0.050	EPA 8082A	2-20-18	2-20-18	
Aroclor 1248	ND	0.050	EPA 8082A	2-20-18	2-20-18	
Aroclor 1254	ND	0.050	EPA 8082A	2-20-18	2-20-18	
Aroclor 1260	ND	0.050	EPA 8082A	2-20-18	2-20-18	
•			•	•	•	•

Surrogate: Percent Recovery Control Limits
DCB 90 40-134

Analyte	Re	sult	Spike	Level	Source Result	_	rcent covery	Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS											
Laboratory ID:	SB02	220S2									
	SB	SBD	SB	SBD		SB	SBD				
Aroclor 1260	0.456	0.463	0.500	0.500	N/A	91	93	56-130	2	15	
Surrogate:											
DCB						86	91	40-134			

Project: 1267-013

## ORGANOCHLORINE PESTICIDES EPA 8081B

Matrix: Soil

Units: ug/Kg (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	PH-6-SS2,SS1 Comp.	. ~=				<u>g</u> o
Laboratory ID:	02-151-01,02 Comp.					
alpha-BHC	ND	6.1	EPA 8081B	2-20-18	2-20-18	
gamma-BHC	ND	6.1	EPA 8081B	2-20-18	2-20-18	
eta-BHC	ND	6.1	EPA 8081B	2-20-18	2-20-18	
lelta-BHC	ND	6.1	EPA 8081B	2-20-18	2-20-18	
Heptachlor	ND	6.1	EPA 8081B	2-20-18	2-20-18	
Aldrin	ND	6.1	EPA 8081B	2-20-18	2-20-18	
leptachlor Epoxide	ND	6.1	EPA 8081B	2-20-18	2-20-18	
jamma-Chlordane	ND	12	EPA 8081B	2-20-18	2-20-18	
alpha-Chlordane	ND	12	EPA 8081B	2-20-18	2-20-18	
I,4'-DDE	41	12	EPA 8081B	2-20-18	2-20-18	
Endosulfan I	ND	6.1	EPA 8081B	2-20-18	2-20-18	
Dieldrin	ND	12	EPA 8081B	2-20-18	2-20-18	
Endrin	ND	12	EPA 8081B	2-20-18	2-20-18	
,4'-DDD	12	12	EPA 8081B	2-20-18	2-20-18	
Endosulfan II	ND	12	EPA 8081B	2-20-18	2-20-18	
I,4'-DDT	270	12	EPA 8081B	2-20-18	2-20-18	
Endrin Aldehyde	ND	12	EPA 8081B	2-20-18	2-20-18	
/lethoxychlor	ND	12	EPA 8081B	2-20-18	2-20-18	
Endosulfan Sulfate	ND	12	EPA 8081B	2-20-18	2-20-18	
Endrin Ketone	ND	12	EPA 8081B	2-20-18	2-20-18	
Toxaphene	ND	61	EPA 8081B	2-20-18	2-20-18	
Surrogate:	Percent Recovery	Control Limits				
TCMY	18	<i>1</i> 1 <sub>-</sub> 106				

Project: 1267-013

## ORGANOCHLORINE PESTICIDES EPA 8081B

Matrix: Soil

Units: ug/Kg (ppb)

agrity (pps)				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	PH-7-SS3,SS2,SS1 Comp.					
Laboratory ID:	02-151-03,04,05 Comp.					
alpha-BHC	ND	5.8	EPA 8081B	2-20-18	2-20-18	
gamma-BHC	ND	5.8	EPA 8081B	2-20-18	2-20-18	
beta-BHC	ND	5.8	EPA 8081B	2-20-18	2-20-18	
delta-BHC	ND	5.8	EPA 8081B	2-20-18	2-20-18	
Heptachlor	ND	5.8	EPA 8081B	2-20-18	2-20-18	
Aldrin	ND	5.8	EPA 8081B	2-20-18	2-20-18	
Heptachlor Epoxide	ND	5.8	EPA 8081B	2-20-18	2-20-18	
gamma-Chlordane	ND	12	EPA 8081B	2-20-18	2-20-18	
alpha-Chlordane	ND	12	EPA 8081B	2-20-18	2-20-18	
4,4'-DDE	ND	12	EPA 8081B	2-20-18	2-20-18	
Endosulfan I	ND	5.8	EPA 8081B	2-20-18	2-20-18	
Dieldrin	ND	12	EPA 8081B	2-20-18	2-20-18	
Endrin	ND	12	EPA 8081B	2-20-18	2-20-18	
4,4'-DDD	ND	12	EPA 8081B	2-20-18	2-20-18	
Endosulfan II	ND	12	EPA 8081B	2-20-18	2-20-18	
4,4'-DDT	57	12	EPA 8081B	2-20-18	2-20-18	
Endrin Aldehyde	ND	12	EPA 8081B	2-20-18	2-20-18	
Methoxychlor	ND	12	EPA 8081B	2-20-18	2-20-18	
Endosulfan Sulfate	ND	12	EPA 8081B	2-20-18	2-20-18	
Endrin Ketone	ND	12	EPA 8081B	2-20-18	2-20-18	
Toxaphene	ND	58	EPA 8081B	2-20-18	2-20-18	
Surrogate:	Percent Recovery	Control Limits				

 Surrogate:
 Percent Recovery
 Control Lim

 TCMX
 56
 41-106

 DCB
 58
 40-123

Project: 1267-013

#### **ORGANOCHLORINE PESTICIDES EPA 8081B**

Matrix: Soil

Units: ug/Kg (ppb)

				Date	Date	
nalyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	PH-8-SS1,SS2,SS3 Comp.					
aboratory ID:	02-151-06,07,08 Comp.					
lpha-BHC	ND	5.6	EPA 8081B	2-20-18	2-20-18	
amma-BHC	ND	5.6	EPA 8081B	2-20-18	2-20-18	
eta-BHC	ND	5.6	EPA 8081B	2-20-18	2-20-18	
elta-BHC	ND	5.6	EPA 8081B	2-20-18	2-20-18	
leptachlor	ND	5.6	EPA 8081B	2-20-18	2-20-18	
ldrin	ND	5.6	EPA 8081B	2-20-18	2-20-18	
leptachlor Epoxide	ND	5.6	EPA 8081B	2-20-18	2-20-18	
amma-Chlordane	ND	11	EPA 8081B	2-20-18	2-20-18	
lpha-Chlordane	ND	11	EPA 8081B	2-20-18	2-20-18	
,4'-DDE	ND	11	EPA 8081B	2-20-18	2-20-18	
ndosulfan I	ND	5.6	EPA 8081B	2-20-18	2-20-18	
Dieldrin	ND	11	EPA 8081B	2-20-18	2-20-18	
ndrin	ND	11	EPA 8081B	2-20-18	2-20-18	
,4'-DDD	ND	11	EPA 8081B	2-20-18	2-20-18	
ndosulfan II	ND	11	EPA 8081B	2-20-18	2-20-18	
,4'-DDT	18	11	EPA 8081B	2-20-18	2-20-18	
Indrin Aldehyde	ND	11	EPA 8081B	2-20-18	2-20-18	
1ethoxychlor	ND	11	EPA 8081B	2-20-18	2-20-18	
ndosulfan Sulfate	ND	11	EPA 8081B	2-20-18	2-20-18	
Indrin Ketone	ND	11	EPA 8081B	2-20-18	2-20-18	
oxaphene	ND	56	EPA 8081B	2-20-18	2-20-18	
Surrogate:	Percent Recovery	Control Limits				
CMX	49	41-106				

40-123

DCB

Project: 1267-013

## ORGANOCHLORINE PESTICIDES EPA 8081B

Matrix: Soil

Units: ug/Kg (ppb)

oo. ug/.tg (pp2/				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	PH-6-SS3,SS4,SS5 Comp.					
Laboratory ID:	02-151-09,10,11 Comp.					
alpha-BHC	ND	6.3	EPA 8081B	2-20-18	2-26-18	
gamma-BHC	ND	6.3	EPA 8081B	2-20-18	2-26-18	
beta-BHC	ND	6.3	EPA 8081B	2-20-18	2-26-18	
delta-BHC	ND	6.3	EPA 8081B	2-20-18	2-26-18	
Heptachlor	ND	6.3	EPA 8081B	2-20-18	2-26-18	
Aldrin	ND	6.3	EPA 8081B	2-20-18	2-26-18	
Heptachlor Epoxide	ND	6.3	EPA 8081B	2-20-18	2-26-18	
gamma-Chlordane	ND	13	EPA 8081B	2-20-18	2-26-18	
alpha-Chlordane	ND	13	EPA 8081B	2-20-18	2-26-18	
4,4'-DDE	ND	13	EPA 8081B	2-20-18	2-26-18	
Endosulfan I	ND	6.3	EPA 8081B	2-20-18	2-26-18	
Dieldrin	ND	13	EPA 8081B	2-20-18	2-26-18	
Endrin	ND	13	EPA 8081B	2-20-18	2-26-18	
4,4'-DDD	ND	13	EPA 8081B	2-20-18	2-26-18	
Endosulfan II	ND	13	EPA 8081B	2-20-18	2-26-18	
4,4'-DDT	48	13	EPA 8081B	2-20-18	2-26-18	
Endrin Aldehyde	ND	13	EPA 8081B	2-20-18	2-26-18	
Methoxychlor	ND	13	EPA 8081B	2-20-18	2-26-18	
Endosulfan Sulfate	ND	13	EPA 8081B	2-20-18	2-26-18	
Endrin Ketone	ND	13	EPA 8081B	2-20-18	2-26-18	
Toxaphene	ND	63	EPA 8081B	2-20-18	2-26-18	
Surrogate:	Percent Recovery	Control Limits			_	•

Surrogate: Percent Recovery Control Limit TCMX 44 41-106 DCB 53 40-123

Project: 1267-013

## ORGANOCHLORINE PESTICIDES EPA 8081B

Matrix: Soil

Units: ug/Kg (ppb)

onito. ag/rtg (pps)				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	PH-9-SS1,SS2,SS3 Comp.					
Laboratory ID:	02-151-12,13,14 Comp.					
alpha-BHC	ND	6.1	EPA 8081B	2-20-18	2-20-18	
gamma-BHC	ND	6.1	EPA 8081B	2-20-18	2-20-18	
beta-BHC	ND	6.1	EPA 8081B	2-20-18	2-20-18	
delta-BHC	ND	6.1	EPA 8081B	2-20-18	2-20-18	
Heptachlor	ND	6.1	EPA 8081B	2-20-18	2-20-18	
Aldrin	ND	6.1	EPA 8081B	2-20-18	2-20-18	
Heptachlor Epoxide	ND	6.1	EPA 8081B	2-20-18	2-20-18	
gamma-Chlordane	ND	12	EPA 8081B	2-20-18	2-20-18	
alpha-Chlordane	ND	12	EPA 8081B	2-20-18	2-20-18	
4,4'-DDE	ND	12	EPA 8081B	2-20-18	2-20-18	
Endosulfan I	ND	6.1	EPA 8081B	2-20-18	2-20-18	
Dieldrin	ND	12	EPA 8081B	2-20-18	2-20-18	
Endrin	ND	12	EPA 8081B	2-20-18	2-20-18	
4,4'-DDD	ND	12	EPA 8081B	2-20-18	2-20-18	
Endosulfan II	ND	12	EPA 8081B	2-20-18	2-20-18	
4,4'-DDT	25	12	EPA 8081B	2-20-18	2-20-18	
Endrin Aldehyde	ND	12	EPA 8081B	2-20-18	2-20-18	
Methoxychlor	ND	12	EPA 8081B	2-20-18	2-20-18	
Endosulfan Sulfate	ND	12	EPA 8081B	2-20-18	2-20-18	
Endrin Ketone	ND	12	EPA 8081B	2-20-18	2-20-18	
Toxaphene	ND	61	EPA 8081B	2-20-18	2-20-18	
Surrogate:	Percent Recovery	Control Limits				
TCMX	44	41-106				

40-123

DCB

Project: 1267-013

## ORGANOCHLORINE PESTICIDES EPA 8081B

Matrix: Soil

Units: ug/Kg (ppb)

-9.1.9 (FF.1.)				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	PH-1-SS1,SS2,SS3 Comp.					
Laboratory ID:	02-151-15,16,17 Comp.					
alpha-BHC	ND	5.9	EPA 8081B	2-20-18	2-21-18	
gamma-BHC	ND	5.9	EPA 8081B	2-20-18	2-21-18	
beta-BHC	ND	5.9	EPA 8081B	2-20-18	2-21-18	
delta-BHC	ND	5.9	EPA 8081B	2-20-18	2-21-18	
Heptachlor	ND	5.9	EPA 8081B	2-20-18	2-21-18	
Aldrin	ND	5.9	EPA 8081B	2-20-18	2-21-18	
Heptachlor Epoxide	ND	5.9	EPA 8081B	2-20-18	2-21-18	
gamma-Chlordane	ND	12	EPA 8081B	2-20-18	2-21-18	
alpha-Chlordane	ND	12	EPA 8081B	2-20-18	2-21-18	
4,4'-DDE	ND	12	EPA 8081B	2-20-18	2-21-18	
Endosulfan I	ND	5.9	EPA 8081B	2-20-18	2-21-18	
Dieldrin	ND	12	EPA 8081B	2-20-18	2-21-18	
Endrin	ND	12	EPA 8081B	2-20-18	2-21-18	
4,4'-DDD	ND	12	EPA 8081B	2-20-18	2-21-18	
Endosulfan II	ND	12	EPA 8081B	2-20-18	2-21-18	
4,4'-DDT	17	12	EPA 8081B	2-20-18	2-21-18	
Endrin Aldehyde	ND	12	EPA 8081B	2-20-18	2-21-18	
Methoxychlor	ND	12	EPA 8081B	2-20-18	2-21-18	
Endosulfan Sulfate	ND	12	EPA 8081B	2-20-18	2-21-18	
Endrin Ketone	ND	12	EPA 8081B	2-20-18	2-21-18	
Toxaphene	ND	59	EPA 8081B	2-20-18	2-21-18	
Surrogate:	Percent Recovery	Control Limits	_			

41-106

40-123

55

55

**TCMX** 

DCB

Project: 1267-013

#### **ORGANOCHLORINE PESTICIDES EPA 8081B**

Matrix: Soil

Units: ug/Kg (ppb)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	PH-2-SS1,SS2,SS3 Comp.					
aboratory ID:	02-151-18,19,20 Comp.					
lpha-BHC	ND	5.7	EPA 8081B	2-20-18	2-21-18	
jamma-BHC	ND	5.7	EPA 8081B	2-20-18	2-21-18	
eta-BHC	ND	5.7	EPA 8081B	2-20-18	2-21-18	
lelta-BHC	ND	5.7	EPA 8081B	2-20-18	2-21-18	
leptachlor	ND	5.7	EPA 8081B	2-20-18	2-21-18	
Aldrin	ND	5.7	EPA 8081B	2-20-18	2-21-18	
leptachlor Epoxide	ND	5.7	EPA 8081B	2-20-18	2-21-18	
jamma-Chlordane	ND	11	EPA 8081B	2-20-18	2-21-18	
Ilpha-Chlordane	ND	11	EPA 8081B	2-20-18	2-21-18	
,4'-DDE	ND	11	EPA 8081B	2-20-18	2-21-18	
Endosulfan I	ND	5.7	EPA 8081B	2-20-18	2-21-18	
Dieldrin	ND	11	EPA 8081B	2-20-18	2-21-18	
Endrin	ND	11	EPA 8081B	2-20-18	2-21-18	
,4'-DDD	ND	11	EPA 8081B	2-20-18	2-21-18	
Endosulfan II	ND	11	EPA 8081B	2-20-18	2-21-18	
,4'-DDT	12	11	EPA 8081B	2-20-18	2-21-18	
Endrin Aldehyde	ND	11	EPA 8081B	2-20-18	2-21-18	
Methoxychlor	ND	11	EPA 8081B	2-20-18	2-21-18	
Endosulfan Sulfate	ND	11	EPA 8081B	2-20-18	2-21-18	
Endrin Ketone	ND	11	EPA 8081B	2-20-18	2-21-18	
oxaphene	ND	57	EPA 8081B	2-20-18	2-21-18	
Surrogate:	Percent Recovery	Control Limits				
TCMX	66	41-106				

40-123

DCB

Project: 1267-013

## ORGANOCHLORINE PESTICIDES EPA 8081B

Matrix: Soil

Units: ug/Kg (ppb)

gamma-BHC         ND         6.9         EPA 8081B         2-20-18         2-21-18           beta-BHC         ND         6.9         EPA 8081B         2-20-18         2-21-18           delta-BHC         ND         6.9         EPA 8081B         2-20-18         2-21-18           Heptachlor         ND         6.9         EPA 8081B         2-20-18         2-21-18           Aldrin         ND         6.9         EPA 8081B         2-20-18         2-21-18           Aldrin         ND         6.9         EPA 8081B         2-20-18         2-21-18           Aldrin         ND         6.9         EPA 8081B         2-20-18         2-21-18           Joernal Chlordane         ND         14         EPA 8081B         2-20-18         2-21-18           Ajhara Chlordane         41         14         EPA 8081B         2-20-18         2-21-18           Ajhara Chlordane         41         14         EPA 8081B         2-20-18         2-21-18           4,4'-DDE         ND         14         EPA 8081B         2-20-18         2-21-18           Endrin I         ND         14         EPA 8081B         2-20-18         2-21-18           Endrin I         ND         14<	5,11g (pp2)				Date	Date	
Laboratory ID:         02-151-21,22 Comp.           alpha-BHC         ND         6.9         EPA 8081B         2-20-18         2-21-18           gamma-BHC         ND         6.9         EPA 8081B         2-20-18         2-21-18           beta-BHC         ND         6.9         EPA 8081B         2-20-18         2-21-18           delta-BHC         ND         6.9         EPA 8081B         2-20-18         2-21-18           Heptachlor         ND         6.9         EPA 8081B         2-20-18         2-21-18           Aldrin         ND         6.9         EPA 8081B         2-20-18         2-21-18           Aldrin         ND         6.9         EPA 8081B         2-20-18         2-21-18           Heptachlor Epoxide         ND         6.9         EPA 8081B         2-20-18         2-21-18           Heptachlor Epoxide         ND         6.9         EPA 8081B         2-20-18         2-21-18           gamma-Chlordane         ND         14         EPA 8081B         2-20-18         2-21-18           alpha-Chlordane         41         14         EPA 8081B         2-20-18         2-21-18           Endosulfan I         ND         6.9         EPA 8081B         2-20-18	Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
alpha-BHC         ND         6.9         EPA 8081B         2-20-18         2-21-18           gamma-BHC         ND         6.9         EPA 8081B         2-20-18         2-21-18           beta-BHC         ND         6.9         EPA 8081B         2-20-18         2-21-18           delta-BHC         ND         6.9         EPA 8081B         2-20-18         2-21-18           delta-BHC         ND         6.9         EPA 8081B         2-20-18         2-21-18           Heptachlor         ND         6.9         EPA 8081B         2-20-18         2-21-18           Aldrin         ND         6.9         EPA 8081B         2-20-18         2-21-18           Aldrin         ND         6.9         EPA 8081B         2-20-18         2-21-18           Heptachlor Epoxide         ND         6.9         EPA 8081B         2-20-18         2-21-18           dalpha-Chlordane         ND         14         EPA 8081B         2-20-18         2-21-18           gamma-Chlordane         41         14         EPA 8081B         2-20-18         2-21-18           4,4'-DDE         ND         14         EPA 8081B         2-20-18         2-21-18           Endrin         ND <th< td=""><td>Client ID:</td><td>PH-3-SS1,SS2 Comp.</td><td></td><td></td><td></td><td></td><td></td></th<>	Client ID:	PH-3-SS1,SS2 Comp.					
gamma-BHC         ND         6.9         EPA 8081B         2-20-18         2-21-18           beta-BHC         ND         6.9         EPA 8081B         2-20-18         2-21-18           delta-BHC         ND         6.9         EPA 8081B         2-20-18         2-21-18           Heptachlor         ND         6.9         EPA 8081B         2-20-18         2-21-18           Heptachlor Epoxide         ND         6.9         EPA 8081B         2-20-18         2-21-18           alpha-Chlordane         41         14         EPA 8081B         2-20-18         2-21-18           Endosulfan I         ND         6.9         EPA 8081B         2-20-18         2-21-18	Laboratory ID:	02-151-21,22 Comp.					
beta-BHC         ND         6.9         EPA 8081B         2-20-18         2-21-18           delta-BHC         ND         6.9         EPA 8081B         2-20-18         2-21-18           Heptachlor         ND         6.9         EPA 8081B         2-20-18         2-21-18           Aldrin         ND         6.9         EPA 8081B         2-20-18         2-21-18           Heptachlor Epoxide         ND         14         EPA 8081B         2-20-18         2-21-18           alpha-Chlordane         41         14         EPA 8081B         2-20-18         2-21-18           A,4'-DDE         ND         14         EPA 8081B         2-20-18         2-21-18           Endrin         ND         14         EPA 8081B         2-20-18         2-21-18           4,4'-DDD	alpha-BHC	ND	6.9	EPA 8081B	2-20-18	2-21-18	
delta-BHC         ND         6.9         EPA 8081B         2-20-18         2-21-18           Heptachlor         ND         6.9         EPA 8081B         2-20-18         2-21-18           Aldrin         ND         6.9         EPA 8081B         2-20-18         2-21-18           Heptachlor Epoxide         ND         6.9         EPA 8081B         2-20-18         2-21-18           gamma-Chlordane         ND         14         EPA 8081B         2-20-18         2-21-18           alpha-Chlordane         41         14         EPA 8081B         2-20-18         2-21-18           4,4'-DDE         ND         14         EPA 8081B         2-20-18         2-21-18           Endosulfan I         ND         6.9         EPA 8081B         2-20-18         2-21-18           Endrin         ND         14         EPA 8081B         2-20-18         2-21-18           Endrin I         ND         14         EPA 8081B         2-20-18         2-21-18           Endrin Aldehyde         ND         14         EPA 8081B         2-20-18         2-21-18           Endrin Aldehyde         ND         14         EPA 8081B         2-20-18         2-21-18           Methoxychlor         ND<	gamma-BHC	ND	6.9	EPA 8081B	2-20-18	2-21-18	
Heptachlor         ND         6.9         EPA 8081B         2-20-18         2-21-18           Aldrin         ND         6.9         EPA 8081B         2-20-18         2-21-18           Heptachlor Epoxide         ND         6.9         EPA 8081B         2-20-18         2-21-18           gamma-Chlordane         ND         14         EPA 8081B         2-20-18         2-21-18           alpha-Chlordane         41         14         EPA 8081B         2-20-18         2-21-18           4,4'-DDE         ND         14         EPA 8081B         2-20-18         2-21-18           Endosulfan I         ND         6.9         EPA 8081B         2-20-18         2-21-18           Endrin         ND         14         EPA 8081B         2-20-18         2-21-18           Endrin         ND         14         EPA 8081B         2-20-18         2-21-18           Endrin II         ND         14         EPA 8081B         2-20-18         2-21-18           Endosulfan II         ND         14         EPA 8081B         2-20-18         2-21-18           Endrin Aldehyde         ND         14         EPA 8081B         2-20-18         2-21-18           Methoxychlor         ND	beta-BHC	ND	6.9	EPA 8081B	2-20-18	2-21-18	
Aldrin ND 6.9 EPA 8081B 2-20-18 2-21-18 Heptachlor Epoxide ND 6.9 EPA 8081B 2-20-18 2-21-18 gamma-Chlordane ND 14 EPA 8081B 2-20-18 2-21-18 alpha-Chlordane 41 14 EPA 8081B 2-20-18 2-21-18 4,4'-DDE ND 14 EPA 8081B 2-20-18 2-21-18 Endosulfan I ND 6.9 EPA 8081B 2-20-18 2-21-18 Dieldrin 33 14 EPA 8081B 2-20-18 2-21-18 Endrin ND 14 EPA 8081B 2-20-18 2-21-18 Endrin ND 14 EPA 8081B 2-20-18 2-21-18 Endrin ND 14 EPA 8081B 2-20-18 2-21-18 Endosulfan II ND 14 EPA 8081B 2-20-18 2-21-18 Endosulfan II ND 14 EPA 8081B 2-20-18 2-21-18 Endosulfan II ND 14 EPA 8081B 2-20-18 2-21-18 Endrin Aldehyde ND 14 EPA 8081B 2-20-18 2-21-18 Endrin Aldehyde ND 14 EPA 8081B 2-20-18 2-21-18 Endrin Aldehyde ND 14 EPA 8081B 2-20-18 2-21-18 Endrin Sulfate ND 14 EPA 8081B 2-20-18 2-21-18 Endrin Ketone ND 14 EPA 8081B 2-20-18 2-21-18	delta-BHC	ND	6.9	EPA 8081B	2-20-18	2-21-18	
Heptachlor Epoxide	Heptachlor	ND	6.9	EPA 8081B	2-20-18	2-21-18	
gamma-Chlordane         ND         14         EPA 8081B         2-20-18         2-21-18           alpha-Chlordane         41         14         EPA 8081B         2-20-18         2-21-18           4,4'-DDE         ND         14         EPA 8081B         2-20-18         2-21-18           Endosulfan I         ND         6.9         EPA 8081B         2-20-18         2-21-18           Dieldrin         33         14         EPA 8081B         2-20-18         2-21-18           Endrin         ND         14         EPA 8081B         2-20-18         2-21-18           Endosulfan II         ND         14         EPA 8081B         2-20-18         2-21-18           Endrin Aldehyde         ND         14         EPA 8081B         2-20-18         2-21-18           Endrin Aldehyde         ND         14         EPA 8081B         2-20-18         2-21-18           Methoxychlor         ND         14         EPA 8081B         2-20-18         2-21-18           Endrin Ketone         ND         14         EPA 8081B         2-20-18         2-21-18           Endrin Ketone         ND         14         EPA 8081B         2-20-18         2-21-18           Endrin Ketone <t< td=""><td>Aldrin</td><td>ND</td><td>6.9</td><td>EPA 8081B</td><td>2-20-18</td><td>2-21-18</td><td></td></t<>	Aldrin	ND	6.9	EPA 8081B	2-20-18	2-21-18	
alpha-Chlordane       41       14       EPA 8081B       2-20-18       2-21-18         4,4'-DDE       ND       14       EPA 8081B       2-20-18       2-21-18         Endosulfan I       ND       6.9       EPA 8081B       2-20-18       2-21-18         Dieldrin       33       14       EPA 8081B       2-20-18       2-21-18         Endrin       ND       14       EPA 8081B       2-20-18       2-21-18         4,4'-DDD       ND       14       EPA 8081B       2-20-18       2-21-18         Endosulfan II       ND       14       EPA 8081B       2-20-18       2-21-18         4,4'-DDT       33       14       EPA 8081B       2-20-18       2-21-18         Endrin Aldehyde       ND       14       EPA 8081B       2-20-18       2-21-18         Methoxychlor       ND       14       EPA 8081B       2-20-18       2-21-18         Endrin Ketone       ND       14       EPA 8081B       2-20-18       2-21-18         Endrin Ketone       ND       14       EPA 8081B       2-20-18       2-21-18         Endrin Ketone       ND       69       EPA 8081B       2-20-18       2-21-18         Forcent Recovery	Heptachlor Epoxide	ND	6.9	EPA 8081B	2-20-18	2-21-18	
4,4'-DDE       ND       14       EPA 8081B       2-20-18       2-21-18         Endosulfan I       ND       6.9       EPA 8081B       2-20-18       2-21-18         Dieldrin       33       14       EPA 8081B       2-20-18       2-21-18         Endrin       ND       14       EPA 8081B       2-20-18       2-21-18         4,4'-DDD       ND       14       EPA 8081B       2-20-18       2-21-18         Endosulfan II       ND       14       EPA 8081B       2-20-18       2-21-18         4,4'-DDT       33       14       EPA 8081B       2-20-18       2-21-18         Endrin Aldehyde       ND       14       EPA 8081B       2-20-18       2-21-18         Methoxychlor       ND       14       EPA 8081B       2-20-18       2-21-18         Endosulfan Sulfate       ND       14       EPA 8081B       2-20-18       2-21-18         Endrin Ketone       ND       14       EPA 8081B       2-20-18       2-21-18         Toxaphene       ND       69       EPA 8081B       2-20-18       2-21-18         Surrogate:       Percent Recovery       Control Limits	gamma-Chlordane	ND	14	EPA 8081B	2-20-18	2-21-18	
Endosulfan I         ND         6.9         EPA 8081B         2-20-18         2-21-18           Dieldrin         33         14         EPA 8081B         2-20-18         2-21-18           Endrin         ND         14         EPA 8081B         2-20-18         2-21-18           4,4'-DDD         ND         14         EPA 8081B         2-20-18         2-21-18           Endosulfan II         ND         14         EPA 8081B         2-20-18         2-21-18           4,4'-DDT         33         14         EPA 8081B         2-20-18         2-21-18           Endrin Aldehyde         ND         14         EPA 8081B         2-20-18         2-21-18           Methoxychlor         ND         14         EPA 8081B         2-20-18         2-21-18           Endosulfan Sulfate         ND         14         EPA 8081B         2-20-18         2-21-18           Endrin Ketone         ND         14         EPA 8081B         2-20-18         2-21-18           Toxaphene         ND         69         EPA 8081B         2-20-18         2-21-18           Surrogate:         Percent Recovery         Control Limits	alpha-Chlordane	41	14	EPA 8081B	2-20-18	2-21-18	Р
Dieldrin         33         14         EPA 8081B         2-20-18         2-21-18           Endrin         ND         14         EPA 8081B         2-20-18         2-21-18           4,4'-DDD         ND         14         EPA 8081B         2-20-18         2-21-18           Endosulfan II         ND         14         EPA 8081B         2-20-18         2-21-18           4,4'-DDT         33         14         EPA 8081B         2-20-18         2-21-18           Endrin Aldehyde         ND         14         EPA 8081B         2-20-18         2-21-18           Methoxychlor         ND         14         EPA 8081B         2-20-18         2-21-18           Endosulfan Sulfate         ND         14         EPA 8081B         2-20-18         2-21-18           Endrin Ketone         ND         14         EPA 8081B         2-20-18         2-21-18           Toxaphene         ND         69         EPA 8081B         2-20-18         2-21-18           Surrogate:         Percent Recovery         Control Limits	4,4'-DDE	ND	14	EPA 8081B	2-20-18	2-21-18	
Endrin         ND         14         EPA 8081B         2-20-18         2-21-18           4,4'-DDD         ND         14         EPA 8081B         2-20-18         2-21-18           Endosulfan II         ND         14         EPA 8081B         2-20-18         2-21-18           4,4'-DDT         33         14         EPA 8081B         2-20-18         2-21-18           Endrin Aldehyde         ND         14         EPA 8081B         2-20-18         2-21-18           Methoxychlor         ND         14         EPA 8081B         2-20-18         2-21-18           Endosulfan Sulfate         ND         14         EPA 8081B         2-20-18         2-21-18           Endrin Ketone         ND         14         EPA 8081B         2-20-18         2-21-18           Toxaphene         ND         69         EPA 8081B         2-20-18         2-21-18           Surrogate:         Percent Recovery         Control Limits         Control Limits	Endosulfan I	ND	6.9	EPA 8081B	2-20-18	2-21-18	
4,4'-DDD       ND       14       EPA 8081B       2-20-18       2-21-18         Endosulfan II       ND       14       EPA 8081B       2-20-18       2-21-18         4,4'-DDT       33       14       EPA 8081B       2-20-18       2-21-18         Endrin Aldehyde       ND       14       EPA 8081B       2-20-18       2-21-18         Methoxychlor       ND       14       EPA 8081B       2-20-18       2-21-18         Endosulfan Sulfate       ND       14       EPA 8081B       2-20-18       2-21-18         Endrin Ketone       ND       14       EPA 8081B       2-20-18       2-21-18         Toxaphene       ND       69       EPA 8081B       2-20-18       2-21-18         Surrogate:       Percent Recovery       Control Limits	Dieldrin	33	14	EPA 8081B	2-20-18	2-21-18	
Endosulfan II         ND         14         EPA 8081B         2-20-18         2-21-18           4,4'-DDT         33         14         EPA 8081B         2-20-18         2-21-18           Endrin Aldehyde         ND         14         EPA 8081B         2-20-18         2-21-18           Methoxychlor         ND         14         EPA 8081B         2-20-18         2-21-18           Endosulfan Sulfate         ND         14         EPA 8081B         2-20-18         2-21-18           Endrin Ketone         ND         14         EPA 8081B         2-20-18         2-21-18           Toxaphene         ND         69         EPA 8081B         2-20-18         2-21-18           Surrogate:         Percent Recovery         Control Limits	Endrin	ND	14	EPA 8081B	2-20-18	2-21-18	
4,4'-DDT       33       14       EPA 8081B       2-20-18       2-21-18         Endrin Aldehyde       ND       14       EPA 8081B       2-20-18       2-21-18         Methoxychlor       ND       14       EPA 8081B       2-20-18       2-21-18         Endosulfan Sulfate       ND       14       EPA 8081B       2-20-18       2-21-18         Endrin Ketone       ND       14       EPA 8081B       2-20-18       2-21-18         Toxaphene       ND       69       EPA 8081B       2-20-18       2-21-18         Surrogate:       Percent Recovery       Control Limits	4,4'-DDD	ND	14	EPA 8081B	2-20-18	2-21-18	
Endrin Aldehyde         ND         14         EPA 8081B         2-20-18         2-21-18           Methoxychlor         ND         14         EPA 8081B         2-20-18         2-21-18           Endosulfan Sulfate         ND         14         EPA 8081B         2-20-18         2-21-18           Endrin Ketone         ND         14         EPA 8081B         2-20-18         2-21-18           Toxaphene         ND         69         EPA 8081B         2-20-18         2-21-18           Surrogate:         Percent Recovery         Control Limits	Endosulfan II	ND	14	EPA 8081B	2-20-18	2-21-18	
Methoxychlor         ND         14         EPA 8081B         2-20-18         2-21-18           Endosulfan Sulfate         ND         14         EPA 8081B         2-20-18         2-21-18           Endrin Ketone         ND         14         EPA 8081B         2-20-18         2-21-18           Toxaphene         ND         69         EPA 8081B         2-20-18         2-21-18           Surrogate:         Percent Recovery         Control Limits	4,4'-DDT	33	14	EPA 8081B	2-20-18	2-21-18	
Endosulfan Sulfate         ND         14         EPA 8081B         2-20-18         2-21-18           Endrin Ketone         ND         14         EPA 8081B         2-20-18         2-21-18           Toxaphene         ND         69         EPA 8081B         2-20-18         2-21-18           Surrogate:         Percent Recovery         Control Limits	Endrin Aldehyde	ND	14	EPA 8081B	2-20-18	2-21-18	
Endrin Ketone         ND         14         EPA 8081B         2-20-18         2-21-18           Toxaphene         ND         69         EPA 8081B         2-20-18         2-21-18           Surrogate:         Percent Recovery         Control Limits	Methoxychlor	ND	14	EPA 8081B	2-20-18	2-21-18	
Toxaphene ND 69 EPA 8081B 2-20-18 2-21-18 Surrogate: Percent Recovery Control Limits	Endosulfan Sulfate	ND	14	EPA 8081B	2-20-18	2-21-18	
Surrogate: Percent Recovery Control Limits	Endrin Ketone	ND	14	EPA 8081B	2-20-18	2-21-18	
,	Toxaphene	ND	69	EPA 8081B	2-20-18	2-21-18	
TCMX 60 41-106	Surrogate:	Percent Recovery	Control Limits				
10WA 10-100	TCMX	60	41-106				

DCB

40-123

Project: 1267-013

## ORGANOCHLORINE PESTICIDES EPA 8081B

Matrix: Soil

Units: ug/Kg (ppb)

			Date	Date	
Result	PQL	Method	Prepared	Analyzed	Flags
PH-5-SS1,SS2,SS3,SS4,SS5 Comp					
02-151-23,24,25,26,27 Comp.					
ND	6.0	EPA 8081B	2-20-18	2-20-18	
ND	6.0	EPA 8081B	2-20-18	2-20-18	
ND	6.0	EPA 8081B	2-20-18	2-20-18	
ND	6.0	EPA 8081B	2-20-18	2-20-18	
ND	6.0	EPA 8081B	2-20-18	2-20-18	
ND	6.0	EPA 8081B	2-20-18	2-20-18	
ND	6.0	EPA 8081B	2-20-18	2-20-18	
ND	12	EPA 8081B	2-20-18	2-20-18	
ND	12	EPA 8081B	2-20-18	2-20-18	
ND	12	EPA 8081B	2-20-18	2-20-18	
ND	6.0	EPA 8081B	2-20-18	2-20-18	
ND	12	EPA 8081B	2-20-18	2-20-18	
ND	12	EPA 8081B	2-20-18	2-20-18	
ND	12	EPA 8081B	2-20-18	2-20-18	
ND	12	EPA 8081B	2-20-18	2-20-18	
22	12	EPA 8081B	2-20-18	2-20-18	
ND	12	EPA 8081B	2-20-18	2-20-18	
ND	12	EPA 8081B	2-20-18	2-20-18	
ND	12	EPA 8081B	2-20-18	2-20-18	
ND	12	EPA 8081B	2-20-18	2-20-18	
ND	60	EPA 8081B	2-20-18	2-20-18	
Percent Recovery	Control Limits				
<i>55</i>	41-106				
58	40-123				
	PH-5-SS1,SS2,SS3,SS4,SS5 Comp 02-151-23,24,25,26,27 Comp.  ND	PH-5-SS1,SS2,SS3,SS4,SS5 Comp.         02-151-23,24,25,26,27 Comp.         ND       6.0         ND       6.0         ND       6.0         ND       6.0         ND       6.0         ND       12         ND       60         Percent Recovery       Control Limits         55       41-106	PH-5-SS1,SS2,SS3,SS4,SS5 Comp.         02-151-23,24,25,26,27 Comp.       6.0       EPA 8081B         ND       12       EPA 8081B <t< td=""><td>Result         PQL         Method         Prepared           PH-5-SS1,SS2,SS3,SS4,SS5 Comp.           02-151-23,24,25,26,27 Comp.         SPA 8081B         2-20-18           ND         6.0         EPA 8081B         2-20-18           ND         12         EPA 8081B         2-20-18           ND         12</td><td>Result         PQL         Method         Prepared         Analyzed           PH-5-SS1,SS2,SS3,SS4,SS5 Comp.           02-151-23,24,25,26,27 Comp.         SPA 8081B         2-20-18         2-20-18           ND         6.0         EPA 8081B         2-20-18         2-20-18           ND         12         EPA 8081B         2-20-18         2-20-18           ND         12&lt;</td></t<>	Result         PQL         Method         Prepared           PH-5-SS1,SS2,SS3,SS4,SS5 Comp.           02-151-23,24,25,26,27 Comp.         SPA 8081B         2-20-18           ND         6.0         EPA 8081B         2-20-18           ND         12         EPA 8081B         2-20-18           ND         12	Result         PQL         Method         Prepared         Analyzed           PH-5-SS1,SS2,SS3,SS4,SS5 Comp.           02-151-23,24,25,26,27 Comp.         SPA 8081B         2-20-18         2-20-18           ND         6.0         EPA 8081B         2-20-18         2-20-18           ND         12         EPA 8081B         2-20-18         2-20-18           ND         12<

Project: 1267-013

## ORGANOCHLORINE PESTICIDES EPA 8081B

Matrix: Soil

Units: ug/Kg (ppb)

Amalasta	D14	DOL	Madhaal	Date	Date	F1
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	PH-12-SS1,SS2 Comp.					
_aboratory ID:	02-151-28,29 Comp.					
alpha-BHC	ND	5.6	EPA 8081B	2-20-18	2-20-18	
gamma-BHC	ND	5.6	EPA 8081B	2-20-18	2-20-18	
eta-BHC	ND	5.6	EPA 8081B	2-20-18	2-20-18	
lelta-BHC	ND	5.6	EPA 8081B	2-20-18	2-20-18	
Heptachlor	ND	5.6	EPA 8081B	2-20-18	2-20-18	
Aldrin	ND	5.6	EPA 8081B	2-20-18	2-20-18	
Heptachlor Epoxide	ND	5.6	EPA 8081B	2-20-18	2-20-18	
gamma-Chlordane	ND	11	EPA 8081B	2-20-18	2-20-18	
alpha-Chlordane	ND	11	EPA 8081B	2-20-18	2-20-18	
I,4'-DDE	ND	11	EPA 8081B	2-20-18	2-20-18	
Endosulfan I	ND	5.6	EPA 8081B	2-20-18	2-20-18	
Dieldrin	ND	11	EPA 8081B	2-20-18	2-20-18	
Endrin	ND	11	EPA 8081B	2-20-18	2-20-18	
,4'-DDD	ND	11	EPA 8081B	2-20-18	2-20-18	
Endosulfan II	ND	11	EPA 8081B	2-20-18	2-20-18	
,4'-DDT	ND	11	EPA 8081B	2-20-18	2-20-18	
Endrin Aldehyde	ND	11	EPA 8081B	2-20-18	2-20-18	
/lethoxychlor	ND	11	EPA 8081B	2-20-18	2-20-18	
ndosulfan Sulfate	ND	11	EPA 8081B	2-20-18	2-20-18	
Endrin Ketone	ND	11	EPA 8081B	2-20-18	2-20-18	
Toxaphene	ND	56	EPA 8081B	2-20-18	2-20-18	
Surrogate:	Percent Recovery	Control Limits			_	•
TCMX	50	11-106				

Project: 1267-013

#### **ORGANOCHLORINE PESTICIDES EPA 8081B**

Matrix: Soil

Units: ug/Kg (ppb)

2s (pp.)				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	PH-11-SS1,SS2,SS3,SS4 Comp	) <b>.</b>				
Laboratory ID:	02-151-30,31,32,33 Comp.					
alpha-BHC	ND	5.9	EPA 8081B	2-20-18	2-20-18	
gamma-BHC	ND	5.9	EPA 8081B	2-20-18	2-20-18	
beta-BHC	ND	5.9	EPA 8081B	2-20-18	2-20-18	
delta-BHC	ND	5.9	EPA 8081B	2-20-18	2-20-18	
Heptachlor	ND	5.9	EPA 8081B	2-20-18	2-20-18	
Aldrin	ND	5.9	EPA 8081B	2-20-18	2-20-18	
Heptachlor Epoxide	ND	5.9	EPA 8081B	2-20-18	2-20-18	
gamma-Chlordane	ND	12	EPA 8081B	2-20-18	2-20-18	
alpha-Chlordane	ND	12	EPA 8081B	2-20-18	2-20-18	
4,4'-DDE	ND	12	EPA 8081B	2-20-18	2-20-18	
Endosulfan I	ND	5.9	EPA 8081B	2-20-18	2-20-18	
Dieldrin	ND	12	EPA 8081B	2-20-18	2-20-18	
Endrin	ND	12	EPA 8081B	2-20-18	2-20-18	
4,4'-DDD	ND	12	EPA 8081B	2-20-18	2-20-18	
Endosulfan II	ND	12	EPA 8081B	2-20-18	2-20-18	
4,4'-DDT	12	12	EPA 8081B	2-20-18	2-20-18	
Endrin Aldehyde	ND	12	EPA 8081B	2-20-18	2-20-18	
Methoxychlor	ND	12	EPA 8081B	2-20-18	2-20-18	
Endosulfan Sulfate	ND	12	EPA 8081B	2-20-18	2-20-18	
Endrin Ketone	ND	12	EPA 8081B	2-20-18	2-20-18	
Toxaphene	ND	59	EPA 8081B	2-20-18	2-20-18	
Surrogate:	Percent Recovery	Control Limits				
TCMX	54	41-106				

DCB 58 40-123

Project: 1267-013

## ORGANOCHLORINE PESTICIDES EPA 8081B

Matrix: Soil

Units: ug/Kg (ppb)

				Date	Date	
nalyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	PH-10-SS1,SS2,SS3 Comp.	•				
aboratory ID:	02-151-34,35,36 Comp.					
lpha-BHC	ND	5.7	EPA 8081B	2-20-18	2-20-18	
amma-BHC	ND	5.7	EPA 8081B	2-20-18	2-20-18	
eta-BHC	ND	5.7	EPA 8081B	2-20-18	2-20-18	
elta-BHC	ND	5.7	EPA 8081B	2-20-18	2-20-18	
leptachlor	ND	5.7	EPA 8081B	2-20-18	2-20-18	
ldrin	ND	5.7	EPA 8081B	2-20-18	2-20-18	
leptachlor Epoxide	ND	5.7	EPA 8081B	2-20-18	2-20-18	
amma-Chlordane	ND	11	EPA 8081B	2-20-18	2-20-18	
lpha-Chlordane	ND	11	EPA 8081B	2-20-18	2-20-18	
,4'-DDE	ND	11	EPA 8081B	2-20-18	2-20-18	
Indosulfan I	ND	5.7	EPA 8081B	2-20-18	2-20-18	
Dieldrin	ND	11	EPA 8081B	2-20-18	2-20-18	
ndrin	ND	11	EPA 8081B	2-20-18	2-20-18	
,4'-DDD	ND	11	EPA 8081B	2-20-18	2-20-18	
ndosulfan II	ND	11	EPA 8081B	2-20-18	2-20-18	
,4'-DDT	ND	11	EPA 8081B	2-20-18	2-20-18	
Indrin Aldehyde	ND	11	EPA 8081B	2-20-18	2-20-18	
1ethoxychlor	ND	11	EPA 8081B	2-20-18	2-20-18	
Indosulfan Sulfate	ND	11	EPA 8081B	2-20-18	2-20-18	
ndrin Ketone	ND	11	EPA 8081B	2-20-18	2-20-18	
oxaphene	ND	57	EPA 8081B	2-20-18	2-20-18	
Surrogate:	Percent Recovery	Control Limits				
CMX	48	41-106				

40-123

DCB

Project: 1267-013

#### **ORGANOCHLORINE PESTICIDES EPA 8081B**

Matrix: Soil

Units: ug/Kg (ppb)

				Date	Date	
nalyte	Result	PQL	Method	Prepared	Analyzed	Flags
lient ID:	PH-4-SS1,SS2,SS3 Comp.					
aboratory ID:	02-151-37,38,39 Comp.					
lpha-BHC	ND	6.0	EPA 8081B	2-20-18	2-21-18	
amma-BHC	ND	6.0	EPA 8081B	2-20-18	2-21-18	
eta-BHC	ND	6.0	EPA 8081B	2-20-18	2-21-18	
elta-BHC	ND	6.0	EPA 8081B	2-20-18	2-21-18	
leptachlor	ND	6.0	EPA 8081B	2-20-18	2-21-18	
ldrin	ND	6.0	EPA 8081B	2-20-18	2-21-18	
leptachlor Epoxide	ND	6.0	EPA 8081B	2-20-18	2-21-18	
amma-Chlordane	ND	12	EPA 8081B	2-20-18	2-21-18	
lpha-Chlordane	ND	12	EPA 8081B	2-20-18	2-21-18	
,4'-DDE	ND	12	EPA 8081B	2-20-18	2-21-18	
indosulfan I	ND	6.0	EPA 8081B	2-20-18	2-21-18	
Dieldrin	ND	12	EPA 8081B	2-20-18	2-21-18	
indrin	ND	12	EPA 8081B	2-20-18	2-21-18	
,4'-DDD	ND	12	EPA 8081B	2-20-18	2-21-18	
indosulfan II	ND	12	EPA 8081B	2-20-18	2-21-18	
,4'-DDT	52	12	EPA 8081B	2-20-18	2-21-18	
indrin Aldehyde	ND	12	EPA 8081B	2-20-18	2-21-18	
1ethoxychlor	ND	12	EPA 8081B	2-20-18	2-21-18	
indosulfan Sulfate	ND	12	EPA 8081B	2-20-18	2-21-18	
indrin Ketone	ND	12	EPA 8081B	2-20-18	2-21-18	
oxaphene	ND	60	EPA 8081B	2-20-18	2-21-18	
Surrogate:	Percent Recovery	Control Limits				
CMX	63	41-106				

40-123

DCB

Project: 1267-013

### **ORGANOCHLORINE PESTICIDES EPA 8081B** METHOD BLANK QUALITY CONTROL

Matrix: Soil

Units: ug/Kg (ppb)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0220S2					
alpha-BHC	ND	5.0	EPA 8081B	2-20-18	2-20-18	
gamma-BHC	ND	5.0	EPA 8081B	2-20-18	2-20-18	
beta-BHC	ND	5.0	EPA 8081B	2-20-18	2-20-18	
delta-BHC	ND	5.0	EPA 8081B	2-20-18	2-20-18	
Heptachlor	ND	5.0	EPA 8081B	2-20-18	2-20-18	
Aldrin	ND	5.0	EPA 8081B	2-20-18	2-20-18	
Heptachlor Epoxide	ND	5.0	EPA 8081B	2-20-18	2-20-18	
gamma-Chlordane	ND	10	EPA 8081B	2-20-18	2-20-18	
alpha-Chlordane	ND	10	EPA 8081B	2-20-18	2-20-18	
4,4'-DDE	ND	10	EPA 8081B	2-20-18	2-20-18	
Endosulfan I	ND	5.0	EPA 8081B	2-20-18	2-20-18	
Dieldrin	ND	10	EPA 8081B	2-20-18	2-20-18	
Endrin	ND	10	EPA 8081B	2-20-18	2-20-18	
4,4'-DDD	ND	10	EPA 8081B	2-20-18	2-20-18	
Endosulfan II	ND	10	EPA 8081B	2-20-18	2-20-18	
4,4'-DDT	ND	10	EPA 8081B	2-20-18	2-20-18	
Endrin Aldehyde	ND	10	EPA 8081B	2-20-18	2-20-18	
Methoxychlor	ND	10	EPA 8081B	2-20-18	2-20-18	
Endosulfan Sulfate	ND	10	EPA 8081B	2-20-18	2-20-18	
Endrin Ketone	ND	10	EPA 8081B	2-20-18	2-20-18	
Toxaphene	ND	50	EPA 8081B	2-20-18	2-20-18	
Surrogate:	Percent Recovery	Control Limits				
TCMX	80	41-106				

DCB 89 40-123 Date of Report: March 5, 2018

Samples Submitted: February 14, 2018 Laboratory Reference: 1802-151

Project: 1267-013

#### ORGANOCHLORINE PESTICIDES EPA 8081B MS/MSD QUALITY CONTROL

					Source	Pe	rcent	Recovery		RPD	
Analyte	Re	sult	Spike	Level	Result	Rec	overy	Limits	RPD	Limit	Flags
MATRIX SPIKES											
Laboratory ID:	02-151-12,	13,14 Comp.									
	MS	MSD	MS	MSD		MS	MSD				
alpha-BHC	66.6	63.2	100	100	ND	67	63	50-140	5	15	
gamma-BHC	64.7	61.2	100	100	ND	65	61	38-112	6	14	
beta-BHC	67.6	60.6	100	100	ND	68	61	50-140	11	15	
delta-BHC	66.9	61.5	100	100	ND	67	61	50-140	8	15	
Heptachlor	62.9	56.6	100	100	ND	63	57	37-103	11	16	
Aldrin	61.2	57.5	100	100	ND	61	57	44-105	6	14	
Heptachlor Epoxide	57.0	53.6	100	100	ND	57	54	50-140	6	15	
gamma-Chlordane	56.5	53.7	100	100	ND	57	54	50-140	5	15	
alpha-Chlordane	56.5	53.3	100	100	ND	56	53	50-140	6	15	
4,4'-DDE	66.6	63.2	100	100	ND	67	63	50-140	5	15	
Endosulfan I	61.1	57.6	100	100	ND	61	58	50-140	6	15	
Dieldrin	62.3	58.8	100	100	ND	62	59	40-106	6	14	
Endrin	59.1	56.3	100	100	ND	59	56	44-113	5	13	
4,4'-DDD	68.5	65.5	100	100	ND	69	65	50-140	4	15	
Endosulfan II	59.4	56.7	100	100	ND	59	57	50-140	5	15	
4,4'-DDT	79.2	76.2	100	100	20.3	59	56	30-113	4	14	
Endrin Aldehyde	60.6	57.2	100	100	ND	61	57	50-140	6	15	
Methoxychlor	59.3	57.0	100	100	ND	59	57	50-140	4	15	
Endosulfan Sulfate	59.8	57.0	100	100	ND	60	57	50-140	5	15	
Endrin Ketone	58.4	56.1	100	100	ND	58	56	50-140	4	15	
Surrogate:											
TCMX						49	<i>4</i> 8	41-106			
DCB						56	52	40-123			

Project: 1267-013

#### CHLORINATED ACID HERBICIDES EPA 8151A

Matrix: Soil

Units: ug/Kg (ppb)

23,13 (PP2)				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	PH-6-SS2,SS1 Comp.					
Laboratory ID:	02-151-01,02 Comp.					
Dalapon	ND	280	EPA 8151A	2-16-18	2-21-18	
Dicamba	ND	11	EPA 8151A	2-16-18	2-21-18	
MCPP	ND	1100	EPA 8151A	2-16-18	2-21-18	
MCPA	ND	1100	EPA 8151A	2-16-18	2-21-18	
Dichlorprop	ND	86	EPA 8151A	2-16-18	2-21-18	
2,4-D	ND	11	EPA 8151A	2-16-18	2-21-18	
Pentachlorophenol	6.4	5.8	EPA 8151A	2-16-18	2-21-18	
2,4,5-TP (Silvex)	ND	12	EPA 8151A	2-16-18	2-21-18	
2,4,5-T	ND	12	EPA 8151A	2-16-18	2-21-18	
2,4-DB	ND	12	EPA 8151A	2-16-18	2-21-18	
Dinoseb	ND	11	EPA 8151A	2-16-18	2-21-18	
Surrogate:	Percent Recovery	Control Limits				
DCAA	57	10-126				
Client ID:	PH-7-SS3,SS2,SS1 Comp					
Laboratory ID:	02-151-03,04,05 Comp.					
Dalapon	ND	260	EPA 8151A	2-16-18	2-21-18	
Dicamba	ND	11	EPA 8151A	2-16-18	2-21-18	
MCPP	ND	1100	EPA 8151A	2-16-18	2-21-18	
MCPA	ND	1100	EPA 8151A	2-16-18	2-21-18	
Dichlorprop	ND	82	EPA 8151A	2-16-18	2-21-18	
2,4-D	ND	11	EPA 8151A	2-16-18	2-21-18	
Pentachlorophenol	ND	5.5	EPA 8151A	2-16-18	2-21-18	
2,4,5-TP (Silvex)	ND	11	EPA 8151A	2-16-18	2-21-18	
2,4,5-T	ND	11	EPA 8151A	2-16-18	2-21-18	
2,4-DB	ND	11	EPA 8151A	2-16-18	2-21-18	
Dinoseb	ND	11	EPA 8151A	2-16-18	2-21-18	
Surrogate:	Percent Recovery	Control Limits				
-	-					

DCAA

10-126

Project: 1267-013

#### CHLORINATED ACID HERBICIDES EPA 8151A

Matrix: Soil

Units: ug/Kg (ppb)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	PH-8-SS1,SS2,SS3 Comp.					
Laboratory ID:	02-151-06,07,08 Comp.					
Dalapon	ND	260	EPA 8151A	2-16-18	2-21-18	
Dicamba	ND	10	EPA 8151A	2-16-18	2-21-18	
MCPP	ND	1000	EPA 8151A	2-16-18	2-21-18	
MCPA	ND	1000	EPA 8151A	2-16-18	2-21-18	
Dichlorprop	ND	79	EPA 8151A	2-16-18	2-21-18	
2,4-D	ND	10	EPA 8151A	2-16-18	2-21-18	
Pentachlorophenol	ND	5.3	EPA 8151A	2-16-18	2-21-18	
2,4,5-TP (Silvex)	ND	11	EPA 8151A	2-16-18	2-21-18	
2,4,5-T	ND	11	EPA 8151A	2-16-18	2-21-18	
2,4-DB	ND	11	EPA 8151A	2-16-18	2-21-18	
Dinoseb	ND	11	EPA 8151A	2-16-18	2-21-18	
Surrogate:	Percent Recovery	Control Limits				
DCAA	53	10-126				
Client ID:	PH-6-SS3,SS4,SS5 Comp.					
Laboratory ID:	02-151-09,10,11 Comp.					
Dalapon	ND	290	EPA 8151A	2-16-18	2-16-18	
Dicamba	ND	12	EPA 8151A	2-16-18	2-16-18	
MCPP	ND	1200	EPA 8151A	2-16-18	2-16-18	
MCPA	ND	1200	EPA 8151A	2-16-18	2-16-18	
Dichlorprop	ND	89	EPA 8151A	2-16-18	2-16-18	
2,4-D	ND	12	EPA 8151A	2-16-18	2-16-18	
Pentachlorophenol	ND	6.0	EPA 8151A	2-16-18	2-16-18	
2,4,5-TP (Silvex)	ND	12	EPA 8151A	2-16-18	2-16-18	
2,4,5-T	ND	12	EPA 8151A	2-16-18	2-16-18	
2,4-DB	ND	12	EPA 8151A	2-16-18	2-16-18	
Dinoseb	ND	12	EPA 8151A	2-16-18	2-16-18	

Control Limits

10-126

Surrogate:

DCAA

Percent Recovery

Project: 1267-013

#### CHLORINATED ACID HERBICIDES EPA 8151A

Matrix: Soil

Units: ug/Kg (ppb)

Jg/11g (PP2)				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	PH-9-SS1,SS2,SS3 Comp					
Laboratory ID:	02-151-12,13,14 Comp.					
Dalapon	ND	280	EPA 8151A	2-16-18	2-20-18	
Dicamba	ND	11	EPA 8151A	2-16-18	2-20-18	
MCPP	ND	1100	EPA 8151A	2-16-18	2-20-18	
MCPA	ND	1100	EPA 8151A	2-16-18	2-20-18	
Dichlorprop	ND	86	EPA 8151A	2-16-18	2-20-18	
2,4-D	ND	11	EPA 8151A	2-16-18	2-20-18	
Pentachlorophenol	ND	5.8	EPA 8151A	2-16-18	2-20-18	
2,4,5-TP (Silvex)	ND	12	EPA 8151A	2-16-18	2-20-18	
2,4,5-T	ND	12	EPA 8151A	2-16-18	2-20-18	
2,4-DB	ND	12	EPA 8151A	2-16-18	2-20-18	
Dinoseb	ND	12	EPA 8151A	2-16-18	2-20-18	
Surrogate:	Percent Recovery	Control Limits				
DCAA	72	10-126				
Client ID:	PH-1-SS1,SS2,SS3 Comp.					
Laboratory ID:	02-151-15,16,17 Comp.					
Dalapon	ND	270	EPA 8151A	2-16-18	2-21-18	
Dicamba	ND	11	EPA 8151A	2-16-18	2-21-18	
MCPP	ND	1100	EPA 8151A	2-16-18	2-21-18	
MCPA	ND	1100	EPA 8151A	2-16-18	2-21-18	
Dichlorprop	ND	84	EPA 8151A	2-16-18	2-21-18	
2,4-D	ND	11	EPA 8151A	2-16-18	2-21-18	
Pentachlorophenol	ND	5.6	EPA 8151A	2-16-18	2-21-18	
2,4,5-TP (Silvex)	ND	11	EPA 8151A	2-16-18	2-21-18	
2,4,5-T	ND	11	EPA 8151A	2-16-18	2-21-18	
2,4-DB	ND	11	EPA 8151A	2-16-18	2-21-18	
Dinoseb	ND	11	EPA 8151A	2-16-18	2-21-18	
Surrogate:	Percent Recovery	Control Limits				

DCAA

10-126

Project: 1267-013

### CHLORINATED ACID HERBICIDES EPA 8151A

Matrix: Soil

Analyte Result PQL Method Prepared	Analyzed	
		Flags
Client ID: PH-2-SS1,SS2,SS3 Comp.		
Laboratory ID: 02-151-18,19,20 Comp.		
Dalapon         ND         260         EPA 8151A         2-16-18	2-21-18	
Dicamba <b>ND</b> 11 EPA 8151A 2-16-18	2-21-18	
MCPP ND 1100 EPA 8151A 2-16-18	2-21-18	
MCPA <b>ND</b> 1100 EPA 8151A 2-16-18	2-21-18	
Dichlorprop <b>ND</b> 81 EPA 8151A 2-16-18	2-21-18	
2,4-D <b>ND</b> 11 EPA 8151A 2-16-18	2-21-18	
Pentachlorophenol <b>ND</b> 5.5 EPA 8151A 2-16-18	2-21-18	
2,4,5-TP (Silvex) <b>ND</b> 11 EPA 8151A 2-16-18	2-21-18	
2,4,5-T <b>ND</b> 11 EPA 8151A 2-16-18	2-21-18	
2,4-DB <b>ND</b> 11 EPA 8151A 2-16-18	2-21-18	
<u>Dinoseb</u> <b>ND</b> 11 EPA 8151A 2-16-18	2-21-18	
Surrogate: Percent Recovery Control Limits		
DCAA 56 10-126		
Client ID: PH-3-SS1,SS2 Comp.		
Laboratory ID: 02-151-21,22 Comp.		
Dalapon <b>ND</b> 310 EPA 8151A 2-16-18	2-17-18	
Dicamba ND 13 EPA 8151A 2-16-18	2-17-18	
MCPP ND 1300 EPA 8151A 2-16-18	2-17-18	
MCPA ND 1300 EPA 8151A 2-16-18	2-17-18	
Dichlorprop <b>ND</b> 97 EPA 8151A 2-16-18	2-17-18	
2,4-D <b>ND</b> 13 EPA 8151A 2-16-18	2-17-18	
Pentachlorophenol <b>ND</b> 6.5 EPA 8151A 2-16-18	2-17-18	
2,4,5-TP (Silvex) <b>ND</b> 13 EPA 8151A 2-16-18	2-17-18	
2,4,5-T <b>ND</b> 13 EPA 8151A 2-16-18	2-17-18	
2,4-DB <b>ND</b> 13 EPA 8151A 2-16-18	2-17-18	
<u>Dinoseb</u> <b>ND</b> 13 EPA 8151A 2-16-18	2-17-18	
Surrogate: Percent Recovery Control Limits		
DCAA 45 10-126		

Project: 1267-013

### CHLORINATED ACID HERBICIDES EPA 8151A

Matrix: Soil

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	PH-5-SS1,SS2,SS3,SS4,SS5 Com	p.				
Laboratory ID:	02-151-23,24,25,26,27 Comp.					
Dalapon	ND	280	EPA 8151A	2-16-18	2-17-18	
Dicamba	ND	11	EPA 8151A	2-16-18	2-17-18	
MCPP	ND	1100	EPA 8151A	2-16-18	2-17-18	
MCPA	ND	1100	EPA 8151A	2-16-18	2-17-18	
Dichlorprop	ND	86	EPA 8151A	2-16-18	2-17-18	
2,4-D	ND	11	EPA 8151A	2-16-18	2-17-18	
Pentachlorophenol	ND	5.7	EPA 8151A	2-16-18	2-17-18	
2,4,5-TP (Silvex)	ND	11	EPA 8151A	2-16-18	2-17-18	
2,4,5-T	ND	11	EPA 8151A	2-16-18	2-17-18	
2,4-DB	ND	11	EPA 8151A	2-16-18	2-17-18	
Dinoseb	ND	11	EPA 8151A	2-16-18	2-17-18	
Surrogate:	Percent Recovery	Control Limits				
DCAA	37	10-126				
Client ID:	PH-12-SS1,SS2 Comp.					
Laboratory ID:	02-151-28,29 Comp.					
Dalapon	ND	260	EPA 8151A	2-16-18	2-21-18	
Dicamba	ND	11	EPA 8151A	2-16-18	2-21-18	
MCPP	ND	1000	EPA 8151A	2-16-18	2-21-18	
MCPA	ND	1000	EPA 8151A	2-16-18	2-21-18	
Dichlorprop	ND	79	EPA 8151A	2-16-18	2-21-18	
2,4-D	ND	11	EPA 8151A	2-16-18	2-21-18	
Pentachlorophenol	ND	5.3	EPA 8151A	2-16-18	2-21-18	
2,4,5-TP (Silvex)	ND	11	EPA 8151A	2-16-18	2-21-18	
2,4,5-T	ND	11	EPA 8151A	2-16-18	2-21-18	
2,4-DB	ND	11	EPA 8151A	2-16-18	2-21-18	
Dinoseb	ND	11	EPA 8151A	2-16-18	2-21-18	
Surrogate:	Percent Recovery	Control Limits				
DCAA	59	10-126				

Project: 1267-013

### CHLORINATED ACID HERBICIDES EPA 8151A

Matrix: Soil

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	PH-11-SS1,SS2,SS3,SS4 Com	p.				
Laboratory ID:	02-151-30,31,32,33 Comp.					
Dalapon	ND	270	EPA 8151A	2-16-18	2-21-18	
Dicamba	ND	11	EPA 8151A	2-16-18	2-21-18	
MCPP	ND	1100	EPA 8151A	2-16-18	2-21-18	
MCPA	ND	1100	EPA 8151A	2-16-18	2-21-18	
Dichlorprop	ND	83	EPA 8151A	2-16-18	2-21-18	
2,4-D	ND	11	EPA 8151A	2-16-18	2-21-18	
Pentachlorophenol	ND	5.6	EPA 8151A	2-16-18	2-21-18	
2,4,5-TP (Silvex)	ND	11	EPA 8151A	2-16-18	2-21-18	
2,4,5-T	ND	11	EPA 8151A	2-16-18	2-21-18	
2,4-DB	ND	11	EPA 8151A	2-16-18	2-21-18	
Dinoseb	ND	11	EPA 8151A	2-16-18	2-21-18	
Surrogate:	Percent Recovery	Control Limits				
DCAA	61	10-126				
Client ID:	PH-10-SS1,SS2,SS3 Comp.					
Laboratory ID:	02-151-34,35,36 Comp.					
Dalapon	ND	260	EPA 8151A	2-16-18	2-17-18	
Dicamba	ND	11	EPA 8151A	2-16-18	2-17-18	
MCPP	ND	1100	EPA 8151A	2-16-18	2-17-18	
MCPA	ND	1100	EPA 8151A	2-16-18	2-17-18	
Dichlorprop	ND	81	EPA 8151A	2-16-18	2-17-18	
2,4-D	ND	11	EPA 8151A	2-16-18	2-17-18	
Pentachlorophenol	ND	5.4	EPA 8151A	2-16-18	2-17-18	
2,4,5-TP (Silvex)	ND	11	EPA 8151A	2-16-18	2-17-18	
2,4,5-T	ND	11	EPA 8151A	2-16-18	2-17-18	
2,4-DB	ND	11	EPA 8151A	2-16-18	2-17-18	
Dinoseb	ND	11	EPA 8151A	2-16-18	2-17-18	
Surrogate:	Percent Recovery	Control Limits				
DCAA	52	10-126				

Samples Submitted: February 14, 2018 Laboratory Reference: 1802-151

Project: 1267-013

### CHLORINATED ACID HERBICIDES EPA 8151A

Matrix: Soil

Units: ug/Kg (ppb)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	PH-4-SS1,SS2,SS3 Comp.					
Laboratory ID:	02-151-37,38,39 Comp.					
Dalapon	ND	280	EPA 8151A	2-16-18	2-17-18	
Dicamba	ND	11	EPA 8151A	2-16-18	2-17-18	
MCPP	ND	1100	EPA 8151A	2-16-18	2-17-18	
MCPA	ND	1100	EPA 8151A	2-16-18	2-17-18	
Dichlorprop	ND	85	EPA 8151A	2-16-18	2-17-18	
2,4-D	ND	11	EPA 8151A	2-16-18	2-17-18	
Pentachlorophenol	ND	5.7	EPA 8151A	2-16-18	2-17-18	
2,4,5-TP (Silvex)	ND	11	EPA 8151A	2-16-18	2-17-18	
2,4,5-T	ND	11	EPA 8151A	2-16-18	2-17-18	
2,4-DB	ND	11	EPA 8151A	2-16-18	2-17-18	
Dinoseb	ND	11	EPA 8151A	2-16-18	2-17-18	
•		0	·	·	·	· · · · · · · · · · · · · · · · · · ·

Surrogate: Percent Recovery Control Limits DCAA 47 10-126

Project: 1267-013

### CHLORINATED ACID HERBICIDES EPA 8151A QUALITY CONTROL

Matrix: Soil

Units: ug/Kg (ppb)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0216S1					
Dalapon	ND	230	EPA 8151A	2-16-18	2-16-18	
Dicamba	ND	9.4	EPA 8151A	2-16-18	2-16-18	
MCPP	ND	940	EPA 8151A	2-16-18	2-16-18	
MCPA	ND	940	EPA 8151A	2-16-18	2-16-18	
Dichlorprop	ND	71	EPA 8151A	2-16-18	2-16-18	
2,4-D	ND	9.4	EPA 8151A	2-16-18	2-16-18	
Pentachlorophenol	ND	4.8	EPA 8151A	2-16-18	2-16-18	
2,4,5-TP (Silvex)	ND	9.5	EPA 8151A	2-16-18	2-16-18	
2,4,5-T	ND	9.5	EPA 8151A	2-16-18	2-16-18	
2,4-DB	ND	9.5	EPA 8151A	2-16-18	2-16-18	
Dinoseb	ND	9.5	EPA 8151A	2-16-18	2-16-18	

Surrogate: Percent Recovery Control Limits
DCAA 46 10-126

					Source	Pe	rcent	Recovery		RPD	
Analyte	Re	sult	Spike	Level	Result	Red	covery	Limits	RPD	Limit	Flags
SPIKE BLANKS											
Laboratory ID:	SB02	216S1									
	SB	SBD	SB	SBD		SB	SBD				
Dicamba	84.3	92.7	100	100	N/A	84	93	26-113	9	20	
2,4-D	94.2	85.3	100	100	N/A	94	85	24-117	10	21	
Pentachlorophenol	9.28	10.0	10.0	10.0	N/A	93	100	38-112	7	23	
2,4,5-T	84.2	85.0	100	100	N/A	84	85	21-110	1	19	
2,4-DB	82.8	75.7	100	100	N/A	83	76	22-119	9	19	
Surrogate:	•		•	•			•		•	•	
DCAA						65	66	10-126			

Date of Report: March 5, 2018 Samples Submitted: February 14, 2018

Laboratory Reference: 1802-151

Project: 1267-013

### TOTAL METALS EPA 6010D/7471B

Matrix: Soil

				Date	Date	
Analyte	Result	PQL	EPA Method	Prepared	Analyzed	Flags
Lab ID:	02-151-01,02 Comp. PH-6-SS2,SS1 Comp.					
Arsenic	ND	12	6010D	2-20-18	2-20-18	
Barium	59	3.0	6010D	2-21-18	2-21-18	
Cadmium	0.61	0.61	6010D	2-20-18	2-20-18	
Chromium	17	0.61	6010D	2-20-18	2-20-18	
Lead	120	6.1	6010D	2-20-18	2-20-18	
Mercury	1.0	0.30	7471B	2-21-18	2-21-18	
Selenium	ND	12	6010D	2-20-18	2-20-18	
Silver	ND	1.2	6010D	2-20-18	2-20-18	

Lab ID: Client ID:	02-151-03,04,05 Comp. PH-7-SS3,SS2,SS1 Comp.				
enic	ND	12	6010D	2-20-18	2-20-18
ium	45	2.9	6010D	2-21-18	2-21-18
dmium	ND	0.58	6010D	2-20-18	2-20-18
romium	24	0.58	6010D	2-20-18	2-20-18
d	100	5.8	6010D	2-20-18	2-20-18
cury	ND	0.29	7471B	2-21-18	2-21-18
lenium	ND	12	6010D	2-20-18	2-20-18
ver	ND	1.2	6010D	2-20-18	2-20-18

Samples Submitted: February 14, 2018 Laboratory Reference: 1802-151

Project: 1267-013

### TOTAL METALS EPA 6010D/7471B

Matrix: Soil

				Date	Date	
Analyte	Result	PQL	<b>EPA Method</b>	Prepared	Analyzed	Flags
Lab ID:	02-151-06,07,08 Comp.					
Client ID:	PH-8-SS1,SS2,SS3 Comp.					
Arsenic	ND	11	6010D	2-20-18	2-20-18	
Barium	28	2.8	6010D	2-21-18	2-21-18	
Cadmium	ND	0.56	6010D	2-20-18	2-20-18	
Chromium	15	0.56	6010D	2-20-18	2-20-18	
Lead	61	5.6	6010D	2-20-18	2-20-18	
Mercury	ND	0.28	7471B	2-21-18	2-21-18	
Selenium	ND	11	6010D	2-20-18	2-20-18	
Silver	ND	1.1	6010D	2-20-18	2-20-18	

Lab ID: Client ID:	02-151-09,10,11 Comp. PH-6-SS3,SS4,SS5 Comp.				
Arsenic	ND	13	6010D	2-20-18	2-20-18
Barium	130	3.2	6010D	2-21-18	2-21-18
Cadmium	ND	0.63	6010D	2-20-18	2-20-18
Chromium	27	0.63	6010D	2-20-18	2-20-18
_ead	160	6.3	6010D	2-20-18	2-20-18
Mercury	ND	0.32	7471B	2-21-18	2-21-18
Selenium	ND	13	6010D	2-20-18	2-20-18
Silver	ND	1.3	6010D	2-20-18	2-20-18

Samples Submitted: February 14, 2018 Laboratory Reference: 1802-151

Project: 1267-013

### TOTAL METALS EPA 6010D/7471B

Matrix: Soil

Units: mg/kg (ppm)

				Date	Date	
Analyte	Result	PQL	<b>EPA Method</b>	Prepared	Analyzed	Flags
Lab ID:	02-151-12,13,14 Comp.					
Client ID:	PH-9-SS1,SS2,SS3 Comp.					
Arsenic	ND	12	6010D	2-20-18	2-20-18	
Barium	53	3.1	6010D	2-21-18	2-21-18	
Cadmium	ND	0.61	6010D	2-20-18	2-20-18	
Chromium	15	0.61	6010D	2-20-18	2-20-18	
Lead	81	6.1	6010D	2-20-18	2-20-18	
Mercury	ND	0.31	7471B	2-21-18	2-21-18	
Selenium	ND	12	6010D	2-20-18	2-20-18	
Silver	ND	1.2	6010D	2-20-18	2-20-18	

Lab ID: 02-151-15,16,17 Comp. Client ID: PH-1-SS1,SS2,SS3 Comp. Arsenic 76 12 6010D 2-20-18 2-20-18 6010D 2-21-18 2-21-18 Barium 110 3.0 Cadmium ND 0.59 6010D 2-20-18 2-20-18 Chromium 29 0.59 6010D 2-20-18 2-20-18 Lead 87 5.9 6010D 2-20-18 2-20-18 0.30 7471B 2-21-18 2-21-18 Mercury ND ND 6010D 2-20-18 2-20-18 Selenium 12 ND 1.2 6010D 2-20-18 2-20-18 Silver

Date of Report: March 5, 2018 Samples Submitted: February 14, 2018

Laboratory Reference: 1802-151

Project: 1267-013

### TOTAL METALS EPA 6010D/7471B

Matrix: Soil

				Date	Date	
Analyte	Result	PQL	<b>EPA Method</b>	Prepared	Analyzed	Flags
Lab ID:	02-151-18,19,20 Comp.					
Client ID:	PH-2-SS1,SS2,SS3 Comp.					
Arsenic	ND	11	6010D	2-20-18	2-20-18	
Barium	46	2.9	6010D	2-21-18	2-21-18	
Cadmium	ND	0.57	6010D	2-20-18	2-20-18	
Chromium	16	0.57	6010D	2-20-18	2-20-18	
Lead	100	5.7	6010D	2-20-18	2-20-18	
Mercury	ND	0.29	7471B	2-21-18	2-21-18	
Selenium	ND	11	6010D	2-20-18	2-20-18	
Silver	ND	1.1	6010D	2-20-18	2-20-18	

Lab ID: Client ID:	02-151-21,22 Comp. <b>PH-3-SS1,SS2 Comp.</b>				
senic	ND	14	6010D	2-20-18	2-20-18
arium	92	3.4	6010D	2-21-18	2-21-18
admium	0.79	0.69	6010D	2-20-18	2-20-18
romium	32	0.69	6010D	2-20-18	2-20-18
d	300	6.9	6010D	2-20-18	2-20-18
rcury	1.6	0.69	7471B	2-21-18	2-21-18
lenium	ND	14	6010D	2-20-18	2-20-18
lver	ND	1.4	6010D	2-20-18	2-20-18

Project: 1267-013

### TOTAL METALS EPA 6010D/7471B

Matrix: Soil

				Date	Date	
Analyte	Result	PQL	<b>EPA Method</b>	Prepared	Analyzed	Fla
Lab ID:	02-151-23,24,25,26,27 Comp.					·
Client ID:	PH-5-SS1,SS2,SS3,SS4,SS5 Comp.					
Arsenic	ND	12	6010D	2-20-18	2-20-18	
Barium	99	3.0	6010D	2-21-18	2-21-18	
Cadmium	ND	0.60	6010D	2-20-18	2-20-18	
Chromium	22	0.60	6010D	2-20-18	2-20-18	
Lead	140	6.0	6010D	2-20-18	2-20-18	
Mercury	ND	0.30	7471B	2-21-18	2-21-18	
Selenium	ND	12	6010D	2-20-18	2-20-18	
Silver	ND	1.2	6010D	2-20-18	2-20-18	

Lab ID: Client ID:	02-151-28,29 Comp. <b>PH-12-SS1,SS2 Comp.</b>					
Arsenic	ND	11	6010D	2-20-18	2-20-18	
Barium	31	2.8	6010D	2-21-18	2-21-18	
Cadmium	0.59	0.56	6010D	2-20-18	2-20-18	
Chromium	15	0.56	6010D	2-20-18	2-20-18	
Lead	72	5.6	6010D	2-20-18	2-20-18	
Mercury	0.36	0.28	7471B	2-21-18	2-21-18	
Selenium	ND	11	6010D	2-20-18	2-20-18	
Silver	ND	1.1	6010D	2-20-18	2-20-18	

Date of Report: March 5, 2018 Samples Submitted: February 14, 2018

Laboratory Reference: 1802-151

Project: 1267-013

### TOTAL METALS EPA 6010D/7471B

Matrix: Soil

				Date	Date	
Analyte	Result	PQL	<b>EPA Method</b>	Prepared	Analyzed	Flags
Lab ID:	02-151-30,31,32,33 Comp.					
Client ID:	PH-11-SS1,SS2,SS3,SS4 Comp.					
Arsenic	ND	12	6010D	2-20-18	2-20-18	
Barium	46	2.9	6010D	2-21-18	2-21-18	
Cadmium	0.64	0.59	6010D	2-20-18	2-20-18	
Chromium	15	0.59	6010D	2-20-18	2-20-18	
Lead	74	5.9	6010D	2-20-18	2-20-18	ļ
Mercury	ND	0.29	7471B	2-21-18	2-21-18	
Selenium	ND	12	6010D	2-20-18	2-20-18	
Silver	ND	1.2	6010D	2-20-18	2-20-18	

Lab ID: Client ID:	02-151-34,35,36 Comp. PH-10-SS1,SS2,SS3 Comp.					
Arsenic	ND	11	6010D	2-20-18	2-20-18	
Barium	54	2.9	6010D	2-21-18	2-21-18	
Cadmium	ND	0.57	6010D	2-20-18	2-20-18	
Chromium	15	0.57	6010D	2-20-18	2-20-18	
Lead	80	5.7	6010D	2-20-18	2-20-18	
Mercury	ND	0.29	7471B	2-21-18	2-21-18	
Selenium	ND	11	6010D	2-20-18	2-20-18	
Silver	ND	1.1	6010D	2-20-18	2-20-18	

Samples Submitted: February 14, 2018 Laboratory Reference: 1802-151

Project: 1267-013

### TOTAL METALS EPA 6010D/7471B

Matrix: Soil

				Date	Date	
Analyte	Result	PQL	<b>EPA Method</b>	Prepared	Analyzed	Flags
Lab ID: Client ID:	02-151-37,38,39 Comp. <b>PH-4-SS1,SS2,SS3 Comp.</b>					
Arsenic	ND	12	6010D	2-20-18	2-20-18	
Barium	62	3.0	6010D	2-21-18	2-21-18	
Cadmium	0.75	0.60	6010D	2-20-18	2-20-18	
Chromium	27	0.60	6010D	2-20-18	2-20-18	
Lead	190	6.0	6010D	2-20-18	2-20-18	
Mercury	ND	0.30	7471B	2-21-18	2-21-18	
Selenium	ND	12	6010D	2-20-18	2-20-18	
Silver	ND	1.2	6010D	2-20-18	2-20-18	

Samples Submitted: February 14, 2018 Laboratory Reference: 1802-151

Project: 1267-013

# TOTAL METALS EPA 6010D METHOD BLANK QUALITY CONTROL

Date Extracted: 2-20&21-18

Date Analyzed: 2-20&21-18

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: MB0220SM1&MB0221SM4

Analyte	Method	Result	PQL
Arsenic	6010D	ND	10
Barium	6010D	ND	2.5
Cadmium	6010D	ND	0.50
Chromium	6010D	ND	0.50
Lead	6010D	ND	5.0
Selenium	6010D	ND	10
Silver	6010D	ND	1.0

Samples Submitted: February 14, 2018 Laboratory Reference: 1802-151

Project: 1267-013

# TOTAL MERCURY EPA 7471B METHOD BLANK QUALITY CONTROL

Date Extracted: 2-21-18
Date Analyzed: 2-21-18

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: MB0221S2

Analyte Method Result PQL

Mercury 7471B **ND** 0.25

Samples Submitted: February 14, 2018 Laboratory Reference: 1802-151

Project: 1267-013

# TOTAL METALS EPA 6010D DUPLICATE QUALITY CONTROL

Date Extracted: 2-20&21-18
Date Analyzed: 2-20&21-18

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: 02-151-01,02 Comp.

Analyte	Sample Result	Duplicate Result	RPD	PQL	Flags
Arsenic	ND	ND	NA	10	
Barium	48.8	53.1	9	2.5	
Cadmium	0.505	0.520	3	0.50	
Chromium	14.2	17.1	18	0.50	
Lead	97.3	112	14	5.0	
Selenium	ND	ND	NA	10	
Silver	ND	ND	NA	1.0	

Samples Submitted: February 14, 2018 Laboratory Reference: 1802-151

Project: 1267-013

# TOTAL MERCURY EPA 7471B DUPLICATE QUALITY CONTROL

Date Extracted: 2-21-18
Date Analyzed: 2-21-18

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: 02-150-01,02,03Comp

Sample Duplicate

Analyte Result Result RPD PQL Flags

Mercury ND ND NA 0.25

Samples Submitted: February 14, 2018 Laboratory Reference: 1802-151

Project: 1267-013

# TOTAL METALS EPA 6010D MS/MSD QUALITY CONTROL

Date Extracted: 2-20&21-18
Date Analyzed: 2-20&21-18

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: 02-151-01,02 Comp.

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Arsenic	100	103	103	103	103	0	
Barium	100	153	104	148	99	3	
Cadmium	50.0	46.3	92	46.5	92	0	
Chromium	100	105	91	107	93	2	
Lead	250	320	89	330	93	3	
Selenium	100	91.7	92	90.3	90	2	
Silver	25.0	22.9	92	23.1	92	1	

Samples Submitted: February 14, 2018 Laboratory Reference: 1802-151

Project: 1267-013

# TOTAL MERCURY EPA 7471B MS/MSD QUALITY CONTROL

Date Extracted: 2-21-18
Date Analyzed: 2-21-18

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: 02-150-01,02,03Comp

	Spike		Percent		Percent		
Analyte	Level	MS	Recovery	MSD	Recovery	RPD	Flags
Mercury	0.500	0.514	103	0.509	102	1	

Samples Submitted: February 14, 2018 Laboratory Reference: 1802-151

Project: 1267-013

### TOTAL METALS EPA 6010D/7471B

Matrix: Soil

				Date	Date	
Analyte	Result	PQL	EPA Method	Prepared	Analyzed	Flags
Lab ID:	02-151-01					
Client ID:	PH-6-SS2					
Mercury	2.6	1.6	7471B	2-27-18	2-27-18	
Lab ID:	02-151-02					
Client ID:	PH-6-SS1					
Mercury	ND	0.32	7471B	2-27-18	2-27-18	
Lab ID:	02-151-03					
Client ID:	PH-7-SS3					
Lead	69	5.9	6010D	3-2-18	3-2-18	
Lab ID:	02-151-04					
Client ID:	PH-7-SS2					
Lead	40	5.7	6010D	3-2-18	3-2-18	

Samples Submitted: February 14, 2018 Laboratory Reference: 1802-151

Project: 1267-013

### TOTAL METALS EPA 6010D

Matrix: Soil

				Date	Date	
Analyte	Result	PQL	<b>EPA Method</b>	Prepared	Analyzed	Flags
Lab ID:	02-151-05					
Client ID:	PH-7-SS1					
Lead	84	5.7	6010D	3-2-18	3-2-18	
Lab ID:	02-151-09					
Client ID:	PH-6-SS3					
Lead	59	5.7	6010D	3-2-18	3-2-18	
Lab ID:	02-151-10					
Client ID:	PH-6-SS4					
Lead	93	6.6	6010D	3-2-18	3-2-18	
Lab ID:	02 454 44					
Lab ID: Client ID:	02-151-11 <b>PH-6-SS5</b>					
Lead	270	7.6	6010D	3-2-18	3-2-18	

Samples Submitted: February 14, 2018 Laboratory Reference: 1802-151

Project: 1267-013

### TOTAL METALS EPA 6010D

Matrix: Soil

				Date	Date	
Analyte	Result	PQL	<b>EPA Method</b>	Prepared	Analyzed	Flags
Lab ID:	02-151-15					
Client ID:	PH-1-SS1					
Arsenic	110	11	6010D	3-2-18	3-2-18	
Lead	65	5.7	6010D	3-2-18	3-2-18	
Lab ID:	02-151-16					
Client ID:	PH-1-SS2					
Arsenic	70	12	6010D	3-2-18	3-2-18	
Lead	66	5.8	6010D	3-2-18	3-2-18	
Lab ID:	02-151-17					
Client ID:	PH-1-SS3					
Arsenic	ND	14	6010D	3-2-18	3-2-18	
Lead	250	6.8	6010D	3-2-18	3-2-18	
Lab ID:	02-151-18					
Client ID:	PH-2-SS1					
Lead	40	5.8	6010D	3-2-18	3-2-18	

Samples Submitted: February 14, 2018 Laboratory Reference: 1802-151

Project: 1267-013

### TOTAL METALS EPA 6010D/7471B

Matrix: Soil

				Date	Date	
Analyte	Result	PQL	<b>EPA Method</b>	Prepared	Analyzed	Flags
Lab ID:	02-151-19					
Client ID:	PH-2-SS2					
Lead	140	5.7	6010D	3-2-18	3-2-18	
Lab ID:	02-151-20					
Client ID:	PH-2-SS3					
Lead	98	5.8	6010D	3-2-18	3-2-18	
Lab ID:	02-151-21					
Client ID:	PH-3-SS1					
Lead	270	6.3	6010D	3-2-18	3-2-18	
Mercury	1.6	0.63	7471B	2-27-18	2-27-18	

Samples Submitted: February 14, 2018 Laboratory Reference: 1802-151

Project: 1267-013

### TOTAL METALS EPA 6010D/7471B

Matrix: Soil

				Date	Date	
Analyte	Result	PQL	EPA Method	Prepared	Analyzed	Flags
Lab ID:	02-151-22					
Client ID:	PH-3-SS2					
Lead	320	7.4	6010D	3-2-18	3-2-18	
Mercury	2.4	1.9	7471B	2-27-18	2-27-18	
Lab ID:	02-151-23					
Client ID:	PH-5-SS1					
Lead	110	5.8	6010D	3-2-18	3-2-18	
Lab ID:	02-151-24					
Client ID:	PH-5-SS2					
Lead	170	6.6	6010D	3-2-18	3-2-18	
Lab ID:	02-151-25					
Client ID:	PH-5-SS3					
Lead	320	6.3	6010D	3-2-18	3-2-18	

Samples Submitted: February 14, 2018 Laboratory Reference: 1802-151

Project: 1267-013

### TOTAL METALS EPA 6010D

Matrix: Soil

	0 0 (11 )					
				Date	Date	
Analyte	Result	PQL	<b>EPA Method</b>	Prepared	Analyzed	Flags
Lab ID:	02-151-26					
Client ID:	PH-5-SS4					
Lead	80	5.9	6010D	3-2-18	3-2-18	
Lab ID:	02-151-27					
Client ID:	PH-5-SS5					
Lead	140	6.1	6010D	3-2-18	3-2-18	
Lab ID:	02-151-30					
Client ID:	PH-11-SS1					
Cadmium	1.7	0.57	6010D	3-2-18	3-2-18	
Lead	160	5.7	6010D	3-2-18	3-2-18	
Lab ID:	02-151-31					
Client ID:	PH-11-SS2					
Cadmium	ND	0.64	6010D	3-2-18	3-2-18	
Lead	49	6.4	6010D	3-2-18	3-2-18	

Samples Submitted: February 14, 2018 Laboratory Reference: 1802-151

Project: 1267-013

### TOTAL METALS EPA 6010D

Matrix: Soil

				Date	Date	
Analyte	Result	PQL	<b>EPA Method</b>	Prepared	Analyzed	Flags
Lab ID:	02-151-32					
Client ID:	PH-11-SS3					
Cadmium	ND	0.56	6010D	3-2-18	3-2-18	
Lead	47	5.6	6010D	3-2-18	3-2-18	
Lab ID:	02-151-33					
Client ID:	PH-11-SS4					
Cadmium	ND	0.57	6010D	3-2-18	3-2-18	
Lead	52	5.7	6010D	3-2-18	3-2-18	
Lab ID:	02-151-37					
Client ID:	PH-4-SS1					
Cadmium	ND	0.60	6010D	3-2-18	3-2-18	
Lead	85	6.0	6010D	3-2-18	3-2-18	
Lab ID:	02-151-38					
Client ID:	PH-4-SS2					
Cadmium	ND	0.62	6010D	3-2-18	3-2-18	
Lead	88	6.2	6010D	3-2-18	3-2-18	

Samples Submitted: February 14, 2018 Laboratory Reference: 1802-151

Project: 1267-013

TOTAL METALS EPA 6010D

Matrix: Soil

				Date	Date	
Analyte	Result	PQL	<b>EPA Method</b>	Prepared	Analyzed	Flags
Lab ID:	02-151-39					
Client ID:	PH-4-SS3					
Cadmium	1.3	0.59	6010D	3-2-18	3-2-18	
Lead	340	5.9	6010D	3-2-18	3-2-18	

Samples Submitted: February 14, 2018 Laboratory Reference: 1802-151

Project: 1267-013

# TOTAL METALS EPA 6010D METHOD BLANK QUALITY CONTROL

Date Extracted: 3-2-18
Date Analyzed: 3-2-18

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: MB0302SM1

Analyte	Method	Result	PQL
Arsenic	6010D	ND	10
Cadmium	6010D	ND	0.50
Lead	6010D	ND	5.0

Samples Submitted: February 14, 2018 Laboratory Reference: 1802-151

Project: 1267-013

# TOTAL METALS EPA 6010D METHOD BLANK QUALITY CONTROL

Date Extracted: 3-2-18
Date Analyzed: 3-2-18

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: MB0302SM2

Analyte	Method	Result	PQL
Cadmium	6010D	ND	0.50
Lead	6010D	ND	5.0

Samples Submitted: February 14, 2018 Laboratory Reference: 1802-151

Project: 1267-013

# TOTAL MERCURY EPA 7471B METHOD BLANK QUALITY CONTROL

Date Extracted: 2-27-18
Date Analyzed: 2-27-18

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: MB0227S1

Analyte Method Result PQL

Mercury 7471B **ND** 0.25

Samples Submitted: February 14, 2018 Laboratory Reference: 1802-151

Project: 1267-013

# TOTAL METALS EPA 6010D DUPLICATE QUALITY CONTROL

Date Extracted: 3-2-18
Date Analyzed: 3-2-18

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: 02-151-16

Analyte	Sample Result	Duplicate Result	RPD	PQL	Flags
Arsenic	60.3	62.8	4	10	
Cadmium	0.845	0.810	4	0.50	
Lead	56.4	41.6	30	5.0	K

Samples Submitted: February 14, 2018 Laboratory Reference: 1802-151

Project: 1267-013

# TOTAL METALS EPA 6010D DUPLICATE QUALITY CONTROL

Date Extracted: 3-2-18
Date Analyzed: 3-2-18

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: 02-265-04

Analyte	Sample Result	Duplicate Result	RPD	PQL	Flags
Cadmium	ND	ND	NA	0.50	
Lead	8.25	6.70	21	5.0	С

Samples Submitted: February 14, 2018 Laboratory Reference: 1802-151

Project: 1267-013

TOTAL MERCURY
EPA 7471B
DUPLICATE QUALITY CONTROL

Date Extracted: 2-27-18
Date Analyzed: 2-27-18

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: 02-234-29

Sample Duplicate

Analyte Result Result RPD PQL Flags

Mercury ND ND NA 0.25

Samples Submitted: February 14, 2018 Laboratory Reference: 1802-151

Project: 1267-013

# TOTAL METALS EPA 6010D MS/MSD QUALITY CONTROL

Date Extracted: 3-2-18
Date Analyzed: 3-2-18

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: 02-151-16

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Arsenic	100	147	86	156	95	6	
Cadmium	50.0	45.0	88	44.7	88	1	
Lead	250	329	109	273	87	19	

Samples Submitted: February 14, 2018 Laboratory Reference: 1802-151

Project: 1267-013

# TOTAL METALS EPA 6010D MS/MSD QUALITY CONTROL

Date Extracted: 3-2-18
Date Analyzed: 3-2-18

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: 02-265-04

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Cadmium	50.0	44.5	89	43.9	88	1	
Lead	250	219	84	218	84	0	

Samples Submitted: February 14, 2018 Laboratory Reference: 1802-151

Project: 1267-013

# TOTAL MERCURY EPA 7471B MS/MSD QUALITY CONTROL

Date Extracted: 2-27-18
Date Analyzed: 2-27-18

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: 02-234-29

	Spike		Percent		Percent		
Analyte	Level	MS	Recovery	MSD	Recovery	RPD	Flags
Mercury	0.50	0.568	114	0.564	113	1	

Samples Submitted: February 14, 2018 Laboratory Reference: 1802-151

Project: 1267-013

### ORGANOCHLORINE PESTICIDES EPA 8081B

Matrix: Soil

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	PH-3-SS1					
Laboratory ID:	02-151-21					
Dieldrin	48	13	EPA 8081B	2-27-18	3-2-18	
Surrogate:	Percent Recovery	Control Limits				
TCMX	57	41-106				
DCB	49	40-123				
Client ID:	PH-3-SS2					
Laboratory ID:	02-151-22					
Dieldrin	ND	15	EPA 8081B	2-27-18	3-5-18	
Surrogate:	Percent Recovery	Control Limits		_	_	
TCMX	44	41-106				
DCB	40	40-123				

Date of Report: March 5, 2018

Samples Submitted: February 14, 2018 Laboratory Reference: 1802-151

Project: 1267-013

#### ORGANOCHLORINE PESTICIDES EPA 8081B QUALITY CONTROL

Matrix: Soil

Units: ug/Kg (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK					7 <b></b>	90
Laboratory ID:	MB0227S1					
Dieldrin	ND	10	EPA 8081B	2-27-18	2-27-18	
Surrogate:	Percent Recovery	Control Limits				
TCMX	65	41-106				
DCB	81	40-123				

Analyte	Re	sult	Spike	Level	Source Result	_	rcent	Recovery Limits	RPD	RPD Limit	Flags
MATRIX SPIKES			- 1								
Laboratory ID:	02-1	51-21									
	MS	MSD	MS	MSD		MS	MSD				
Dieldrin	87.6	85.2	100	100	38.1	50	47	40-106	3	14	
Surrogate:											
TCMX						57	56	41-106			
DCB						48	47	40-123			

Date of Report: March 5, 2018

Samples Submitted: February 14, 2018 Laboratory Reference: 1802-151

Project: 1267-013

### **% MOISTURE**

Date Analyzed: 2-15,27&3-1&2-18

Client ID	Lab ID	% Moisture
PH-4-SS3	02-151-39	16
PH-6-SS2,SS1 Comp.	02-151-01,02 Comp.	18
PH-7-SS3,SS2,SS1 Comp.	02-151-03,04,05 Comp.	13
PH-8-SS1,SS2,SS3 Comp.	02-151-06,07,08 Comp.	10
PH-6-SS3,SS4,SS5 Comp.	02-151-09,10,11 Comp.	21
PH-9-SS1,SS2,SS3 Comp.	02-151-12,13,14 Comp.	18
PH-1-SS1,SS2,SS3 Comp.	02-151-15,16,17 Comp.	16
PH-2-SS1,SS2,SS3 Comp.	02-151-18,19,20 Comp.	13
PH-3-SS1,SS2 Comp.	02-151-21,22 Comp.	27
PH-5-SS1,SS2,SS3,SS4,SS5 Comp.	02-151-23,24,25,26,27 Comp.	17
PH-12-SS1,SS2 Comp.	02-151-28,29 Comp.	11
PH-11-SS1,SS2,SS3,SS4 Comp.	02-151-30,31,32,33 Comp.	15
PH-10-SS1,SS2,SS3 Comp.	02-151-34,35,36 Comp.	13
PH-4-SS1,SS2,SS3 Comp.	02-151-37,38,39 Comp.	17

Project: 1267-013

### **% MOISTURE**

Date Analyzed: 2-15,27&3-1&2-18

Client ID	Lab ID	% Moisture
PH-6-SS2	02-151-01	23
PH-6-SS1	02-151-02	21
PH-7-SS3	02-151-03	15
PH-7-SS2	02-151-04	13
PH-7-SS1	02-151-05	12
PH-6-SS3	02-151-09	12
PH-6-SS4	02-151-10	25
PH-6-SS5	02-151-11	34
PH-1-SS1	02-151-15	13
PH-1-SS2	02-151-16	14
PH-1-SS3	02-151-17	26
PH-2-SS1	02-151-18	13
PH-2-SS2	02-151-19	13
PH-2-SS3	02-151-20	14
PH-3-SS1	02-151-21	21
PH-3-SS2	02-151-22	32
PH-5-SS1	02-151-23	14
PH-5-SS2	02-151-24	24
PH-5-SS3	02-151-25	21
PH-5-SS4	02-151-26	15
PH-5-SS5	02-151-27	18
PH-11-SS1	02-151-30	13
PH-11-SS2	02-151-31	22
PH-11-SS3	02-151-32	10
PH-11-SS4	02-151-33	12
PH-4-SS1	02-151-37	17
PH-4-SS2	02-151-38	19



#### **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.

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ND - Not Detected at PQL

PQL - Practical Quantitation Limit

RPD - Relative Percent Difference



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Page \_\_\_\_ of \_\_\_\_

	Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052		naround Req n working day			La	abo	rate	ory	Num	ber:	0	2-	1	5	1									
Project Project Pol Sample	Phone: (425) 883-3881 · www.onsite-env.com  ny:  nd Earth Strategies  Number:  57-013  Name:  L-Phinney Substation  Manager:  p Pobers I  Substation  Sample Identification	2 Day	. Day	1 Day 3 Days sys)  Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx (☐ Acid / SG Clean-up)	Volatiles 8260C Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A	TOTALLEAD	TOTAL MERCY		% Moisture
i	PH-6-SSZ	21318	1320	Soil	1				$\bigvee$					X	N	1	M	M					0		M
2	PH-6-SSI		1335	1	1				N					W	W		Ŋ	0					0		0
3	PH-7-SS3		1354						N					Ñ	X		()	V				0			
4	PH-7-SS2		1405						V					V	X		X	X				0			I
5	PH-7-SSI		1417						W					W			W	()				0			V
6	PH-8-SS1		1440						X					V				$\langle \rangle$							1/
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Revie	ewed/Date		Reviewed/Da	ite								Chr	omato	ogran	ns w	ith fin	al rep	oort [	] Ele	ectron	ic Data	a Deliv	erables	(EDDs	) 🗆

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	<b>Environmental</b>	Inc.

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	Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052	Tur (i	naround Req n working day	uest /s)		L	abo	rate	ory	Nui	mbe	er:	0	2	_ *	1 5	51										
Project Project Sample	Phone: (425) 883-3881 · www.onsite-env.com  Iny:  Adfa Ah Strategus  Number:  DI-013  Name:  L-Phinney Substation  Manager:  B Roberts  ad by:  JW/KRB	Sam 2 Da Stan (TPI-	,	] 1 Day ] 3 Days ys)	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx ( Acid / SG Clean-up)	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	Hs 8270D/SIM (low-level)	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A	TOTAL ARSENIC	TOTALLEAD	TOTAL MERCURY	% Moisture	
Lab ID	Sample Identification	Sampled	Sampled	Matrix	N	Ž	ž	Ž	Ž.	9	На	日	S S	PA	Y	Ŏ.	ŏ	0	10	인	7	出	1	0	7	- 1%	7
	PH-6-SS3	2/13/18	1532	Soil	1	_	$\vdash$		$\forall$					1	W	V		V	V					0	+	$\forall$	7
10	PH-6-SS4 PH-6-SS5		1559						N						N	M		M	$\backslash \Lambda$					0	+	$\rightarrow \wedge$	1
12	PH-9-SS1		1621						S						Á	ň		KX	VI	\						1	7
13	PH-9-SS2		1632						$\forall$						V	V		V	N							1	-
14	PH-9-SS3		1641						X						W)			V	V								1
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17	PH-1-SS3	1	1025	1	1										JX	Y		VX	W				0	0	-		1
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	Signature		ompany	01 Ca	1	ſ	Date			Time			Con	nmen	ts/Sp	ecial	Instr	uctio	ns		Et ye						
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	quished QBGSSS	_	(N)	7=	_		2	114	1,0	_	80																
	quished		CON				9	( (	110	1	0	1															
Rece	ived												Data	a Pac	kage	: St	anda	rd 🗆	Le	evel III		Leve	IIV [	]			1
Revie	ewed/Date		Reviewed/Da	te									Chro	mato	ogran	ns w	ith fin	al rep	oort [	Ele	ectron	ic Dat	a Deliv	erable	es (EDD	s) 🗌	



Page 3 of 5

	Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052		naround Req working da			La	abo	rate	ory	Nu	mb	er:	0	2	- 1	5	1									
Project SCU Project Project Sample	Phone: (425) 883-3881 · www.onsite-env.com  y:  y:  y:  y:  y:  y:  y:  y:  y:  y	Same 2 Day	24,	1 Day	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx ( Acid / SG Clean-up)	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A	Dieldrin 80818	4D	TOTAL MERCURY	% Moisture
18	PH-Z-SSI	2/13/18	1040	Soil	1				()						()	1		M	1					0		1/2
19	PH-2-SS2		1105						X						V	V		V	I					0		Xc
20	PH-2-SS3		1115												M			(I)	1)		1 = 1			0		/\<
21	PH-3-SS1		1130					1	M						M	Ñ		N	M				0	0	0	1
22	PH-3-SS2		1145						X)						M	N		N	V				0	0	0	N
23	PH-5-SSI		1220						1						Ñ	N		M	N					٥		1
24	PH-5-SSZ		1230						V							1								0		V¢
25	PH-5-SS3		1245												V			V	W					٥		10
26	PH-5-SS4		1305												1	M			$\mathbb{I}$					0		$\prod^{\circ}$
27	PH-5-SS5		1320						U	Total					()	U		$\langle \rangle$	()					0		1
	Signature		mpany	v2 G-	1	_	Date			Time		. 1	Cor	nmen	ts/Sp	ecial	Instr	uctio	ns							
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	UN LSOPE	5	peedy	Mangs		-		-14-			30															
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Relino	uished			3_				6.0	140	и	,	1	ı													
Recei	red												Data	a Pac	kage	: Sta	anda	rd 🗆	Le	vel III		Level	IV 🗆			
Revie	ved/Date		Reviewed/Da	ate									Chro	omato	ogran	ns wi	th fin	al rep	ort [	Ele	ectron	c Data	Deliverab	les (E	DDs) [	]



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	Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052		naround Req n working da			L	abo	rat	ory	Nu	mbe	er:	02	2 -	1	5	1										
Project Project Project Sample	Phone: (425) 883-3881 · www.onsite-env.com  ny:  Und Earth Strategies  Number: 67-013  Name: - Phinney Substation  Manager: Db Poberts IW KRB  Sample Identification	Same 2 Day Stand (TPH	,	1 Day 3 Days	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx (☐ Acid / SG Clean-up)	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A	TOTAL CADMIUM	TOTAL LEAD		% Moisture	
28	PH-12-SS1	21318		soil	1				N						W	N		V	()							1	1
29	PH-12-SS2	1	1340	1	1				W						W	V			X								1
30	PH-11-SS1		1400						1						Y	Ň	1	$\left( \begin{array}{c} 1 \\ 1 \end{array} \right)$	M				0	0		1	1
31	PH-11-SS2		1410						$\mathbb{N}$						$\backslash \Lambda$				V				0	0			9
32	PH-11-SS3		1420						X						X	X		X	$  \Lambda  $				0	0		X	9
33	PH-11-SS4		1435						M						$\sqrt{\chi}$	()		$\langle \rangle$	U				0	0			6
34	PH-10-SS1		1450						M						N	1		M	1							1	1
35	PH-10-SS2		1505						X						$\bigvee)$	V		V	X							X	
36	PH-10-SS3	4	1520	1	1				W						X	W		W	$\langle \rangle$						6	X	1
																			-						CW		
	Signature	6	ompany				Date	e		Time			Com	men	s/Sp	ecial	Instr	uctio	ns								
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	quished																										-
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Revie	wed/Date		Reviewed/Da	ate									Chro	mato	gram	is wi	ith fin	al rep	oort [	Ele	ectron	ic Dat	a Deliv	erable	es (EDDs	:) 🗌	



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Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052		Turnaround Rec (in working da			L	abo	rato	ry	Num	ber:	0	2	-1	5	1						1-11			76	
Phone: (425) 883-3881 · www.onsite-env.com  Company:  SandEaAh Strategus  Project Number:  1267-013  Project Name:  CL-Phyney Substation  Project Manager:  Rub Ruberts  Sampled by:  SNW/KRB			1 Day 3 Days	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX		NWTPH-Dx (☐ Acid / SG Clean-up)	Volatiles 8260C Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	270D/SIM (low-level)	3082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	Metals	HEM (oil and grease) 1664A	TALCADMIUM	TALLEAD		ture	
Lab ID Sample Identification	Date Sample		Matrix	Numbe	NWTP	NWTP	NWTPH-Gx	MLW.	Volatile Haloge	EDB EI	Semivo (with lo	PAHs 8	PCBs 8082A	Organo	Organo	Chlorin	Total R	Total M	TCLP Metals	HEM (c	101	10		% Moisture	
37 PH-4-551	2 13/1	8 1545	soil	1				M					V	$\langle \rangle$		M	$\bigvee$				0	0		$ \bigvee$	10
38 PH-4-SS2 39 PH-4-SS3		1610		+	_			N			-	-	N	W		W					0	0	+	1	9
νη- 4-333	V	(010)	V	4				U	+				W	B		W	W						+	+	-
	-										T											1			
										1	-												_	+	-
					-		_				-								(	1	V	1	+	+	-
Signature		Company				Date			Time		Co	mmer	nts/Sp	ecial	Instru	uction	18			2			7		
Relinquished College Sut	5	Saand	Earth			2/1	4/19	8	143	0															
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Reviewed/Date		Reviewed/Da	ate								Chr	romat	ogran	ns wi	th fina	al rep	ort [	Elec	ctroni	c Data	a Deliv	erable	es (EDDs	s) 🗌	

### Sample/Cooler Receipt and Acceptance Checklist

Client: 2007  Client Project Name/Number: 1267-013  OnSite Project Number: 02-151		Initiated by:	M/ 2/14/18	}	_
1.0 Cooler Verification					
.1 Were there custody seals on the outside of the cooler?	Yes	No	N/A	1 2 3 4	
.2 Were the custody seals intact?	Yes	No	NA	1 2 3 4	
3 Were the custody seals signed and dated by last custodian?	Yes	No	(N/A)	1 2 3 4	
4 Were the samples delivered on ice or blue ice?	Yes	No		1 2 3 4	
5 Were samples received between 0-6 degrees Celsius?	(es)	No	Temperature:	1,3	
.6 Have shipping bills (if any) been attached to the back of this form?	Yes				
.7 How were the samples delivered?	Client	Courier	UPS/FedEx	OSE Pickup	Other
.0 Chain of Custody Verification					
.1 Was a Chain of Custody submitted with the samples?	Yes	No		1 2 3 4	
2 Was the COC legible and written in permanent ink?	Yes Yes Yes Yes	No		1 2 3 4	
3 Have samples been relinquished and accepted by each custodian?	Yes	No		1 2 3 4	
4 Did the sample labels (ID, date, time, preservative) agree with COC?	(Yes)	No		1 2 3 4	
5 Were all of the samples listed on the COC submitted?	(res)	No		1 2 3 4	
.6 Were any of the samples submitted omitted from the COC?	Yes	No		1 2 3 4	
3.0 Sample Verification .1 Were any sample containers broken or compromised?	Yes	No		1 2 3 4	
.2 Were any sample labels missing or illegible?	Yes	No		1 2 3 4	
3 Have the correct containers been used for each analysis requested?	Yes	No		1 2 3 4	
4 Have the samples been correctly preserved?	Yes	No	NA	1 2 3 4	
5 Are volatiles samples free from headspace and bubbles greater than 6mm?	Yes	No	NA	1 2 3 4	
6 Is there sufficient sample submitted to perform requested analyses?	(Yes)	No		1 2 3 4	
7 Have any holding times already expired or will expire in 24 hours?	Yes	No		1 2 3 4	
8 Was method 5035A used?	Yes	No.	(N/A	1 2 3 4	
9 If 5035A was used, which sampling option was used (#1, 2, or 3).	#	110	MA	1 2 3 4	

<sup>1 -</sup> Discuss issue in Case Narrative

<sup>3 -</sup> Client contacted to discuss problem

<sup>2 -</sup> Process Sample As-is

<sup>4 -</sup> Sample cannot be analyzed or client does not wish to proceed





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

March 14, 2018

Rob Roberts Sound Earth Strategies 2811 Fairview Avenue East, Suite 2000 Seattle, WA 98102

Re: Analytical Data for Project 1267-013

Laboratory Reference No. 1802-151B

Dear Rob:

Enclosed are the analytical results and associated quality control data for samples submitted on February 14, 2018.

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

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

Sincerely,

David Baumeister Project Manager

**Enclosures** 

Project: 1267-013

#### **Case Narrative**

Samples were collected on February 13, 2018 and received by the laboratory on February 14, 2018. 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.

Project: 1267-013

### TCLP METALS EPA 1311/6010D

Matrix: TCLP Extract Units: mg/L (ppm)

				Date	Date	
Analyte	Result	PQL	EPA Method	Prepared	Analyzed	Flags
Lab ID:	02-151-15					
Client ID:	PH-1-SS1					
Arsenic	ND	0.40	6010D	3-14-18	3-14-18	
Lab ID:	02-151-22					
Client ID:	PH-3-SS2					
Lead	ND	0.20	6010D	3-14-18	3-14-18	
Lab ID:	02 151 20					
Lab ID: Client ID:	02-151-39 <b>PH-4-SS3</b>					
		2.22	20105	0.44.40	0.44.40	
Lead	ND	0.20	6010D	3-14-18	3-14-18	

Project: 1267-013

# TCLP METALS EPA 1311/6010D METHOD BLANK QUALITY CONTROL

Date Prepared: 3-13-18

Date Extracted: 3-14-18

Date Analyzed: 3-14-18

Matrix: TCLP Extract
Units: mg/L (ppm)

Lab ID: MB0314TM1

Analyte	Method	Result	PQL
Arsenic	6010D	ND	0.40
Lead	6010D	ND	0.20

Project: 1267-013

# TCLP METALS EPA 1311/6010D DUPLICATE QUALITY CONTROL

Date Prepared: 3-13-18

Date Extracted: 3-14-18

Date Analyzed: 3-14-18

Matrix: TCLP Extract
Units: mg/L (ppm)

Lab ID: 02-151-15

Analyte	Sample Result	Duplicate Result	RPD	PQL	Flags
Arsenic	ND	ND	NA	0.40	
Lead	ND	ND	NA	0.20	

Project: 1267-013

### TCLP METALS EPA 1311/6010D MS/MSD QUALITY CONTROL

Date Prepared: 3-13-18

Date Extracted: 3-14-18

Date Analyzed: 3-14-18

Matrix: TCLP Extract
Units: mg/L (ppm)

Lab ID: 02-151-15

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Arsenic	4.00	4.14	104	4.10	102	1	
Lead	10.0	9.09	91	9.04	90	1	



#### **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.

7 -

ND - Not Detected at PQL

PQL - Practical Quantitation Limit

RPD - Relative Percent Difference





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Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052	Tu (	rnaround Req in working day	uest ys)		La	abo	rato	ry I	Numl	ber:	02	-1	5	1								
Phone: (425) 883-3881 • www.onsite-env.com  Company:  Sund Earth Strategies  Project Number:  1267-013  Project Name:  SUL-Phinney Substation  Project Manager:  Pob Poberts 1  Sampled by:  SNW [KPB]	Sam 2 Da  Star (TP)		1 Day 3 Days	Number of Containers	NWTPH-HCID	ВТЕХ		Acid / SG Clean-up)	Volatiles azouc Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs) PAHs 8270D/SIM (low-level)	PCBs 8082A	ticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	lotal MTCA Metals	I CLP Wetais HEM (oil and grease) 1664A	164D	MERCYE		loisture
Lab ID Sample Identification	Sampled	Sampled	Matrix	Nun	WN	WN	MN /	A.	Hald	EDE	Sen (wit	S.	Or Ord	Org	S.	of John	TOT		1	1		% Moisture
1 PH-6-SSZ 2 PH-6-SSI	21318		Soil	1	-		-	$\langle \rangle$	_	-		$\mathbb{N}$	W	-	M	X	-	-	+	0		X
		1335	1	$\mathbb{H}$	-			V,	+		$\vdash$	V	W	-		Y	+	-	-	0	_	X
1		1354		$\mathbb{H}$	-			M	-	+		A	M		X	₩	+	-	0		+	$\mathbb{M}$
		1405		$\mathbb{H}$	-			X		+		X	W		X	A	-	+	C	_	+	+
5 PH-7-SSI 6 PH-8-SSI		1417	+	H				N	-	+		X	X		X	X	+	-			+	H
		1440		$\mathbb{H}$			A			-		M			M	W	+	+			-	$\mathbb{M}$
7 PH-8-SS2 8 PH-8-SS3		1455		H						+		W	M		M	N		+	+	$\vdash$	-	$+$ $\wedge$
0 111-8-222	Ψ	1510		V				X				W	V		(L)	0				an	187	<u>U</u>
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Reviewed/Date		Reviewed/Dat	e								Chroma	ogran	ns wit	h fina	al repo	ort 🗌	Elect	ronic [	Data De	eliverabl	es (EDDs	s) 🗌

MA	<b>OnSite</b>	
	<b>Environmental</b>	Inc.

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	Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052		urnaround Red (in working da			L	abo	orat	ory	Nu	ımb	er:	0	2	- 1	15	51										
Project SC Project Project Sampl	nd Fath Strategus Number: 07-013 Name: L-Phinney Substation Manager: B Roberts ad by: JW/KRB	Sta Sta	Days  andard (7 Days)  PH analysis 5 D  (other)	1 Day 3 Days ays)	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx ( Acid / SG Clean-up)	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	AHS 82/UD/SIM (low-level)	PCBs 8082A	rganochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals ARSENIC	HEM (cil and grasso) 1004	TOTAL ARSENIC		TOTAL MERCARY	% Moisture	
Lab ID	Sample Identification  PH-6-SS3	2/13/19		Soil	Z	Z	Z	Z	N N	>	I	Ш	0 2 0		X	N	0	0	n	12	F	1	1	7	1	%	16
10	PH-6-SS4	1	1547	1	1				V					1	VI	V		V	V				-	2	+	1	4
11	PH-6-SS5		1559		#				Q						M	$\int$		W					(	0	T	1	10
12	PH-9-SS1		1621						1					X		D		N	V								1
13	PH-9-SS2		1632						V						71	V		V	X							X	
14	PH-9-SS3		1641						W									V	V								1
15	PH-1-SS1	1	950						V					X	M	V		D	17		•		0	2			10
16	PH-I-SSZ	2/13/19	2 1010						X						XI	V		W	I V				00	2		X	0
9 -	PH-1-SS3	1	1025	1	6				W						X	<u>JX</u>		VX	W				00	2		1	10
	Blood Long		2				D .						Cause		-10-10	atal	Innte						1	1	( Pu	7	
Rece	quished DB Gorb		Speedy "	Meng 1	ate	gies	2 2-		18	1	80	0	Comr	ment:	9/ SHE	sulai	mstr	цьшо	113								
Rece	ived												Data I	Pack	age:	Sta	andaı	rd 🗆	Le	vel III		Level	IV 🗆				
Revie	wed/Date		Reviewed/Da	ate									Chron	nato	gram	s wit	th fin	al rep	oort [	Ele	ctroni	Data	Delive	rables	s (EDDs	s) 🗌	



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	Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052		naround Red n working da			La	abo	rat	ory	Nu	mb	er:	0	2.	- 1	5	1									
Project SCI Project Project	Phone: (425) 883-3881 * www.onsite-env.com  ny:  MA FA Ah Strategies  Number:  O 7-013  Name:  Phinney Substation  Manager:  B Poberats  d by:  W   KPB  Sample Identification	Same 2 Day Stand (TPH		1 Day 3 Days	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx (☐ Acid / SG Clean-up)	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)		Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals (EAD ONLY	HEM (oil and grease) 1664A	Dieldrin 80818	LEAD	TOTAL MERCURU	% Moisture
18	PH-Z-SS1	2/13/18	T	Soil	1				()						À	1		M	1					0	1	1
19	PH-2-SSZ		1105		Ť				X						V	V		IV	M					0		Vo
20	PH-2-SS3		1115		П										M			(/)						0	/	10
21	PH-3-SS1		1130					1	Ñ					1	N	X		M	M				0	0	0	10
22	PH-3-SS2		1145						X)						X	N		N	V		0		C	0	0	XO
23	PH-5-SSI		1220						M					Å	Ž	N		1	N					٥	1	10
24	PH-5-SSZ		1230						V							1								0		Jo
25	PH-5-SS3		1245												V			V						0		P
26	PH-5-SS4		1305												$\Lambda$	M		I	M					0		10
27	PH-5-SS5		1320						U	1					(X	U		V	()					0		P
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Revie	wed/Date		Reviewed/Da	ate								,	Chro	mato	gram	ns wi	th fin	al rep	oort [	Ele	ectroni	c Data I	Deliverab	les (E	DDs)	

MA	OnSite Environmental	Inc
	Environmental	Inc.

Page 4 of 5

Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052		naround Req n working da			L	abo	rate	ory	Num	ber:	02	-1	5	1									
Phone: (425) 883-3881 · www.onsite-env.com  Company:  Sound Earth Strategies  Project Number:  1267-013  Project Name:  SCL-Phinney Substation  Project Manager:  Pub Pobeats  Sampled by:  SNW KRB  Lab ID Sample Identification	Same 2 Day Stand (TPH  Date Sampled	,	1 Day 3 Days ays)	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx (☐ Acid / SG Clean-up)	Volatiles 8260C Halonenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs) PAHs 8270D/SIM (low-level)	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A	TOTAL CADMIUM	TOTAL LEAD		% Moisture
28 PH-12-SSI	2/18/18		soil	T				N				1	M		D	()							V
29 PH-12-SS2	1	1340	1	1				X				V	M		M	X							A
30 PH-11-SSI		1400						N				n	M		1)	M				0	0		1/
31 PH-11-SSZ		1410						1				1			1/	M				0	0		1/0
32 PH-11-SS3		1420						X				IX	IX		X					0	0		X
33 PH-11-SS4		1435											1		V)	U				0	0		1
34 PH-10-SSI		1450						M					M		M	1							1
35 PH-10-582		1505						X				V			Y	X							X
36 PH-10-SS3	4	1520	1	1				X				M	M		W	$\langle \rangle$							X
																					1	(NY	1
Signature	c	ompany				Date			Time		Comm	ents/S	pecia	Instr	ructio	ns							
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Received											Data P	ackaq	e: St	anda	rd 🗆	Le	vel III		Leve	I IV [	]		
Reviewed/Date		Reviewed/Da	te						_		1 7 7 2 2 3 4 4					_						s (EDDs)	) 🗆



Page <u>5</u> of <u>5</u>

	Analytical Laboratory Testing Services 14648 NE 95th Street - Redmond, WA 98052		naround Req n working da			La	abo	rato	ory	Nun	nbe	r:	02	- 4	15	1										
Project Project	Phone: (425) 883-3881 • www.onsite-env.com  ny:  Cand Earth Strategies  Number:  T-013  Name:  -Phyney Substation  Manager:  A Polacets  d by:  W/KPB  Sample Identification	Same  2 Day  Stand (TPH  Date  Sampled		1 Day 3 Days	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX		WWTPH-Dx (☐ Acid / SG Clean-up)	Volatiles 8260C	FDB FPA 8011 Waters Only)	Semivolatiles 8270D/SIM	Owith 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	Ch	HEM (oil and grease) 1664A	TOTALCADMIUM	TOTALLEAD		% Moisture	
37	PH-4-551	2/13/18		soil	1		_		N				, , ,	()	1)		()	1				0	0	1	1	10
38	PH-4-SS2	1	1600	1	1			1	V					IV	V		(X)	X				0	0		1)	0
391	PH-4-583	V	1610	1	V				W					W	B		W.	U		•		0	0		1	1
				4																						
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											<b>\</b>	-	_							(	A	V			1	_
	Signature	Co	ompany				Date			Time			Comme	nte/Qu	nocial	Inete	untin	10			2		7	1	1	
Relino	uished Whan Suth			FaAh				4/1		147	247		Comme	11(3/0)	e ciai	mati	uctio	15			-Variables	10	To Old Street		-	
Recei	1 1 1	10	Soundt Speedy	Menal	_		,	14-1		143																
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Revie	wed/Date		Reviewed/Da	te								C	Chromat	ogran	ns wi	th fin	al rep	ort [	Elec	ctronic	c Data	Delive	erable	s (EDD:	s) 🗌	

### Sample/Cooler Receipt and Acceptance Checklist

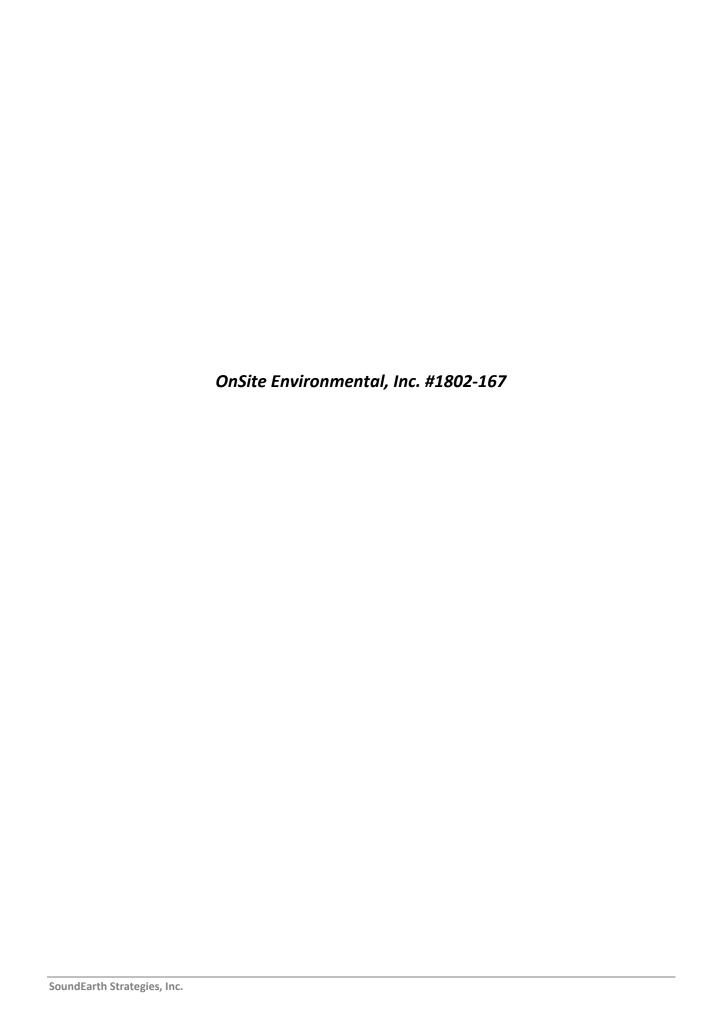
OnSite Project Number: 1267-013  OnSite Project Number: 02-151		Initiated by:	M/ 2/14/18	}	-
1.1 Were there custody seals on the outside of the cooler?	Yes	No	N/A	1 2 3 4	
1.2 Were the custody seals intact?	Yes	No			
.3 Were the custody seals signed and dated by last custodian?	Yes	No	N/A	1 2 3 4	
.4 Were the samples delivered on ice or blue ice?	Yes	No		1 2 3 4	
.5 Were samples received between 0-6 degrees Celsius?	(es)	No	Temperature:	1.3	
.6 Have shipping bills (if any) been attached to the back of this form?	Yes	(NA)	remperature.	110	
.7 How were the samples delivered?	Client	Courier	UPS/FedEx	OSE Pickup	Other
.0 Chain of Custody Verification					
1 Was a Chain of Custody submitted with the samples?	Yes	No		1 2 3 4	
2 Was the COC legible and written in permanent ink?	Yes Yes Yes Yes	No		1 2 3 4	
3 Have samples been relinquished and accepted by each custodian?	Yes	No		1 2 3 4	
4 Did the sample labels (ID, date, time, preservative) agree with COC?	(Yes)	No		1 2 3 4	
5 Were all of the samples listed on the COC submitted?	(Yes)	No		1 2 3 4	
6 Were any of the samples submitted omitted from the COC?	Yes	No		1 2 3 4	
.0 Sample Verification  1 Were any sample containers broken or compromised?	Yes	No		1 2 3 4	
Were any sample containers broken or compromised?     Were any sample labels missing or illegible?	Yes Yes	No		1 2 3 4 1 2 3 4	
Were any sample containers broken or compromised? Were any sample labels missing or illegible? Have the correct containers been used for each analysis requested?	4	No No			
1 Were any sample containers broken or compromised? 2 Were any sample labels missing or illegible? 3 Have the correct containers been used for each analysis requested? 4 Have the samples been correctly preserved?	Yes		NA.	1 2 3 4	
1 Were any sample containers broken or compromised? 2 Were any sample labels missing or illegible? 3 Have the correct containers been used for each analysis requested? 4 Have the samples been correctly preserved? 5 Are volatiles samples free from headspace and bubbles greater than 6mm?	Yes	No		1 2 3 4 1 2 3 4	
1 Were any sample containers broken or compromised? 2 Were any sample labels missing or illegible? 3 Have the correct containers been used for each analysis requested? 4 Have the samples been correctly preserved? 5 Are volatiles samples free from headspace and bubbles greater than 6mm? 6 Is there sufficient sample submitted to perform requested analyses?	Yes Yes	No No		1 2 3 4 1 2 3 4 1 2 3 4	
1 Were any sample containers broken or compromised? 2 Were any sample labels missing or illegible? 3 Have the correct containers been used for each analysis requested? 4 Have the samples been correctly preserved? 5 Are volatiles samples free from headspace and bubbles greater than 6mm? 6 Is there sufficient sample submitted to perform requested analyses? 7 Have any holding times already expired or will expire in 24 hours?	Yes Yes Yes	No No		1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4	
	Yes Yes Yes Yes	No No No		1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4	

<sup>1 -</sup> Discuss issue in Case Narrative

<sup>2 -</sup> Process Sample As-is

<sup>3 -</sup> Client contacted to discuss problem

<sup>4 -</sup> Sample cannot be analyzed or client does not wish to proceed





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

March 27, 2018

Rob Roberts Sound Earth Strategies 2811 Fairview Avenue East, Suite 2000 Seattle, WA 98102

Re: Analytical Data for Project 1267-013

Laboratory Reference No. 1803-167

Dear Rob:

Enclosed are the analytical results and associated quality control data for samples submitted on March 19, 2018.

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

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

Sincerely,

David Baumeister Project Manager

**Enclosures** 



Project: 1267-013

#### **Case Narrative**

Samples were collected on March 16, 2018 and received by the laboratory on March 19, 2018. 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.

Project: 1267-013

### TOTAL METALS EPA 6010D/7471B

Matrix: Soil

Units: mg/kg (ppm)

				Date	Date	
Analyte	Result	PQL	EPA Method	Prepared	Analyzed	Flags
Lab ID:	03-167-01					
Client ID:	PH-01-HA1-01					
Arsenic	ND	12	6010D	3-22-18	3-22-18	
Lab ID:	03-167-02					
Client ID:	PH-01-HA1-02					
Arsenic	ND	11	6010D	3-22-18	3-22-18	
Lab ID:	03-167-04					
Client ID:	PH-03-HA1-01					
Lead	42	6.1	6010D	3-22-18	3-22-18	
Mercury	ND	0.31	7471B	3-23-18	3-23-18	
Lab ID:	03-167-05					
Client ID:	PH-03-HA1-02					
Lead	14	5.8	6010D	3-22-18	3-22-18	
Mercury	0.92	0.29	7471B	3-23-18	3-23-18	
Lab ID:	03-167-08					
Client ID:	PH-04-HA1-01					
Lead	15	5.6	6010D	3-22-18	3-22-18	

Project: 1267-013

### TOTAL METALS EPA 6010D/7471B

Matrix: Soil

Units: mg/kg (ppm)

Analyte         Result         PQL         EPA Method         Prepared         Analyzed           Lab ID:         03-167-09         3-167-09         03-167-09         03-167-09         03-167-09         03-167-09         03-167-18         03-167-18         03-167-18         03-167-18         03-167-19         03-167-18         03-167-13	
Client ID:         PH-04-HA1-02           Lead         ND         6.1         6010D         3-22-18         3-22-18           Lab ID:         03-167-12         Client ID:         PH-05-HA1-01           Lead         170         6.0         6010D         3-22-18         3-22-18           Lab ID:         03-167-13         Client ID:         PH-05-HA1-02           Lead         8.6         5.8         6010D         3-22-18         3-22-18	d Flags
Lead         ND         6.1         6010D         3-22-18         3-22-18           Lab ID:         03-167-12         Client ID:         PH-05-HA1-01           Lead         170         6.0         6010D         3-22-18         3-22-18           Lab ID:         03-167-13         Client ID:         PH-05-HA1-02           Lead         8.6         5.8         6010D         3-22-18         3-22-18	
Lab ID: 03-167-12 Client ID: PH-05-HA1-01  Lead 170 6.0 6010D 3-22-18 3-22-18  Lab ID: 03-167-13 Client ID: PH-05-HA1-02  Lead 8.6 5.8 6010D 3-22-18 3-22-18	
Client ID:         PH-05-HA1-01           Lead         170         6.0         6010D         3-22-18         3-22-18           Lab ID:         03-167-13         Client ID:         PH-05-HA1-02           Lead         8.6         5.8         6010D         3-22-18         3-22-18	
Lead         170         6.0         6010D         3-22-18         3-22-18           Lab ID:         03-167-13         Client ID:         PH-05-HA1-02           Lead         8.6         5.8         6010D         3-22-18         3-22-18	
Lab ID: 03-167-13  Client ID: PH-05-HA1-02  Lead 8.6 5.8 6010D 3-22-18 3-22-18	
Client ID:         PH-05-HA1-02           Lead         8.6         5.8         6010D         3-22-18         3-22-18	
Lead <b>8.6</b> 5.8 6010D 3-22-18 3-22-18	
Lab ID: 03-167-16  Client ID: PH-06-HA1-01	
Mercury <b>0.94</b> 0.30 7471B 3-22-18 3-22-18	
Lab ID: 03-167-17  Client ID: PH-06-HA1-02	
Mercury <b>0.48</b> 0.29 7471B 3-22-18 3-22-18	

Project: 1267-013

#### TOTAL METALS EPA 6010D/7471B

Matrix: Soil

Units: mg/kg (ppm)

				Date	Date	
Analyte	Result	PQL	<b>EPA Method</b>	Prepared	Analyzed	Flags
Lab ID:	03-167-20					
Client ID:	PH-06-HA2-01					
Lead	190	5.8	6010D	3-22-18	3-22-18	
Lab ID:	03-167-21					
Client ID:	PH-06-HA2-02					
Lead	21	5.9	6010D	3-22-18	3-22-18	

Project: 1267-013

# TOTAL METALS EPA 6010D METHOD BLANK QUALITY CONTROL

Date Extracted: 3-22-18
Date Analyzed: 3-22-18

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: MB0322SM2

Analyte	Method	Result	PQL
Arsenic	6010D	ND	10
Lead	6010D	ND	5.0

Project: 1267-013

# TOTAL MERCURY EPA 7471B METHOD BLANK QUALITY CONTROL

Date Extracted: 3-23-18
Date Analyzed: 3-23-18

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: MB0323S2

Analyte Method Result PQL

Mercury 7471B **ND** 0.25

Project: 1267-013

# TOTAL METALS EPA 6010D DUPLICATE QUALITY CONTROL

Date Extracted: 3-22-18
Date Analyzed: 3-22-18

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: 03-167-13

Analyte	Sample Result	Duplicate Result	RPD	PQL	Flags
Arsenic	ND	ND	NA	10	
Lead	7.35	8.50	15	5.0	

Project: 1267-013

# TOTAL MERCURY EPA 7471B DUPLICATE QUALITY CONTROL

Date Extracted: 3-23-18
Date Analyzed: 3-23-18

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: 03-198-08

Sample Duplicate

Analyte Result Result RPD PQL Flags

Mercury ND ND NA 0.25

Project: 1267-013

# TOTAL METALS EPA 6010D MS/MSD QUALITY CONTROL

Date Extracted: 3-22-18
Date Analyzed: 3-22-18

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: 03-167-13

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Arsenic	100	87.2	87	88.8	89	2	
Lead	250	248	96	241	94	3	

Project: 1267-013

# TOTAL MERCURY EPA 7471B MS/MSD QUALITY CONTROL

Date Extracted: 3-23-18
Date Analyzed: 3-23-18

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: 03-198-08

	Spike		Percent		Percent		
Analyte	Level	MS	Recovery	MSD	Recovery	RPD	Flags
Mercury	0.500	0.532	106	0.498	100	7	

Date of Report: March 27, 2018 Samples Submitted: March 19, 2018 Laboratory Reference: 1803-167

Project: 1267-013

#### **% MOISTURE**

Date Analyzed: 3-21-18

Client ID	Lab ID	% Moisture
PH-01-HA1-01	03-167-01	13
PH-01-HA1-02	03-167-02	12
PH-03-HA1-01	03-167-04	18
PH-03-HA1-02	03-167-05	14
PH-04-HA1-01	03-167-08	11
PH-04-HA1-02	03-167-09	18
PH-05-HA1-01	03-167-12	16
PH-05-HA1-02	03-167-13	14
PH-06-HA1-01	03-167-16	17
PH-06-HA1-02	03-167-17	14
PH-06-HA2-01	03-167-20	13
PH-06-HA2-02	03-167-21	15



#### **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.

7 -

ND - Not Detected at PQL

PQL - Practical Quantitation Limit

RPD - Relative Percent Difference



# OnSite Environmental Inc.

**Chain of Custody** 

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Page _	of	2

	Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052		naround Requ working day			L	abo	rat	ory	Nu	mbe	r:	03	3 -	16	57									
Project Project	Phone: (425) 883-3881 · www.onsite-env.com  ny:  SountEarth Strategies  Number:  1267-013  Name:  CL - Phimey Former Substation  Manager:  RAS RASets; Clare Tuchilin  d by:  Jue Ellipson		ys [ dard (7 Days) analysis 5 Da  (other)	1 Day 3 Days	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx ( Acid / SG Clean-up)	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	PARS 62 / UD/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	Arsenic	ead	Mercuny	% Moisture
Lab ID	PH-01-HAI-01	Sampled	Sampled 0936	Matrix Soil	NI	Z	Z	Ź	Ź	۸ ا	¥ 1	i i	8 & 8	7 9	ō	ō	Ö	P	은	12	里	X	_		%
2	PH-01-HAH-02	3/10/18	0946	3011	T							1	+	+		-	-					X		+	7
3	PH-01-HA1-02.75		1010											+		$\vdash$						/\		+	-
4	PH-03-HAI-01		1105																				X	X	6
5	PH-03-HAI-02		1110																				X	X	ĩ
6	PH-03-HAI-03		1118																						
7	PH-03-HAI-04		1130																						
8	PH-04-HAI-01		1212			.01																	X		b
9 10	PH-04-HA1-02		1220																				X		
10	PH-04-HAI-03	1	1225	+																					
	uished // Jan John	Co	ompany				Date		10	Time	-		Comr	nents	Specia	I Inst	ructio	ns							
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# OnSite Environmental Inc.

## **Chain of Custody**

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	Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052		naround Req n working da			L	abo	rat	ory	Nu	mbe	er:	(	13	-1	6	7								
Project Project	Phone: (425) 883-3881 · www.onsite-env.com  ny:  Sand Earth Strategies  Number:  267-013  Name:  SCL-Phinney Former Substation  Manager:  Lib Rosett, Clarc Tochlin  d by:  Jac Ellipson			1 Day	rr of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	1-Gx	NWTPH-Dx ( Acid / SG Clean-up)	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	270D/SIM (low-level)	PCBs 8082A	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	Aetals	HEM (oil and grease) 1664A	Arenic	9	Meron	ture
Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number	NWTP	NWTP	NWTPH-Gx	NWTPI	Volatile	Haloge	EDB E	Semive (with lo	PAHs 8	PCBs 8082A	Organo	Chlorir	Total B	Total N	TCLP Metals	HEM (c	Ars	Lean	Me	% Moisture
11	PH-04-HAI-03.5	3116/18	1242	201/	1																				
	PH-05-HAI-01		1250																				X		0
13	PH-05-HA1-02		1305																				X		1
4	PH-05-HA1-03		1310																						
15	PH-05-HAI-04		1325																						
16	PH-06-HA1-01		1345																					X	0
17	PH-06-HA1-02		1352																					X	1
17	PH-06-HAI-03		1359			8																			
19	PH-06-HA1-03.5		1407																						
w	PH-06-HA2-01		1425	1	I																		X		6
	Signature		ompany				Date			Time	,		Con	nment	s/Spec	ial Ins	tructio	ons					J.		
	uished Uni Jak		SandE	arth				19/	_		15														
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# OnSite Environmental Inc.

## **Chain of Custody**

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age	2	of	0	

Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052		naround Requ n working day			Lal	bor	ator	y N	umb	er:	0	13	-1	6	7	- han								
Phone: (425) 883-3881 · www.onsite-env.com  Company:  SoundForth Strategies  Project Number:  1267-013  Project Name:  SCL - Ahmey Former Substation  Project Manager:  Ras Rabert; Clare Tourlin  Sampled by:  Joe Ellinson	Same 2 Day Stand (TPH	-	1 Day 3 Days	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Dx (  Acid / SG Clean-up)	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	Is 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	Arsenic	Pos	Moreny	Moisture
ab ID Sample Identification	Sampled	Sampled	Matrix	Nu	NZ E	Š Ž	S S	Vol	Ha	ED	Ser (wit	PA	PC	O O	Org	ਨ	Tota	Tota	107	모	Ā	V Lear	~	3
21 PH-06-HA2-02	3/16/18	1432	Soil	H	$\vdash$	4	-	+	+	-	_											X	_	M
22 PH-06-HA3-01 23 PH-06-HA3-02 24 PH-06-14A3-03		1450		$\mathbb{H}$	$\vdash$	+	-	+	+	-	-											+	+	$\perp$
23 PH-06-HA3-02		1457		Ш	$\vdash$	_	-	+	-													4	_	$\perp$
29 PH-06-14A3-03		1507																						
25 PH-06-HA3-04	1	1517		+																				
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Signature		ompany				ate		Tin	ne		Cor	mmen	its/Sp	ecial	instru	uction	ns							1000
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## Sample/Cooler Receipt and Acceptance Checklist

Client Project Name/Number: 1267 - 013		Initiated by	IIIV		
00 467		Initiated by:_	3/19/1	Þ	
OnSite Project Number: 13 - 10		Date Initiated	2/11/10	٥	-
1.0 Cooler Verification					
1.1 Were there custody seals on the outside of the cooler?	Yes	No	(N/A)	1 2 3 4	
1.2 Were the custody seals intact?	Yes	No	N/A	1 2 3 4	
1.3 Were the custody seals signed and dated by last custodian?	Yes	No	(N/A)	1 2 3 4	
1.4 Were the samples delivered on ice or blue ice?	Yes	No		1 2 3 4	
1.5 Were samples received between 0-6 degrees Celsius?	Yes	No	Temperature:	6	
1.6 Have shipping bills (if any) been attached to the back of this form?	Yes	NA			
1.7 How were the samples delivered?	Client	Courier	UPS/FedEx	OSE Pickup	Other
2.0 Chain of Custody Verification					
2.1 Was a Chain of Custody submitted with the samples?	Yes	No		1 2 3 4	
2.2 Was the COC legible and written in permanent ink?	Yes	No		1 2 3 4	
2.3 Have samples been relinquished and accepted by each custodian?	Yes	No		1 2 3 4	
2.4 Did the sample labels (ID, date, time, preservative) agree with COC?	(es)	No		1 2 3 4	
2.5 Were all of the samples listed on the COC submitted?	es	No		1 2 3 4	
2.6 Were any of the samples submitted omitted from the COC?	Yes	No		1 2 3 4	
3.0 Sample Verification					
3.1 Were any sample containers broken or compromised?	Yes	(No)		1 2 3 4	
3.2 Were any sample labels missing or illegible?	Yes	No		1 2 3 4	
3.3 Have the correct containers been used for each analysis requested?	Yes	No		1 2 3 4	
3.4 Have the samples been correctly preserved?	Yes	No	(N/A)	1 2 3 4	
3.5 Are volatiles samples free from headspace and bubbles greater than 6mm?	Yes	No	NA	1 2 3 4	
3.6 Is there sufficient sample submitted to perform requested analyses?	(es)	No		1 2 3 4	
3.7 Have any holding times already expired or will expire in 24 hours?	Yes	No		1 2 3 4	
3.8 Was method 5035A used?	Yes	No	(N/A)	1 2 3 4	
3.9 If 5035A was used, which sampling option was used (#1, 2, or 3).	#	1,12	N/A	1 2 3 4	

<sup>1 -</sup> Discuss issue in Case Narrative

<sup>2 -</sup> Process Sample As-is

<sup>3 -</sup> Client contacted to discuss problem

<sup>4 -</sup> Sample cannot be analyzed or client does not wish to proceed



February 22, 2018

Clare Tochilin SoundEarth Strategies, Inc. 2811 Fairview Ave East, Suite 2000 Seattle, WA 98102 L A B S

INDUSTRIAL
H Y G I E N E
S E R V I C E S

Laboratory | Management | Training

RE: Bulk Asbestos Fiber Analysis; NVL Batch # 1803172.00

Client Project: 1267-013 Location: SCL Phinney

Dear Ms. Tochilin,

Enclosed please find test results for the 3 sample(s) submitted to our laboratory for analysis on 2/16/2018.

Examination of these samples was conducted for the presence of identifiable asbestos fibers using polarized light microscopy (PLM) with dispersion staining in accordance with both **EPA 600/M4-82-020**, Interim Method for the Determination of Asbestos in Bulk Insulation Samples and **EPA 600/R-93/116** Method for the Determination of Asbestos in Bulk Building Materials.

For samples containing more than one separable layer of materials, the report will include findings for each layer (labeled Layer 1 and Layer 2, etc. for each individual layer). The asbestos concentration in the sample is determined by calibrated visual estimation.

For those samples with asbestos concentrations between 1 and 10 percent based on visual estimation, the EPA recommends a procedure known as point counting (NESHAPS, 40 CFR Part 61). Point counting is a statistically more accurate means of quantification for samples with low concentrations of asbestos.

The detection limit for the calibrated visual estimation is <1%, 400 point counts is 0.25% and 1000 point counts is 0.1%

Samples are archived for two weeks following analysis. Samples that are not retrieved by the client are discarded after two weeks.

Thank you for using our laboratory services. Please do not hesitate to call if there is anything further we can assist you with.

Sincerely,

Nick Ly, Technical Director

Enc.: Sample Results

1.888.NVL.LABS 1.888.(685.5227) www.nvllabs.com



## **Bulk Asbestos Fibers Analysis**

By Polarized Light Microscopy

Client: SoundEarth Strategies, Inc.

Address: 2811 Fairview Ave East, Suite 2000

Seattle, WA 98102

Batch #: 1803172.00

Client Project #: 1267-013

Date Received: 2/16/2018

Samples Received: 3

Samples Analyzed: 3

Method: EPA/600/R-93/116

& EPA/600/M4-82-020

None Detected ND

None Detected ND

Attention: Ms. Clare Tochilin

Project Location: SCL Phinney

Lab ID: 18015958 Client Sample #: PH-ACM-01A

Location: SCL Phinney

Layer 1 of 2 Description: Black asphaltic fibrous material

Non-Fibrous Materials: Other Fibrous Materials: Asbestos Type: %

Asphalt/Binder, Fine particles Cellulose 38% None Detected ND

Layer 2 of 2 Description: Black asphaltic fibrous material

Non-Fibrous Materials: Other Fibrous Materials: Asbestos Type: %

Asphalt/Binder, Fine particles Cellulose 43% None Detected ND

Lab ID: 18015959 Client Sample #: PH-ACM-01B

Location: SCL Phinney

Layer 1 of 2 Description: Black asphaltic fibrous material

Non-Fibrous Materials: Other Fibrous Materials: Asbestos Type: %

Asphalt/Binder, Fine particles Cellulose 41%

Layer 2 of 2 Description: Black asphaltic fibrous material

Non-Fibrous Materials: Other Fibrous Materials: Asbestos Type: %

Asphalt/Binder, Fine particles Cellulose 39%

Lab ID: 18015960 Client Sample #: PH-ACM-01C

Location: SCL Phinney

Layer 1 of 1 Description: Black asphaltic fibrous built-up material

Non-Fibrous Materials: Other Fibrous Materials: Asbestos Type: %

Asphalt/Binder, Fine particles Cellulose 47% None Detected ND

Sampled by: Client

Analyzed by: Galen Richards

Date: 02/22/2018

Reviewed by: Nick Ly

Date: 02/22/2018

Nick Ly, Technical Director

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

### **NVL Laboratories, Inc.**

18015960

PH-ACM-01C

## ASBESTOS LABORATORY SERVICES



Α

	Company	SoundEarth Strate	gies, Inc.		NVL Bato	ch Number	1803	172.0	0		
	Address	2811 Fairview Ave	•	e 2000	TAT 5.E	-			AH No		
		Seattle, WA 98102			Rush TA		40 =				
Proje	•	Ms. Clare Tochilin			Due Date				4:45 PM		
	Phone	(206) 306-1900			<b>Email</b> kb	artelt@soui	ndearth.	.com			
					Fax (2)	06) 306-190	)7				
Proj	ect Name/I	Number: 1267-013		Project Lo	cation: SCL	. Phinney					
Subc	ategory PL	M Bulk									
Ite	m Code AS	SB-02	EPA 600/F	R-93-116 Asbe	estos by PLM	1 <bulk></bulk>					
					-						
То	tal Numb	per of Samples	3						Rush Samples		
	Lab ID	Sample ID	D	escription						A/	R
1	18015958	PH-ACM-01A								1	4
2	18015050	DH ACM 01B									$\overline{}$

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Client				
Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Soumeya Benzina		NVL	2/16/18	1645
Analyzed by	Galen Richards		NVL	2/22/18	
Results Called by					
☐ Faxed ☐ Emailed					
Special Instructions:	-	ı			

Date: 2/17/2018 Time: 6:11 PM

Entered By: Soumeya Benzina



## **ASBESTOS CHAIN OF CUSTODY**

Turn Around Time

□ 1 Hour 24 Hours

2 Hours 2 Days 4 Days

4 Hours

3 Days

Days ☐ 10 Days

Please call for TAT less than 24 Hours

	ompany Sundtarth St. Address	rategies Project Manager Clare Tochilin  Cell 13601 333-2321  Email Klartelt @Soundearthing.co	m
	Phone		
Project	Name/Number   267-013	Project Location SCL Phinney	
P P	PLM (EPA 600/R-93-116)	TEM (NIOSH 7402) TEM (AHERA) TEM (EPA Level II Modified)  EPA 400 Points (600/R-93-116) EPA 1000Points (600/R-93-11  Asbestos in Vermiculite (EPA 600/R-04/004) Asbestos in Sediment (EPA 1900)	
	orting Instructions		-
	Call (	□ Fax ( ) - □ Email	-
otal	Number of Samples	Description	A/R
1	PH-ACM-OIA		1
2	PH-ALM-OIB	Fibrous turny conduit	+-
3	PH-ACM-OIC	46 46	1
4			
5			
6			
7			
8			
9			
1.0			
11			-
12			-
1.5			-
13			

## ATTACHMENT C DATA VALIDATION REPORTS

## **DATA VALIDATION REPORT**

## Seattle City Light Phinney Substation March 2018

### Prepared for:

Sound Earth Strategies, Inc. 2811 Fairview Ave East, Suite 2000 Seattle, Washington 98102

## Prepared by:

Validata, LLC 3346 NE 178<sup>th</sup> St. Lake Forest Park, Washington 98155

#### PROJECT NARRATIVE

#### Data Validation

This report summarizes the results of the summary level validation (Stage 2A) performed on samples for the Seattle City Light sampling project. A complete list of samples is provided in the Sample Index. Samples were analyzed by OnSite Environmental laboratory, Redmond, Washington. The analytical methods are listed below:

#### Sample Index

ANALYSIS	METHOD	Reviewer
Petroleum Hydrocarbons – Diesel Range Organics, Lube Oil Organics	NWTPH-Dx	C. Jensen
Organics, Euro On Organics Organics	SW8081B	C. Jensen
Polychlorinated Biphenyls	SW8082A	
Herbicides	SW8151A	C. Jensen
Metals/Mercury	SW6010D/7471B	C. Jensen

The data were reviewed using guidance and quality control criteria documented in the analytical methods; *USEPA National Functional Guidelines for Organic Data Review* (EPA, 1999 & 2008), *USEPA National Functional Guidelines for Inorganic Data Review* (EPA, 2010 & 2014).

The goal of data validation is to assign data assessment qualifiers for assistance in data interpretation. Results assigned as estimated (J or UJ), data may be used for site evaluation and risk assessment purposes but reasons for data qualification should be taken into consideration when interpreting sample concentrations. For results assigned an R, the data are rejected and should not be used for site evaluation purposes. Unqualified data implies the data meet the data quality objectives as stated in the documents and methods referenced above. A summary of the data qualifiers used in validation are included in Appendix A. The summary of Qualified Data are provided in Appendix B. All validation worksheets are provided in Appendix C.

#### SAMPLE INDEX

SDG	Sample ID	Lab ID	TCLP metals	PCBs	NWTP H-Dx	Pesticides	Herbicides	Metals
1802- 151B	PH-1-SS1	02-151-15	X					
	PH-3-SS2	02-151-22	X					-
	PH-4-SS3	02-151-39	X					
1803- 167	PH-01-HA1-01	03-167-01						х
	PH-01-HA1-02	03-167-02						X
	PH-03-HA1-01	03-167-04						X
	PH-03-HA1-02	03-167-05						X
	PH-04-HA1-01	03-167-08						X
	PH-04-HA1-02	03-167-09						X
	PH-05-HA1-01	03-167-12						X
	PH-05-HA1-02	03-167-13						X

	T DIT OC IIA 1 O1	03-167-16						X
	PH-06-HA1-01	03-167-17						X
	PH-06-HA1-02	03-167-20	-					X
	PH-06-HA2-01							X
	PH-06-HA2-02	03-167-21				X		
1802-	PH-3-SS1	02-151-21				Α		
151	PH-3-SS2	02-151-22				X		
	PH-6-SS2,SS1	02-151-01,02 Comp.		X	X	x	X	X
	Comp.							
	PH-7-SS3,SS2,SS1	02-151-03,04,05		X	X	X	X	X
	Comp.	Comp.						
	PH-8-SS1,SS2,SS3	02-151-06,07,08		X	X	X	X	X
	Comp.	Comp.			,,	X	X	x
	PH-6-SS3,SS4,SS5	02-151-09,10,11		X	X	^	^	
	Comp. PH-9-SS1,SS2,SS3	Comp. 02-151-12,13,14		X	х	X	x	x
	Comp.	Comp.		A	"			
	PH16-	02-151-15,16,17		X	X	X	X	X
	SS1,SS2,SS3	Comp.						
	Comp.							
	PH-2-SS1,SS2,SS3	02-151-18,19,20		X	X	x	x	X
	Comp.	Comp.						
	PH-3-SS1,SS2	02-151-21,22 Comp.		X	X	X	X	X
	Comp.						1	x
	PH-5-	02-151-		X	X	X	X	\ \ \
	SS1,SS2,SS3,SS4,	23,24,25,26,27			}			
	SS5 Comp.	Comp.		x	x	x	X	x
	PH-12-SS1,SS2	02-151-28,29 Comp.		^	^	1	1	1
	Comp.	02-151-30,31,32,33		x	x	X	X	X
	PH-11- SS1,SS2,SS3,SS4	Comp.		^	Α.			
	Comp.	Comp.		[				
	PH-10-	02-151-34,35,36		x	X	x	X	X
	SS1,SS2,SS3	Comp.						
	Comp.			<u> </u>				
	PH-4-SS1,SS2,SS3	02-151-37,38,39		X	X	x	X	X
]	Comp.	Comp.		ļ				<del> </del>
	PH-6-SS2	02-151-01						X
	PH-6-SS1	02-151-02			-			X
	PH-7-SS3	02-151-03		<u> </u>				X
	PH-7-SS2	02-151-04		-			-	X
	PH-7-SS1	02-151-05					-	X
	PH-6-SS3	02-151-09	-	-	+		<del></del>	X
	PH-6-SS4	02-151-10	-			+		X
	PH-6-SS5	02-151-11	-	<del> </del>	<del> </del>	-		X
	PH-1-SS1	02-151-15 02-151-16			+			X
	PH-1-SS2	02-151-17		1				x
	PH-1-SS3 PH-2-SS1	02-151-17						x
	PH-2-SS1 PH-2-SS2	02-151-19		1				X
	PH-2-SS3	02-151-20	-					X
	PH-3-SS1	02-151-20						X
	PH-3-SS2	02-151-22						X
	PH-5-SS1	02-151-23						X
	PH-5-SS2	02-151-24						X
	PH-5-SS3	02-151-25						X
	PH-5-SS4	02-151-26						X
	PH-5-SS5	02-151-27						X
	PH-11-SS1	02-151-30	-					X
	PH-11-SS2	02-151-31		-				X
							(	X
	PH-11-SS3	02-151-32						
	PH-11-SS3 PH-11-SS4	02-151-33						x
	PH-11-SS3 PH-11-SS4 PH-4-SS1	02-151-33 02-151-37						X X
	PH-11-SS3 PH-11-SS4	02-151-33						x

## DATA VALIDATION REPORT Petroleum Hydrocarbons – NWTPH-Dx – Diesel Range Organics and Lube Oil Range Organics

This report documents the review of analytical data from the analyses of samples and the associated laboratory and field quality control (QC) samples. OnSite laboratory, Redmond, Washington. Refer to the Sample Index for a complete list of samples.

SDG	NUMBER OF SAMPLES	VALIDATION LEVEL
1802-151	13	STAGE 2A

#### DATA PACKAGE COMPLETENESS

The laboratory submitted all required deliverables for a Stage 2A review. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

#### TECHNICAL DATA VALIDATION

The QC requirements that were reviewed are listed below.

Sample Receipt, Preservation, and Holding Times	Matrix Spikes/Matrix Spike Duplicates (MS/MSD)
Laboratory Blanks	Field Duplicates
Field Blanks	Target Analyte List
Surrogate Compounds	Reporting Limits
Laboratory Control Samples (LCS)	Reported Results

## Sample Receipt, Preservation, and Holding Times

As stated in validation guidance documents, sample shipping coolers should arrive at the laboratory within the advisory temperature range of 0°C - 6°C and be extracted within 7 days for aqueous samples and 14 days for soil samples. Sample extracts must be analyzed within 40 days of extraction. All holding times were met.

#### Method and Field Blanks

The method blanks were all reported as undetected for target compounds. Field blanks were not submitted with this sampling event.

#### **Surrogate Compounds**

Surrogates were added to all samples. All surrogate recoveries were within the laboratory control limits.

### Matrix Spike/Matrix Spike Duplicates

Matrix spike/matrix spike duplicate (MS/MSD) samples were not specifically analyzed for this dataset. The laboratory demonstrated precision and accuracy through the analysis of laboratory duplicate samples with acceptable results.

#### **Field Duplicates**

Field duplicates were not collected for this dataset. Laboratory duplicates were acceptable for this dataset, therefore precision was demonstrated by the laboratory.

#### **Target Analyte List**

A sampling plan was not available for review.

#### **Reporting Limits**

The laboratory reporting limits were sufficiently below the MTCA Method A cleanup levels.

#### Reported Results

Lube oil and diesel for samples PH-7-SS3,SS2,SS1 Comp., PH-8-SS1,SS2,SS3 Comp., PH-6-SS3,SS4,SS5 Comp., PH-9-SS1,SS2,SS3 Comp., PH-1-SS1,SS2,SS3 Comp., PH-3-SS1,SS2 Comp., PH-5-SS1,SS2,SS3,SS4,SS5 Comp., PH-12-SS1,SS2 Comp., PH-11-SS1,SS2,SS3,SS4Comp., PH-10-SS1,SS2,SS3 Comp., PH-4-SS1,SS2,SS3 Comp. were qualified as estimated (J) and code 14 since the laboratory indicated the hydrocarbons in the lube oil range are impacting diesel results. Therefore, both lube oil and diesel are considered estimated values for these samples.

#### OVERALL ASSESSMENT

As determined by this evaluation, the laboratory followed the specified analytical method. With the exceptions noted above, accuracy was acceptable as demonstrated by the surrogate recovery values. All data are acceptable for use.

## DATA VALIDATION REPORT Organochlorine Pesticides - Method 8181B

This report documents the review of analytical data from the analyses of samples and the associated laboratory and field quality control (QC) samples. OnSite Environmental, Inc. laboratory, Seattle, Washington. Refer to the Sample Index for a complete list of samples.

SDG	NUMBER OF SAMPLES	VALIDATION LEVEL
1802-151	2 individual, 13 composite	STAGE 2A

#### DATA PACKAGE COMPLETENESS

With the exception noted below, the laboratory submitted all required deliverables. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

#### TECHNICAL DATA VALIDATION

The QC requirements that were reviewed are listed below.

Sample Receipt, Preservation, and Holding Times	Matrix Spikes/Matrix Spike Duplicates (MS/MSD)
Laboratory Blanks	Field Duplicates
Field Blanks	Target Analyte List
Surrogate Compounds	Reporting Limits
Laboratory Control Samples (LCS)	Reported Results

## Sample Receipt, Preservation, and Holding Times

As stated in validation guidance documents, sample shipping coolers should arrive at the laboratory within the advisory temperature range of 0°C - 6°C and be extracted within 7 days for aqueous samples and 14 days for soil samples. Sample extracts must be analyzed within 40 days of extraction. The holding times were met.

#### Method and Field Blanks

The method blanks were all reported as undetected for target compounds. Field blanks were not submitted with this sampling event.

#### **Surrogate Compounds**

Surrogates were added to all samples with acceptable recoveries.

#### Matrix Spike/Matrix Spike Duplicates

A Matrix spike/matrix spike duplicate (MS/MSD) sample pair was analyzed with this dataset with acceptable results.

#### **Field Duplicates**

Field duplicates were not collected for this dataset.

#### **Target Analyte List**

A sampling plan was not available for review.

#### Reporting Limits

The laboratory reporting limits were sufficiently below the MTCA Method A cleanup levels.

#### Reported Results

Results reported were deemed acceptable. The laboratory noted the difference between the two columns exceeded 40%, resulting in estimated qualification of sample PH-3-SS1,SS2 Comp. for alpha-Chlordane.

#### OVERALL ASSESSMENT

As determined by this evaluation, the laboratory followed the specified analytical method. With the exceptions noted above, accuracy was acceptable as demonstrated by the surrogate, MS/MSD and blank spike recovery values.

## DATA VALIDATION REPORT Polychlorinated Biphenyls - Method 8082A

This report documents the review of analytical data from the analyses of samples and the associated laboratory and field quality control (QC) samples. OnSite Environmental, Inc. laboratory, Seattle, Washington. Refer to the Sample Index for a complete list of samples.

SDG	NUMBER OF SAMPLES	VALIDATION LEVEL
1802-151	13 composite	STAGE 2A

#### DATA PACKAGE COMPLETENESS

With the exception noted below, the laboratory submitted all required deliverables. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

#### TECHNICAL DATA VALIDATION

The QC requirements that were reviewed are listed below.

Sample Receipt, Preservation, and Holding Times	Matrix Spikes/Matrix Spike Duplicates (MS/MSD)
Laboratory Blanks	Field Duplicates
Field Blanks	Target Analyte List
Surrogate Compounds	Reporting Limits
Laboratory Control Samples (LCS)	Reported Results

#### Sample Receipt, Preservation, and Holding Times

As stated in validation guidance documents, sample shipping coolers should arrive at the laboratory within the advisory temperature range of 0°C - 6°C and be extracted within 7 days for aqueous samples and 14 days for soil samples. Sample extracts must be analyzed within 40 days of extraction. The holding times were met.

#### Method and Field Blanks

The method blanks were all reported as undetected for target compounds. Field blanks were not submitted with this sampling event.

#### **Surrogate Compounds**

Surrogates were added to all samples with acceptable recoveries.

#### Matrix Spike/Matrix Spike Duplicates

A laboratory control sample was analyzed in lieu of matrix spike/matrix spike duplicate (MS/MSD) samples with acceptable results.

#### **Field Duplicates**

Field duplicates were not collected for this dataset.

#### **Target Analyte List**

A sampling plan was not available for review.

#### **Reporting Limits**

The laboratory reporting limits were sufficiently below the MTCA Method A cleanup levels.

#### Reported Results

Results reported were deemed acceptable.

#### OVERALL ASSESSMENT

As determined by this evaluation, the laboratory followed the specified analytical method. With the exceptions noted above, accuracy was acceptable as demonstrated by the surrogate and blank spike recovery values.

## DATA VALIDATION REPORT Chlorinated Herbicides - Method 8151A

This report documents the review of analytical data from the analyses of samples and the associated laboratory and field quality control (QC) samples. OnSite Environmental, Inc. laboratory, Seattle, Washington. Refer to the Sample Index for a complete list of samples.

SDG	NUMBER OF SAMPLES	VALIDATION LEVEL
1802-151	13	STAGE 2A

#### DATA PACKAGE COMPLETENESS

With the exception noted below, the laboratory submitted all required deliverables. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

#### TECHNICAL DATA VALIDATION

The QC requirements that were reviewed are listed below.

	and the second s
Sample Receipt, Preservation, and Holding	Matrix Spikes/Matrix Spike Duplicates
Times	(MS/MSD)

Laboratory Blanks	Field Duplicates	
Field Blanks	Target Analyte List	
Surrogate Compounds	Reporting Limits	
Laboratory Control Samples (LCS)	Reported Results	

#### Sample Receipt, Preservation, and Holding Times

As stated in validation guidance documents, sample shipping coolers should arrive at the laboratory within the advisory temperature range of 0°C - 6°C and be extracted within 7 days for aqueous samples and 14 days for soil samples. Sample extracts must be analyzed within 40 days of extraction. The holding times were met.

#### Method and Field Blanks

The method blanks were all reported as undetected for target compounds. Field blanks were not submitted with this sampling event.

#### **Surrogate Compounds**

Surrogates were added to all samples with acceptable results.

#### Matrix Spike/Matrix Spike Duplicates

A laboratory control sample/laboratory control sample duplicate (LCS/LCSD) pair were analyzed in lieu of a matrix spike/matrix spike duplicate (MS/MSD). Accuracy and precision were met.

#### **Field Duplicates**

Field duplicates were not collected for this dataset.

#### **Target Analyte List**

A sampling plan was not available for review.

#### Reporting Limits

The laboratory reporting limits were sufficiently below the MTCA Method A cleanup levels.

#### Reported Results

Results reported were deemed acceptable.

#### OVERALL ASSESSMENT

As determined by this evaluation, the laboratory followed the specified analytical method. With the exceptions noted above, accuracy was acceptable as demonstrated by the surrogate and LCS/LCSD recovery values. All data are acceptable for use.

## DATA VALIDATION REPORT Metals/Mercury - Method 6010D/7471B

This report documents the review of analytical data from the analyses of samples and the associated laboratory and field quality control (QC) samples. OnSite Environmental, Inc. laboratory, Seattle, Washington. Refer to the Sample Index for a complete list of samples.

SDG	NUMBER OF SAMPLES	VALIDATION LEVEL
1802-151	13 composites	STAGE 2A
	28 individual	
1803-167	12	STAGE 2A
1802-151B	3 TCLP	STAGE 2A

#### DATA PACKAGE COMPLETENESS

With the exception noted below, the laboratory submitted all required deliverables. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

#### TECHNICAL DATA VALIDATION

The QC requirements that were reviewed are listed below.

Sample Receipt, Preservation, and Holding Times	Matrix Spikes/Matrix Spike Duplicates (MS/MSD)
Laboratory Blanks	Field Duplicates
Field Blanks	Target Analyte List
Surrogate Compounds	Reporting Limits
Laboratory Control Samples (LCS)	Reported Results

#### Sample Receipt, Preservation, and Holding Times

As stated in validation guidance documents, sample shipping coolers should arrive at the laboratory within the advisory temperature range of 0°C - 6°C and metals must be analyzed within 6 months and mercury within 28 days of sample collection. The holding times were met.

#### Method and Field Blanks

The method blanks were all reported as undetected for target compounds. Field blanks were not submitted with this sampling event.

#### **Surrogate Compounds**

Not Applicable.

#### Matrix Spike/Matrix Spike Duplicates

Matrix spike/matrix spike duplicate (MS/MSD) samples were analyzed with acceptable results.

#### **Field Duplicates**

Field duplicates were not collected for this dataset. The laboratory analyzed laboratory duplicates to demonstrate precision.

#### **Laboratory Duplicates**

Laboratory duplicates were analyzed to demonstrate precision. The precision for lead in the individual sample analyses was exceeded, resulting in estimated qualification and footnote 9 for all lead results.

#### **Target Analyte List**

A sampling plan was not available for review.

#### Reporting Limits

The laboratory reporting limits were sufficiently below the MTCA Method A cleanup levels.

#### Reported Results

Results reported were deemed acceptable.

#### OVERALL ASSESSMENT

As determined by this evaluation, the laboratory followed the specified analytical methods. Accuracy was acceptable as demonstrated by the MS/MSD recovery values. Precision was also acceptable as demonstrated by the MS/MSD and laboratory duplicate RPD values. All data, as qualified, are acceptable for use.

# APPENDIX A DATA QUALIFIER DEFINITIONS REASON CODES

## DATA VALIDATION QUALIFIER CODES Based on National Functional Guidelines

The following definitions provide brief explanations of the qualifiers assigned to results in the data review process.

- U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
- J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- NJ The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents the approximate concentration.
- UJ The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

## DATA QUALIFIER REASON CODES

Group	Code	Reason for Qualification
Sample Handling	1	Improper Sample Handling or Sample Preservation (i.e., headspace, cooler)
Instrument Performance	24	Instrument Performance (i.e., tune, resolution, retention time window, endrin
Thou district a second		breakdown, lock-mass)
Instrument Performance	5A	Initial Calibration (RF, %RSD, r2)
Instrument Performance	5B	Calibration Verification (CCV, CCAL; RF, %D, %R)
monument i circimance	22	Use bias flags (H,L)1 where appropriate
Instrument Performance	5C	Initial Calibration Verification (ICV %D, %R)
THOU WINDOW I COMMISSION		Use bias flags (H,L)1 where appropriate
Blank Contamination	6	Field Blank Contamination (Equipment Rinsate, Trip Blank, etc.)
Blank Contamination	7	Lab Blank Contamination (i.e., method blank, instrument blank, etc.)
		Use low bias flag (L)1 for negative instrument blanks
Precision and Accuracy	8	Matrix Spike (MS and/or MSD) Recoveries
,		Use bias flags (H,L)1 where appropriate
Precision and Accuracy	9	Precision (all replicates: LCS/LCSD, MS/MSD, Lab Replicate, Field
		Replicate)
Precision and Accuracy	10	Laboratory Control Sample Recoveries (a.k.a. Blank Spikes)
•		Use bias flags (H,L)1 where appropriate
Precision and Accuracy	12	Reference Material
•		Use bias flags (H,L)1 where appropriate
Precision and Accuracy	13	Surrogate Spike Recoveries (a.k.a. labeled compounds, recovery standards)
•		Use bias flags (H,L)1 where appropriate
Interferences	16	ICP/ICP-MS Serial Dilution Percent Difference
Interferences	17	ICP/ICP-MS Interference Check Standard Recovery
		Use bias flags (H,L)1 where appropriate
Interferences	19	Internal Standard Performance (i.e., area, retention time, recovery)
Interferences	22	Elevated Detection Limit due to Interference (i.e., chemical and/or matrix)
Interferences	23	Bias from Matrix Interference (i.e. diphenyl ether, PCB/pesticides)
Identification and Quantitation	2	Chromatographic pattern in sample does not match pattern of calibration
		standard
Identification and Quantitation	3	2nd column confirmation (RPD or %D)
Identification and Quantitation	4	Tentatively Identified Compound (TIC) (associated with NJ only)
Identification and Quantitation	20	Calibration Range or Linear Range Exceeded
Identification and Quantitation	25	Compound Identification (i.e., ion ratio, retention time, relative abundance,
identification and Quantitation	25	etc.)
Miscellaneous	11	A more appropriate result is reported (multiple reported analyses i.e.,
Milocollatioods		dilutions, reextractions,
		etc. Associated with "R" and "DNR" only)
Miscellaneous	14	Other (See DV report for details)
Miscellaneous	26	Method QC information not provided

## APPENDIX B QUALIFIED DATA SUMMARY TABLE

## **Qualified Data Sample Summary**

Sample ID	Lab ID	Compound	Concentration	units	Qualifier, Code
PH-7-SS3	02-151-03	lead	69	mg/kg	J,9
PH-7-SS2	02-151-04	lead	40	mg/kg	Ј,9
PH-7-SS1	02-151-05	lead	84	mg/kg	J,9
PH-6-SS3	02-151-09	lead	59	mg/kg	J,9
PH-6-SS4	02-151-10	lead	93	mg/kg	J,9
PH-6-SS5	02-151-11	lead	270	mg/kg	J,9
PH-1-SS1	02-151-15	lead	65	mg/kg	J,9
PH-1-SS2	02-151-16	lead	66	mg/kg	J,9
PH-1-SS3	02-151-17	lead	250	mg/kg	J,9
PH-2-SS1	02-151-18	lead	40	mg/kg	J,9
PH-2-SS2	02-151-19	lead	140	mg/kg	J,9
PH-2-SS3	02-151-20	lead	98	mg/kg	J,9
PH-3-SS1	02-151-21	lead	270	mg/kg	J,9
PH-3-SS2	02-151-22	lead	320	mg/kg	J,9
PH-5-SS1	02-151-23	lead	110	mg/kg	J,9
PH-5-SS2	02-151-24	lead	170	mg/kg	J,9
PH-5-SS3	02-151-25	lead	320	mg/kg	J,9
PH-5-SS4	02-151-26	lead	80	mg/kg	J,9
PH-5-SS5	02-151-27	lead	140	mg/kg	J,9
PH-11-SS1	02-151-30	lead	160	mg/kg	J,9
PH-11-SS2	02-151-31	lead	49	mg/kg	J,9
PH-11-SS3	02-151-32	lead	47	mg/kg	J,9
PH-11-SS4	02-151-33	lead	52	mg/kg	J,9
PH-4-SS1	02-151-37	lead	85	mg/kg	J,9
PH-4-SS2	02-151-38	lead	88	mg/kg	J,9
PH-4-SS3	02-151-39	lead	340	mg/kg	J,9
PH-7-SS3,SS2,SS1	02-151-03,04,05 Comp.	DRO	51	mg/kg	J,14
Comp.	02 151 05,0 i,05 comp.	Lube Oil	140		J,14
PH-8-SS1,SS2,SS3	02-151-06,07,08 Comp.	DRO	66	mg/kg	J.14
	02-131-00,07,08 Comp.	Lube Oil	140		J,14
Comp. PH-6-SS3,SS4,SS5	02-151-09,10,11 Comp.	DRO	87	mg/kg	J.14
, ,	02-131-09,10,11 Comp.	Lube Oil	370	mg mg	J,14
Comp.	02 151 12 12 14 Comm	DRO	66	mg/kg	J.14
PH-9-SS1,SS2,SS3	02-151-12,13,14 Comp.	Lube Oil	250	mg/kg	J,14
Comp.	02 151 21 22 6		95	mg/kg	J.14
PH-3-SS1,SS2 Comp.	02-151-21,22 Comp.	DRO Lube Oil	690	mg/kg	J,14
DVV 5	02-151-23,24,25,26,27	DRO	99	mg/kg	J,14
PH-5-		Lube Oil	290	mg/kg	J,14
SS1,SS2,SS3,SS4,SS5	Comp.	Lube On	250		2,00
Comp.	02 151 20 20 6	DRO	49	mg/kg	J,14
PH-12-SS1,SS2	02-151-28,29 Comp.	Lube Oil	72	mg/kg	J,14
Comp.					J,14
PH-11-	02-151-30,31,32,33	DRO	140 270	mg/kg	J.14 J.14
SS1,SS2,SS3,SS4	Comp.	Lube Oil	2/0		3,14
Comp.			1.60	7	T 14
PH-10-SS1,SS2,SS3	02-151-34,35,36 Comp.	DRO	160	mg/kg	J,14
Comp.		Lube Oil	420		J,14
PH-4-SS1,SS2,SS3	02-151-37,38,39 Comp.	DRO	130	mg/kg	J,14
Comp.		Lube Oil	370		J,14

## APPENDIX C DATA VALIDATION CHECKLISTS

VALIDATION WORKSHEET SDG: 1802-15 llube Oil Method: Date Reviewed: 2,793.
Sample Collection Dates: Reviewer: C Jensen The following data validation areas were reviewed: 15 17 18 19 20 Sample Identification Validation Criteria Sample results Holding Times Q Completion > Method Blanks LCS duplicate RPD Þ MS/MSD: Note:X = Criteria were evaluated and not met. A = Criteria were evaluated and met. N = Data was not available for review. NA = Not applicable. Comments: 2.15.18 2.16.18 2.20.18 SUN: ok

Date of Report: March 5, 2018 Samples Submitted: February 14, 2018 Laboratory Reference: 1802-151

Project: 1267-013

#### **NWTPH-Dx**

Matrix: Soil

Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	PH-6-SS2,SS1 Comp.					
Laboratory ID:	02-151-01,02 Comp.					
Diesel Range Organics	110	30	NWTPH-Dx	2-15-18	2-16-18	
Lube Oil Range Organics	590	61	<b>NWTPH-Dx</b>	2-15-18	2-16-18	
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	111	50-150				
Client ID:	PH-7-SS3,SS2,SS1 Comp					
Laboratory ID:	02-151-03,04,05 Comp.					
Diesel Range Organics	51 ) 19		NWTPH-Dx	2-15-18	2-16-18	
Lube Oil Range Organics		d 58	NWTPH-Dx	2-15-18	2-16-18	N1
Surrogate:	Percent Recovery	Control Limits	VIII II DX	2 10 10		
o-Terphenyl	105	50-150				
o-reiphenyi	700	30-700				
Client ID:	PH-8-SS1,SS2,SS3 Comp					
Laboratory ID:	02-151-06,07,08 Comp.			3111721		
Diesel Range Organics	66		NWTPH-Dx	2-15-18	2-16-18	
Lube Oil Range Organics	140 5 16		NWTPH-Dx	2-15-18	2-16-18	N1
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	92	50-150				
Client ID:	PH-6-SS3,SS4,SS5 Comp					
Laboratory ID:	02-151-09,10,11 Comp.		NIATEDIA De	2-15-18	2-16-18	
Diesel Range Organics			NWTPH-Dx NWTPH-Dx	2-15-18	2-16-18	N1
Lube Oil Range Organics			NVV I PH-DX	2-10-10	2-10-10	INI
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	94	50-150				
Client ID:	PH-9-SS1,SS2,SS3 Comp	) <b>.</b>				
Laboratory ID:	02-151-12,13,14 Comp.					
Diesel Range Organics	66 ) 1		NWTPH-Dx	2-15-18	2-16-18	
Lube Oil Range Organics	-\ .	4 61	NWTPH-Dx	2-15-18	2-16-18	N1
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	98	50-150				
Client ID:	DU 4 SS4 SS2 SS2 C					
	PH-1-SS1,SS2,SS3 Comp 02-151-15,16,17 Comp.					
Laboratory ID:			NWTPH-Dx	2-15-18	2-20-18	U1
Diesel Range Organics	ND 570	41 59		2-15-18 2-15-18	2-20-18	UI
Lube Oil	570		NWTPH-Dx	2-10-10	2-20-10	
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	92	50-150				
o-Terphenyl	92	50-150				

Date of Report: March 5, 2018 Samples Submitted: February 14, 2018 Laboratory Reference: 1802-151 Project: 1267-013

#### **NWTPH-Dx**

Matrix: Soil

Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	PH-2-SS1,SS2,SS3 Comp.					
Laboratory ID:	02-151-18,19,20 Comp.					
Diesel Range Organics	ND	29	NWTPH-Dx	2-15-18	2-16-18	
Lube Oil	210	57	NWTPH-Dx	2-15-18	2-16-18	
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	102	50-150				
Ollows ID.	DI 0 004 000 0					
Client ID:	PH-3-SS1,SS2 Comp.					
Laboratory ID:	02-151-21,22 Comp.	24	NIATOLLO	0.45.40	2.20.40	NI NI
Diesel Range Organics	95 J 14 690 J 14	34 69	NWTPH-Dx	2-15-18	2-20-18 2-20-18	N
Lube Oil Range Organics		AMATA MATERIAL PROPERTY AND ADMINISTRATION OF THE PARTY AND AD	NWTPH-Dx	2-15-18	2-20-18	
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	104	50-150				
	I-5-SS1,SS2,SS3,SS4,SS5 Com	ıp.				
Laboratory ID:	02-151-23,24,25,26,27 Comp.					
Diesel Range Organics	99 7 12	30	NWTPH-Dx	2-15-18	2-21-18	
Lube Oil Range Organics	290 1 14	60	NWTPH-Dx	2-15-18	2-21-18	N1_
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	94	50-150				
Client ID:	PH-12-SS1,SS2 Comp.					
Laboratory ID:	02-151-28,29 Comp,					
Diesel Range Organics	49 3 19	28	NWTPH-Dx	2-15-18	2-16-18	
Lube Oil Range Organics	72 J 14	56	NWTPH-Dx	2-15-18	2-16-18	N1
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	97	50-150				
,						
Olivert ID:	NI 44 004 000 000 004 0					
	PH-11-SS1,SS2,SS3,SS4 Comp					
Laboratory ID:	02-151-30,31,32,33 Comp		ADACEDILO	0.45.40	0.40.40	
Diesel Range Organics	140	29	NWTPH-Dx	2-15-18	2-16-18	NIA
Lube Oil Range Organics	210 J y	59	NWTPH-Dx	2-15-18	2-16-18	N1
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	111	50-150				
Client ID:	PH-10-SS1,SS2,SS3 Comp.					
Laboratory ID:	02-151-34,35,36 Comp.		NATELLE	2 45 40	2.20.40	
Diesel Range Organics	160	29	NWTPH-Dx	2-15-18	2-20-18	NI4
Lube Oil Range Organics		57	NWTPH-Dx	2-15-18	2-20-18	N1_
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	119	50-150				

Date of Report: March 5, 2018

Samples Submitted: February 14, 2018 Laboratory Reference: 1802-151 Project: 1267-013

#### **NWTPH-Dx**

Matrix: Soil

Units: mg/Kg (ppm)

Analyte	Result		PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	PH-4-SS1,SS2,SS3 Com	p.					
Laboratory ID:	02-151-37,38,39 Comp	Q					
Diesel Range Organics	130	14.	30	NWTPH-Dx	2-15-18	2-20-18	
Lube Oil Range Organics	370	14	60	NWTPH-Dx	2-15-18	2-20-18	N1
Surrogate:	Percent Recovery	Cor	ntrol Limits				
o-Terphenyl	116		50-150				

Method: Ovaluation VALIDATION WORKSHEET

Date Reviewed: 13.28 ×

Sample Collection Dates: 7.19. ×

The following data validation areas were a validation.

The following data validation areas were reviewed:																				
Sample	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Identification																				
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Validation	1	74																		
Criteria		6.		ł																
Sample results	Λ	٥																		
	H	7						ļ	<u> </u>			-								
Holding Times	A	->																		
Completion	1	4																		
Completion	1	7/				-	-			1			1				-			
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Method Blanks	1-	7		-	-	-		-						-						
LCS																				
duplicate RPD					-	<u> </u>	+	-		1	<del> </del>		_					-		
									-		-					-				
MS/MSD:		12																		
1	1,1	11									1		1	1			L			

Note:X = Criteria were evaluated and not met. A = Criteria were evaluated and met. N = Data was not available for review. NA = Not applicable. Comments: Som. oh

Date of Report: March 5, 2018 Samples Submitted: February 14, 2018 Laboratory Reference: 1802-151

Project: 1267-013

#### ORGANOCHLORINE PESTICIDES EPA 8081B

Matrix: Soil

Units: ug/Kg (ppb)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	PH-3-SS1					
Laboratory ID:	02-151-21					
Dieldrin	48	13	EPA 8081B	2-27-18	3-2-18	
Surrogate:	Percent Recovery	Control Limits				
TCMX	57	41-106				
DCB	49	40-123				
Client ID:	PH-3-SS2					
Laboratory ID:	02-151-22					
Dieldrin	ND	15	EPA 8081B	2-27-18	3-5-18	
Surrogate:	Percent Recovery	Control Limits				
TCMX	44	41-106				
DCB	40	40-123				

Method: 5081B SDG: 1802.15																				
	\$108	RIB			۲				20						S	DG:	180	2.1	51	
Method:	ī: 3	20	.16	<u></u>					. C		5	>_			R	eview	er: C	Jense	n	
Sample Collec	tion Da	ites:	2.19	3.18		, adı			35		્રે	3	- 5	>					•	
The following Sample	1	2 .	3 ~	4	5 .	6 .	7 5	8 .	95	10	11	129	B	14	15	16	17	18	19	20
Identification		×	3	3	Som of	3	25	3	- X	3	= 8	)	ű							
	9	3	3	3	3	Š	3	3	6	3	3	52	3							
	3	\$	55	ñ	3	52	35	~	9	9	33	3	22							
	may KS	37%	25	8	X	25	~1	- 35	X	53	2	25	582,583							
. ,	1 8	3	8	35	15	N	35	~	· W	\ \tilde{\infty}	\ \?\	<i>(</i> )								
	2	53	18	35	2.	3	~	- 83	8	33	5	3	3							
-	55	3	is	8	82	١,٠	3	in	10	2.	-	0	2							
Validation	14.6.552	185788585.F.M	PH-8-551,552,553	PH-10-557554 555	P4-9-551,557,583	PH-1-951,552,559	A.2.551,552,55	JSS 155 E-HI	PW-5-35	M-12-38	PH-11-551552.95	PH-10-551	185-4-185							
Criteria	1	Ø.	0	9	6	9	Ø.	9	0	0	0	9	ارخ رخ		-	-		<del> </del>		
Sample results	A														<u></u>					
Holding Times	A												7							
Completion	A														<u> </u>					
Method Blanks	A.	· 											$\rightarrow$		,					
LCS																				
duplicate RPD																				
MS/MSD:	A-												-							
Note:X = Criter	ia were	evaluate	ed and	not me	t. A=	Criteria	were	evaluat	ed and	met. N	= Data	a was n	ot avai	lable f	or revi	ew. Na	1 = No	t applic	able.	
Comments:																				
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Project: 1267-013

#### ORGANOCHLORINE PESTICIDES EPA 8081B

Matrix: Soil

Units: ug/Kg (ppb)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	PH-6-SS2,SS1 Comp.	•				
Laboratory ID:	02-151-01,02 Comp.					
alpha-BHC	ND	6.1	EPA 8081B	2-20-18	2-20-18	
gamma-BHC	ND	6.1	EPA 8081B	2-20-18	2-20-18	
beta-BHC	ND	6.1	EPA 8081B	2-20-18	2-20-18	
delta-BHC	ND	6.1	EPA 8081B	2-20-18	2-20-18	
Heptachlor	ND	6.1	EPA 8081B	2-20-18	2-20-18	
Aldrin	ND	6.1	EPA 8081B	2-20-18	2-20-18	
Heptachlor Epoxide	ND	6.1	EPA 8081B	2-20-18	2-20-18	
gamma-Chlordane	ND	12	EPA 8081B	2-20-18	2-20-18	
alpha-Chiordane	ND	12	EPA 8081B	2-20-18	2-20-18	
4,4'-DDE	41	12	EPA 8081B	2-20-18	2-20-18	
Endosulfan I	ND	6.1	EPA 8081B	2-20-18	2-20-18	
Dieldrin	ND	12	EPA 8081B	2-20-18	2-20-18	
Endrin	ND	12	EPA 8081B	2-20-18	2-20-18	
4,4'-DDD	12	12	EPA 8081B	2-20-18	2-20-18	
Endosulfan II	ND	12	EPA 8081B	2-20-18	2-20-18	
4,4'-DDT	270	12	EPA 8081B	2-20-18	2-20-18	
Endrin Aldehyde	ND	12	EPA 8081B	2-20-18	2-20-18	
Methoxychlor	ND	12	EPA 8081B	2-20-18	2-20-18	
Endosulfan Sulfate	ND	12	EPA 8081B	2-20-18	2-20-18	
Endrin Ketone	ND	12	EPA 8081B	2-20-18	2-20-18	
Toxaphene	ND	61	EPA 8081B	2-20-18	2-20-18	
Surrogate:	Percent Recovery	Control Limits				
TOMA	40	11 100				

Surrogate: Percent Recovery Control Lim
TCMX 48 41-106
DCB 53 40-123

# ORGANOCHLORINE PESTICIDES EPA 8081B

Matrix: Soil

Units: ug/Kg (ppb)

o.mo. og.r.g (pp2)				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	PH-7-SS3,SS2,SS1 Comp.					
Laboratory ID:	02-151-03,04,05 Comp.					
alpha-BHC	ND	5.8	EPA 8081B	2-20-18	2-20-18	
gamma-BHC	ND	5.8	EPA 8081B	2-20-18	2-20-18	
beta-BHC	ND	5.8	EPA 8081B	2-20-18	2-20-18	
delta-BHC	ND	5.8	EPA 8081B	2-20-18	2-20-18	
Heptachlor	ND	5.8	EPA 8081B	2-20-18	2-20-18	
Aldrin	ND	5.8	EPA 8081B	2-20-18	2-20-18	
Heptachlor Epoxide	ND	5.8	EPA 8081B	2-20-18	2-20-18	
gamma-Chlordane	ND	12	EPA 8081B	2-20-18	2-20-18	
alpha-Chlordane	ND	12	EPA 8081B	2-20-18	2-20-18	
4,4'-DDE	ND	12	EPA 8081B	2-20-18	2-20-18	
Endosulfan I	ND	5.8	EPA 8081B	2-20-18	2-20-18	
Dieldrin	ND	12	EPA 8081B	2-20-18	2-20-18	
Endrin	ND	12	EPA 8081B	2-20-18	2-20-18	
4,4'-DDD	ND	12	EPA 8081B	2-20-18	2-20-18	
Endosulfan II	ND	12	EPA 8081B	2-20-18	2-20-18	
4,4'-DDT	57	12	EPA 8081B	2-20-18	2-20-18	
Endrin Aldehyde	ND	12	EPA 8081B	2-20-18	2-20-18	
Methoxychlor	ND	12	EPA 8081B	2-20-18	2-20-18	
Endosulfan Sulfate	ND	12	EPA 8081B	2-20-18	2-20-18	
Endrin Ketone	ND	12	EPA 8081B	2-20-18	2-20-18	
Toxaphene	ND	58	EPA 8081B	2-20-18	2-20-18	
Surrogate:	Percent Recovery	Control Limits				
TCMX	56	41-106				
DCB	58	40-123				

DCB 58 40-123

Project: 1267-013

#### ORGANOCHLORINE PESTICIDES EPA 8081B

Matrix: Soil

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	PH-8-SS1,SS2,SS3 Comp.					
Laboratory ID:	02-151-06,07,08 Comp.		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			-
alpha-BHC	ND	5.6	EPA 8081B	2-20-18	2-20-18	
gamma-BHC	ND	5.6	EPA 8081B	2-20-18	2-20-18	
beta-BHC	ND	5.6	EPA 8081B	2-20-18	2-20-18	
delta-BHC	ND	5.6	EPA 8081B	2-20-18	2-20-18	
Heptachlor	ND	5.6	EPA 8081B	2-20-18	2-20-18	
Aldrin	ND	5.6	EPA 8081B	2-20-18	2-20-18	
Heptachlor Epoxide	ND	5.6	EPA 8081B	2-20-18	2-20-18	
gamma-Chlordane	ND	11	EPA 8081B	2-20-18	2-20-18	
alpha-Chlordane	ND	11	EPA 8081B	2-20-18	2-20-18	
4,4'-DDE	ND	11	EPA 8081B	2-20-18	2-20-18	
Endosulfan I	ND	5.6	EPA 8081B	2-20-18	2-20-18	
Dieldrin	ND	11	EPA 8081B	2-20-18	2-20-18	
Endrin	ND	11	EPA 8081B	2-20-18	2-20-18	
4,4'-DDD	ND	11	EPA 8081B	2-20-18	2-20-18	
Endosulfan II	ND	11	EPA 8081B	2-20-18	2-20-18	
4,4'-DDT	18	11	EPA 8081B	2-20-18	2-20-18	
Endrin Aldehyde	ND	11	EPA 8081B	2-20-18	2-20-18	
Methoxychlor	ND	11	EPA 8081B	2-20-18	2-20-18	
Endosulfan Sulfate	ND	11	EPA 8081B	2-20-18	2-20-18	
Endrin Ketone	ND	11	EPA 8081B	2-20-18	2-20-18	
Toxaphene	ND	56	EPA 8081B	2-20-18	2-20-18	
Surrogate:	Percent Recovery	Control Limits				
TCMX	49	41-106				
DCB	54	40-123				

Project: 1267-013

# ORGANOCHLORINE PESTICIDES EPA 8081B

Matrix: Soil

3. 9 (1)				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	PH-6-SS3,SS4,SS5 Comp.					
Laboratory ID:	02-151-09,10,11 Comp.					
alpha-BHC	ND	6.3	EPA 8081B	2-20-18	2-26-18	
gamma-BHC	ND	6.3	EPA 8081B	2-20-18	2-26-18	
beta-BHC	ND	6.3	EPA 8081B	2-20-18	2-26-18	
delta-BHC	ND	6.3	EPA 8081B	2-20-18	2-26-18	
Heptachlor	ND	6.3	EPA 8081B	2-20-18	2-26-18	
Aldrin	ND	6.3	EPA 8081B	2-20-18	2-26-18	
Heptachlor Epoxide	ND	6.3	EPA 8081B	2-20-18	2-26-18	
gamma-Chlordane	ND	13	EPA 8081B	2-20-18	2-26-18	
alpha-Chlordane	ND	13	EPA 8081B	2-20-18	2-26-18	
4,4'-DDE	ND	13	EPA 8081B	2-20-18	2-26-18	
Endosulfan I	ND	6.3	EPA 8081B	2-20-18	2-26-18	
Dieldrin	ND	13	EPA 8081B	2-20-18	2-26-18	
Endrin	ND	13	EPA 8081B	2-20-18	2-26-18	
4,4'-DDD	ND	13	EPA 8081B	2-20-18	2-26-18	
Endosulfan II	ND	13	EPA 8081B	2-20-18	2-26-18	
4,4'-DDT	48	13	EPA 8081B	2-20-18	2-26-18	
Endrin Aldehyde	ND	13	EPA 8081B	2-20-18	2-26-18	
Methoxychlor	ND	13	EPA 8081B	2-20-18	2-26-18	
Endosulfan Sulfate	ND	13	EPA 8081B	2-20-18	2-26-18	
Endrin Ketone	ND	13	EPA 8081B	2-20-18	2-26-18	
Toxaphene	ND	63	EPA 8081B	2-20-18	2-26-18	
Surrogate:	Percent Recovery	Control Limits				
TCMX	44	41-106				
DCB	53	40-123				

# **ORGANOCHLORINE** PESTICIDES EPA 8081B

Matrix: Soil

3, 3 (1)				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	PH-9-SS1,SS2,SS3 Comp.					
Laboratory ID:	02-151-12,13,14 Comp.				1.11	
alpha-BHC	ND	6.1	EPA 8081B	2-20-18	2-20-18	
gamma-BHC	ND	6.1	EPA 8081B	2-20-18	2-20-18	
beta-BHC	ND	6.1	EPA 8081B	2-20-18	2-20-18	
delta-BHC	ND	6.1	EPA 8081B	2-20-18	2-20-18	
Heptachlor	ND	6.1	EPA 8081B	2-20-18	2-20-18	
Aldrin	ND	6.1	EPA 8081B	2-20-18	2-20-18	
Heptachlor Epoxide	ND	6.1	EPA 8081B	2-20-18	2-20-18	
gamma-Chlordane	ND	12	EPA 8081B	2-20-18	2-20-18	
alpha-Chlordane	ND	12	EPA 8081B	2-20-18	2-20-18	
4,4'-DDE	ND	12	EPA 8081B	2-20-18	2-20-18	
Endosulfan I	ND	6.1	EPA 8081B	2-20-18	2-20-18	
Dieldrin	ND	12	EPA 8081B	2-20-18	2-20-18	
Endrin	ND	12	EPA 8081B	2-20-18	2-20-18	
4,4'-DDD	ND	12	EPA 8081B	2-20-18	2-20-18	
Endosulfan II	ND	12	EPA 8081B	2-20-18	2-20-18	
4,4'-DDT	25	12	EPA 8081B	2-20-18	2-20-18	
Endrin Aldehyde	ND	12	EPA 8081B	2-20-18	2-20-18	
Methoxychlor	ND	12	EPA 8081B	2-20-18	2-20-18	
Endosulfan Sulfate	ND	12	EPA 8081B	2-20-18	2-20-18	
Endrin Ketone	ND	12	EPA 8081B	2-20-18	2-20-18	
Toxaphene	ND	61	EPA 8081B	2-20-18	2-20-18	
Surrogate:	Percent Recovery	Control Limits				
TCMX	44	41-106				
DCB	53	40-123				

Project: 1267-013

# ORGANOCHLORINE PESTICIDES EPA 8081B

Matrix: Soil

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	PH-1-SS1,SS2,SS3 Comp.					
Laboratory ID:	02-151-15,16,17 Comp.					
alpha-BHC	ND	5.9	EPA 8081B	2-20-18	2-21-18	
gamma-BHC	ND	5.9	EPA 8081B	2-20-18	2-21-18	
beta-BHC	ND	5.9	EPA 8081B	2-20-18	2-21-18	
delta-BHC	ND	5.9	EPA 8081B	2-20-18	2-21-18	
Heptachlor	ND	5.9	EPA 8081B	2-20-18	2-21-18	
Aldrin	ND	5.9	EPA 8081B	2-20-18	2-21-18	
Heptachlor Epoxide	ND	5.9	EPA 8081B	2-20-18	2-21-18	
gamma-Chlordane	ND	12	EPA 8081B	2-20-18	2-21-18	
alpha-Chlordane	ND	12	EPA 8081B	2-20-18	2-21-18	
4,4'-DDE	ND	12	EPA 8081B	2-20-18	2-21-18	
Endosulfan I	ND	5.9	EPA 8081B	2-20-18	2-21-18	
Dieldrin	ND	12	EPA 8081B	2-20-18	2-21-18	
Endrin	ND	12	EPA 8081B	2-20-18	2-21-18	
4,4'-DDD	ND	12	EPA 8081B	2-20-18	2-21-18	
Endosulfan II	ND	12	EPA 8081B	2-20-18	2-21-18	
4,4'-DDT	17	12	EPA 8081B	2-20-18	2-21-18	
Endrin Aldehyde	ND	12	EPA 8081B	2-20-18	2-21-18	
Methoxychlor	ND	12	EPA 8081B	2-20-18	2-21-18	
Endosulfan Sulfate	ND	12	EPA 8081B	2-20-18	2-21-18	
Endrin Ketone	ND	12	EPA 8081B	2-20-18	2-21-18	
Toxaphene	ND	59	EPA 8081B	2-20-18	2-21-18	
Surrogate:	Percent Recovery	Control Limits				
TCMX	55	41-106				
DCB	55	40-123				

Project: 1267-013

# ORGANOCHLORINE PESTICIDES EPA 8081B

Matrix: Soil

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	PH-2-SS1,SS2,SS3 Comp.					
Laboratory ID:	02-151-18,19,20 Comp.					
alpha-BHC	ND	5.7	EPA 8081B	2-20-18	2-21-18	
gamma-BHC	ND	5.7	EPA 8081B	2-20-18	2-21-18	
beta-BHC	ND	5.7	EPA 8081B	2-20-18	2-21-18	
delta-BHC	ND	5.7	EPA 8081B	2-20-18	2-21-18	
Heptachlor	ND	5.7	EPA 8081B	2-20-18	2-21-18	
Aldrin	ND	5.7	EPA 8081B	2-20-18	2-21-18	
Heptachlor Epoxide	ND	5.7	EPA 8081B	2-20-18	2-21-18	
gamma-Chlordane	ND	11	EPA 8081B	2-20-18	2-21-18	
alpha-Chlordane	ND	11	EPA 8081B	2-20-18	2-21-18	
4,4'-DDE	ND	11	EPA 8081B	2-20-18	2-21-18	
Endosulfan I	ND	5.7	EPA 8081B	2-20-18	2-21-18	
Dieldrin	ND	11	EPA 8081B	2-20-18	2-21-18	
Endrin	ND	11	EPA 8081B	2-20-18	2-21-18	
4,4'-DDD	ND	11	EPA 8081B	2-20-18	2-21-18	
Endosulfan II	ND	11	EPA 8081B	2-20-18	2-21-18	
4,4'-DDT	12	11	EPA 8081B	2-20-18	2-21-18	
Endrin Aldehyde	ND	11	EPA 8081B	2-20-18	2-21-18	
Methoxychlor	ND	11	EPA 8081B	2-20-18	2-21-18	
Endosulfan Sulfate	ND	11	EPA 8081B	2-20-18	2-21-18	
Endrin Ketone	ND	11	EPA 8081B	2-20-18	2-21-18	
Toxaphene	ND	57	EPA 8081B	2-20-18	2-21-18	
Surrogate:	Percent Recovery	Control Limits				
TCMX	66	41-106				
DCB	64	40-123				

Project: 1267-013

#### ORGANOCHLORINE PESTICIDES EPA 8081B

Matrix: Soil

23.13 (1-1-1-)				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	PH-3-SS1,SS2 Comp.					
Laboratory ID:	02-151-21,22 Comp.					
alpha-BHC	ND	6.9	EPA 8081B	2-20-18	2-21-18	
gamma-BHC	ND	6.9	EPA 8081B	2-20-18	2-21-18	
beta-BHC	ND	6.9	EPA 8081B	2-20-18	2-21-18	
delta-BHC	ND	6.9	EPA 8081B	2-20-18	2-21-18	
Heptachlor	ND	6.9	EPA 8081B	2-20-18	2-21-18	
Aldrin	ND	6.9	EPA 8081B	2-20-18	2-21-18	
Heptachlor Epoxide	ND	6.9	EPA 8081B	2-20-18	2-21-18	
gamma-Chlordane	ND	14	EPA 8081B	2-20-18	2-21-18	
alpha-Chlordane	41 24	<b>7</b> 14	EPA 8081B	2-20-18	2-21-18	Р
4,4'-DDE	ND	14	EPA 8081B	2-20-18	2-21-18	
Endosulfan I	ND	6.9	EPA 8081B	2-20-18	2-21-18	
Dieldrin	33	14	EPA 8081B	2-20-18	2-21-18	
Endrin	ND	14	EPA 8081B	2-20-18	2-21-18	
4,4'-DDD	ND	14	EPA 8081B	2-20-18	2-21-18	
Endosulfan II	ND	14	EPA 8081B	2-20-18	2-21-18	
4,4'-DDT	33	14	EPA 8081B	2-20-18	2-21-18	
Endrin Aldehyde	ND	14	EPA 8081B	2-20-18	2-21-18	
Methoxychlor	ND	14	EPA 8081B	2-20-18	2-21-18	
Endosulfan Sulfate	ND	14	EPA 8081B	2-20-18	2-21-18	
Endrin Ketone	ND	14	EPA 8081B	2-20-18	2-21-18	
Toxaphene	ND	69	EPA 8081B	2-20-18	2-21-18	
Surrogate:	Percent Recovery	Control Limits				
TCMX	60	41-106				
DCB	57	40-123				

Project: 1267-013

#### ORGANOCHLORINE PESTICIDES EPA 8081B

Matrix: Soil

0 0 11 7				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	PH-5-SS1,SS2,SS3,SS4,SS5 Comp	).				
Laboratory ID:	02-151-23,24,25,26,27 Comp.					
alpha-BHC	ND	6.0	EPA 8081B	2-20-18	2-20-18	
gamma-BHC	ND	6.0	EPA 8081B	2-20-18	2-20-18	
beta-BHC	ND	6.0	EPA 8081B	2-20-18	2-20-18	
delta-BHC	ND	6.0	EPA 8081B	2-20-18	2-20-18	
Heptachlor	ND	6.0	EPA 8081B	2-20-18	2-20-18	
Aldrin	ND	6.0	EPA 8081B	2-20-18	2-20-18	
Heptachlor Epoxide	ND	6.0	EPA 8081B	2-20-18	2-20-18	
gamma-Chlordane	ND	12	EPA 8081B	2-20-18	2-20-18	
alpha-Chlordane	ND	12	EPA 8081B	2-20-18	2-20-18	
4,4'-DDE	ND	12	EPA 8081B	2-20-18	2-20-18	
Endosulfan I	ND	6.0	EPA 8081B	2-20-18	2-20-18	
Dieldrin	ND	12	EPA 8081B	2-20-18	2-20-18	
Endrin	ND	12	EPA 8081B	2-20-18	2-20-18	
4,4'-DDD	ND	12	EPA 8081B	2-20-18	2-20-18	
Endosulfan II	ND	12	EPA 8081B	2-20-18	2-20-18	
4,4'-DDT	22	12	EPA 8081B	2-20-18	2-20-18	
Endrin Aldehyde	ND	12	EPA 8081B	2-20-18	2-20-18	
Methoxychlor	ND	12	EPA 8081B	2-20-18	2-20-18	
Endosulfan Sulfate	ND	12	EPA 8081B	2-20-18	2-20-18	
Endrin Ketone	ND	12	EPA 8081B	2-20-18	2-20-18	
Toxaphene	ND	60	EPA 8081B	2-20-18	2-20-18	
Surrogate:	Percent Recovery	Control Limits				
TCMX	55	41-106				
DCB	58	40-123				

# **ORGANOCHLORINE** PESTICIDES EPA 8081B

Matrix: Soil

Units: ug/Kg (ppb)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	PH-12-SS1,SS2 Comp.					
Laboratory ID:	02-151-28,29 Comp.					
alpha-BHC	ND	5.6	EPA 8081B	2-20-18	2-20-18	
gamma-BHC	ND	5.6	EPA 8081B	2-20-18	2-20-18	
beta-BHC	ND	5.6	EPA 8081B	2-20-18	2-20-18	
delta-BHC	ND	5.6	EPA 8081B	2-20-18	2-20-18	
Heptachlor	ND	5.6	EPA 8081B	2-20-18	2-20-18	
Aldrin	ND	5.6	EPA 8081B	2-20-18	2-20-18	
Heptachlor Epoxide	ND	5.6	EPA 8081B	2-20-18	2-20-18	
gamma-Chlordane	ND	11	EPA 8081B	2-20-18	2-20-18	
alpha-Chlordane	ND	11	EPA 8081B	2-20-18	2-20-18	
4,4'-DDE	ND	11	EPA 8081B	2-20-18	2-20-18	
Endosulfan I	ND	5.6	EPA 8081B	2-20-18	2-20-18	
Dieldrin	ND	11	EPA 8081B	2-20-18	2-20-18	
Endrin	ND	11	EPA 8081B	2-20-18	2-20-18	
4,4'-DDD	ND	11	EPA 8081B	2-20-18	2-20-18	
Endosulfan II	ND	11	EPA 8081B	2-20-18	2-20-18	
4,4'-DDT	ND	11	EPA 8081B	2-20-18	2-20-18	
Endrin Aldehyde	ND	11	EPA 8081B	2-20-18	2-20-18	
Methoxychlor	ND	11	EPA 8081B	2-20-18	2-20-18	
Endosulfan Sulfate	ND	11	EPA 8081B	2-20-18	2-20-18	
Endrin Ketone	ND	11	EPA 8081B	2-20-18	2-20-18	
Toxaphene	ND	56	EPA 8081B	2-20-18	2-20-18	
Surrogate:	Percent Recovery	Control Limits				
TCMX	59	41-106				
DCB	65	40-123				

40-123 DCB

# **ORGANOCHLORINE** PESTICIDES EPA 8081B

Matrix: Soil

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	PH-11-SS1,SS2,SS3,SS4 Comp					
Laboratory ID:	02-151-30,31,32,33 Comp.					
alpha-BHC	ND	5.9	EPA 8081B	2-20-18	2-20-18	
gamma-BHC	ND	5.9	EPA 8081B	2-20-18	2-20-18	
beta-BHC	ND	5.9	EPA 8081B	2-20-18	2-20-18	
delta-BHC	ND	5.9	EPA 8081B	2-20-18	2-20-18	
Heptachlor	ND	5.9	EPA 8081B	2-20-18	2-20-18	
Aldrin	ND	5.9	EPA 8081B	2-20-18	2-20-18	
Heptachlor Epoxide	ND	5.9	EPA 8081B	2-20-18	2-20-18	
gamma-Chlordane	ND	12	EPA 8081B	2-20-18	2-20-18	
alpha-Chlordane	ND	12	EPA 8081B	2-20-18	2-20-18	
4,4'-DDE	ND	12	EPA 8081B	2-20-18	2-20-18	
Endosulfan I	ND	5.9	EPA 8081B	2-20-18	2-20-18	
Dieldrin	ND	12	EPA 8081B	2-20-18	2-20-18	
Endrin	ND	12	EPA 8081B	2-20-18	2-20-18	
4,4'-DDD	ND	12	EPA 8081B	2-20-18	2-20-18	
Endosulfan II	ND	12	EPA 8081B	2-20-18	2-20-18	
4,4'-DDT	12	12	EPA 8081B	2-20-18	2-20-18	
Endrin Aldehyde	ND	12	EPA 8081B	2-20-18	2-20-18	
Methoxychlor	ND	12	EPA 8081B	2-20-18	2-20-18	
Endosulfan Sulfate	ND	12	EPA 8081B	2-20-18	2-20-18	
Endrin Ketone	ND	12	EPA 8081B	2-20-18	2-20-18	
Toxaphene	ND	59	EPA 8081B	2-20-18	2-20-18	
Surrogate:	Percent Recovery	Control Limits				
TCMX	54	41-106				
DCB	58	40-123				

Date

Date

Date of Report: March 5, 2018 Samples Submitted: February 14, 2018

Laboratory Reference: 1802-151 Project: 1267-013

# **ORGANOCHLORINE** PESTICIDES EPA 8081B

Matrix: Soil

Units: ug/Kg (ppb)

			Date	200	
Result	PQL	Method	Prepared	Analyzed	Flags
PH-10-SS1,SS2,SS3 Comp.					
02-151-34,35,36 Comp.					
ND	5.7	EPA 8081B	2-20-18	2-20-18	
ND	5.7	EPA 8081B	2-20-18	2-20-18	
ND	5.7	EPA 8081B	2-20-18	2-20-18	
ND	5.7	EPA 8081B	2-20-18	2-20-18	
ND	5.7	EPA 8081B	2-20-18	2-20-18	
ND	5.7	EPA 8081B	2-20-18	2-20-18	
ND	5.7	EPA 8081B	2-20-18	2-20-18	
ND	11	EPA 8081B	2-20-18	2-20-18	
ND	11	EPA 8081B	2-20-18	2-20-18	
ND	11	EPA 8081B	2-20-18	2-20-18	
ND	5.7	EPA 8081B	2-20-18	2-20-18	
ND	11	EPA 8081B	2-20-18	2-20-18	
ND	11	EPA 8081B	2-20-18	2-20-18	
ND	11	EPA 8081B	2-20-18	2-20-18	
ND	11	EPA 8081B	2-20-18	2-20-18	
	11	EPA 8081B	2-20-18	2-20-18	
ND	11	EPA 8081B	2-20-18	2-20-18	
ND	11	EPA 8081B	2-20-18	2-20-18	
ND	11	EPA 8081B	2-20-18	2-20-18	
ND	11	EPA 8081B	2-20-18	2-20-18	
ND	57	EPA 8081B	2-20-18	2-20-18	
Percent Recovery	Control Limits				
48	41-106				
	PH-10-SS1,SS2,SS3 Comp.  02-151-34,35,36 Comp.  ND  ND  ND  ND  ND  ND  ND  ND  ND  N	PH-10-SS1,SS2,SS3 Comp.         02-151-34,35,36 Comp.       5.7         ND       5.7         ND       5.7         ND       5.7         ND       5.7         ND       5.7         ND       11         ND       57	PH-10-SS1,SS2,SS3 Comp.         ND       5.7       EPA 8081B         ND       11       EPA 8081B         ND	Result         PQL         Method         Prepared           PH-10-SS1,SS2,SS3 Comp.           02-151-34,35,36 Comp.         5.7         EPA 8081B         2-20-18           ND         11         EPA 8081B         2-20-18           ND         11	Result         PQL         Method         Prepared         Analyzed           PH-10-SS1,SS2,SS3 Comp.           02-151-34,35,36 Comp.         5.7         EPA 8081B         2-20-18         2-20-18           ND         11         EPA 8081B         2-20-18         2-20-18           ND

DCB 54 40-123 Date of Report: March 5, 2018 Samples Submitted: February 14, 2018

Laboratory Reference: 1802-151 Project: 1267-013

#### **ORGANOCHLORINE PESTICIDES EPA 8081B**

Matrix: Soil

orints. ug/kg (ppb)	Page 14	POL	Mathad	Date	Date	Flage
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	PH-4-SS1,SS2,SS3 Comp.					
Laboratory ID:	02-151-37,38,39 Comp.					
alpha-BHC	ND	6.0	EPA 8081B	2-20-18	2-21-18	
gamma-BHC	ND	6.0	EPA 8081B	2-20-18	2-21 <b>-</b> 18	
beta-BHC	ND	6.0	EPA 8081B	2-20-18	2-21-18	
delta-BHC	ND	6.0	EPA 8081B	2-20-18	2-21-18	
Heptachlor	ND	6.0	EPA 8081B	2-20-18	2-21-18	
Aldrin	ND	6.0	EPA 8081B	2-20-18	2-21-18	
Heptachlor Epoxide	ND	6.0	EPA 8081B	2-20-18	2-21-18	
gamma-Chlordane	ND	12	EPA 8081B	2-20-18	2-21-18	
alpha-Chlordane	ND	12	EPA 8081B	2-20-18	2-21-18	
4,4'-DDE	ND	12	EPA 8081B	2-20-18	2-21-18	
Endosulfan I	ND	6.0	EPA 8081B	2-20-18	2-21-18	
Dieldrin	ND	12	EPA 8081B	2-20-18	2-21-18	
Endrin	ND	12	EPA 8081B	2-20-18	2-21-18	
4,4'-DDD	ND	12	EPA 8081B	2-20-18	2-21-18	
Endosulfan II	ND	12	EPA 8081B	2-20-18	2-21-18	
4,4'-DDT	52	12	EPA 8081B	2-20-18	2-21-18	
Endrin Aldehyde	ND	12	EPA 8081B	2-20-18	2-21-18	
Methoxychlor	ND	12	EPA 8081B	2-20-18	2-21-18	
Endosulfan Sulfate	ND	12	EPA 8081B	2-20-18	2-21-18	
Endrin Ketone	ND	12	EPA 8081B	2-20-18	2-21-18	
Toxaphene	ND	60	EPA 8081B	2-20-18	2-21-18	,
Surrogate:	Percent Recovery	Control Limits				
TCMX	63	41-106				
DCB	65	40-123				

VALIDATION WORKSHEET Method: Reviewer: C Jensen Date Reviewed: Sample Collection Dates: 2.13.18
The following data validation areas were reviewed: 18 19 20 15 16 17 Sample Identification Validation Criteria Sample results Holding Times Completion Method Blanks LCS duplicate RPD MS/MSD: Note:X = Criteria were evaluated and not met. A = Criteria were evaluated and met. N = Data was not available for review. NA = Not applicable. Comments:

#### PCBs EPA 8082A

Matrix: Soil

Units: ma/Ka (ppm)

Units: mg/kg (ppm)				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	PH-6-SS2,SS1 Comp.					
Laboratory ID:	02-151-01,02 Comp.					
Aroclor 1016	ND	0.061	EPA 8082A	2-20-18	2-20-18	
Aroclor 1221	ND	0.061	EPA 8082A	2-20-18	2-20-18	
Aroclor 1232	ND	0.061	EPA 8082A	2-20-18	2-20-18	
Aroclor 1242	ND	0.061	EPA 8082A	2-20-18	2-20-18	
Aroclor 1248	ND	0.061	EPA 8082A	2-20-18	2-20-18	
Aroclor 1254	ND	0.061	EPA 8082A	2-20-18	2-20-18	
Aroclor 1260	ND	0.061	EPA 8082A	2-20-18	2-20-18	
Surrogate:	Percent Recovery	Control Limits				
DCB	65	40-134				
Client ID:	PH-7-SS3,SS2,SS1 Comp.					
Laboratory ID:	02-151-03,04,05 Comp.					
Aroclor 1016	ND	0.058	EPA 8082A	2-20-18	2-20-18	
Aroclor 1221	ND	0.058	EPA 8082A	2-20-18	2-20-18	
Aroclor 1232	ND	0.058	EPA 8082A	2-20-18	2-20-18	
Aroclor 1242	ND	0.058	EPA 8082A	2-20-18	2-20-18	
Aroclor 1248	ND	0.058	EPA 8082A	2-20-18	2-20-18	
Aroclor 1254	ND	0.058	EPA 8082A	2-20-18	2-20-18	
Aroclor 1260	ND	0.058	EPA 8082A	2-20-18	2-20-18	
Surrogate:	Percent Recovery	Control Limits				
DCB	71	40-134				
Client ID:	PH-8-SS1,SS2,SS3 Comp.	,				
Laboratory ID:	02-151-06,07,08 Comp.					
Aroclor 1016	ND	0.056	EPA 8082A	2-20-18	2-20-18	
Aroclor 1221	ND	0.056	EPA 8082A	2-20-18	2-20-18	
Aroclor 1232	ND	0.056	EPA 8082A	2-20-18	2-20-18	
Aroclor 1242	ND	0.056	EPA 8082A	2-20-18	2-20-18	
Aroclor 1248	ND	0.056	EPA 8082A	2-20-18	2-20-18	
Aroclor 1254	ND	0.056	EPA 8082A	2-20-18	2-20-18	
Aroclor 1260	ND	0.056	EPA 8082A	2-20-18	2-20-18	
Surrogate:	Percent Recovery	Control Limits				
DCB	74	40-134				
000	7.4					

# PCBs EPA 8082A

Matrix: Soil

Units: mg/Kg (ppm)

onits. Ing/kg (ppin)				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	PH-6-SS3,SS4,SS5 Comp.					
Laboratory ID:	02-151-09,10,11 Comp.					
Aroclor 1016	ND	0.063	EPA 8082A	2-20-18	2-20-18	
Aroclor 1221	ND	0.063	EPA 8082A	2-20-18	2-20-18	
Aroclor 1232	ND	0.063	EPA 8082A	2-20-18	2-20-18	
Aroclor 1242	ND	0.063	EPA 8082A	2-20-18	2-20-18	
Aroclor 1248	ND	0.063	EPA 8082A	2-20-18	2-20-18	
Aroclor 1254	ND	0.063	EPA 8082A	2-20-18	2-20-18	
Aroclor 1260	ND	0.063	EPA 8082A	2-20-18	2-20-18	
Surrogate:	Percent Recovery	Control Limits				
DCB	78	40-134				
Client ID:	PH-9-SS1,SS2,SS3 Comp.					
Laboratory ID:	02-151-12,13,14 Comp.					
Aroclor 1016	ND	0.061	EPA 8082A	2-20-18	2-20-18	
Aroclor 1221	ND	0.061	EPA 8082A	2-20-18	2-20-18	
Aroclor 1232	ND	0.061	EPA 8082A	2-20-18	2-20-18	
Aroclor 1242	ND	0.061	EPA 8082A	2-20-18	2-20-18	
Aroclor 1248	ND	0.061	EPA 8082A	2-20-18	2-20-18	
Aroclor 1254	ND	0.061	EPA 8082A	2-20-18	2-20-18	
Aroclor 1260	ND	0.061	EPA 8082A	2-20-18	2-20-18	
Surrogate:	Percent Recovery	Control Limits				
DCB	69	40-134				
Client ID:	PH-1-SS1,SS2,SS3 Comp.					
Laboratory ID:	02-151-15,16,17 Comp.					
Aroclor 1016	ND	0.059	EPA 8082A	2-20-18	2-20-18	
Aroclor 1221	ND	0.059	EPA 8082A	2-20-18	2-20-18	
Aroclor 1232	ND	0.059	EPA 8082A	2-20-18	2-20-18	
Aroclor 1242	ND	0.059	EPA 8082A	2-20-18	2-20-18	
Aroclor 1248	ND	0.059	EPA 8082A	2-20-18	2-20-18	
Aroclor 1254	ND	0.059	EPA 8082A	2-20-18	2-20-18	
Aroclor 1260	ND	0.059	EPA 8082A	2-20-18	2-20-18	
	Percent Recovery	Control Limits				
Surrogate:	Percent Recovery	CONTROL LITTIES				

#### PCBs EPA 8082A

Matrix: Soil

Units: mg/Kg (ppm)

Office. Hightig (ppin)				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	PH-2-SS1,SS2,SS3 Comp.					
Laboratory ID:	02-151-18,19,20 Comp.					
Aroclor 1016	ND	0.057	EPA 8082A	2-20-18	2-20-18	
Aroclor 1221	ND	0.057	EPA 8082A	2-20-18	2-20-18	
Aroclor 1232	ND	0.057	EPA 8082A	2-20-18	2-20-18	
Aroclor 1242	ND	0.057	EPA 8082A	2-20-18	2-20-18	
Aroclor 1248	ND	0.057	EPA 8082A	2-20-18	2-20-18	
Aroclor 1254	ND	0.057	EPA 8082A	2-20-18	2-20-18	
Aroclor 1260	ND	0.057	EPA 8082A	2-20-18	2-20-18	
Surrogate:	Percent Recovery	Control Limits				
DCB	88	40-134				
Client ID:	PH-3-SS1,SS2 Comp.					
Laboratory ID:	02-151-21,22 Comp.					
Aroclor 1016	ND	0.069	EPA 8082A	2-20-18	2-20-18	
Aroclor 1221	ND	0.069	EPA 8082A	2-20-18	2-20-18	
Aroclor 1232	ND	0.069	EPA 8082A	2-20-18	2-20-18	
Aroclor 1242	ND	0.069	EPA 8082A	2-20-18	2-20-18	
Aroclor 1248	ND	0.069	EPA 8082A	2-20-18	2-20-18	
Aroclor 1254	ND	0.069	EPA 8082A	2-20-18	2-20-18	
Aroclor 1260	ND	0.069	EPA 8082A	2-20-18	2-20-18	
Surrogate:	Percent Recovery	Control Limits				
DCB	73	40-134				
Client ID:	PH-5-SS1,SS2,SS3,SS4,SS5 Cor	mp.				
Laboratory ID:	02-151-23,24,25,26,27 Comp					
Aroclor 1016	ND	0.060	EPA 8082A	2-20-18	2-20-18	
Aroclor 1221	ND	0.060	EPA 8082A	2-20-18	2-20-18	
Aroclor 1232	ND	0.060	EPA 8082A	2-20-18	2-20-18	
Aroclor 1242	ND	0.060	EPA 8082A	2-20-18	2-20-18	
Aroclor 1248	ND	0.060	EPA 8082A	2-20-18	2-20-18	
Aroclor 1254	ND	0.060	EPA 8082A	2-20-18	2-20-18	
Aroclor 1260	ND	0.060	EPA 8082A	2-20-18	2-20-18	
Surrogate:	Percent Recovery	Control Limits				
DCB	76	40-134				

#### PCBs EPA 8082A

Matrix: Soil

Units: mg/Kg (ppm)

Client ID:	onits. mg/kg (ppm)				Date	Date	
Laboratory ID:   O2-151-28,29 Comp.	Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Aroclor 1016	Client ID:	PH-12-SS1,SS2 Comp.					
Aroclor 1016     ND	Laboratory ID:	02-151-28,29 Comp.					
Aroclor 1232 ND 0.056 EPA 8082A 2-20-18 2-20-18 Aroclor 1242 ND 0.056 EPA 8082A 2-20-18 2-20-18 Aroclor 1248 ND 0.056 EPA 8082A 2-20-18 2-20-18 Aroclor 1254 ND 0.056 EPA 8082A 2-20-18 2-20-18 Aroclor 1260 ND 0.056 EPA 8082A 2-20-18 2-20-18 Aroclor 1260 ND 0.056 EPA 8082A 2-20-18 2-20-18 Aroclor 1260 ND 0.056 EPA 8082A 2-20-18 2-20-18 Aroclor 1260 ND 0.056 EPA 8082A 2-20-18 2-20-18 Aroclor 1260 ND 0.056 EPA 8082A 2-20-18 2-20-18 Aroclor 1260 ND 0.056 EPA 8082A 2-20-18 2-20-18 Aroclor 1016 ND 0.059 EPA 8082A 2-20-18 2-20-18 Aroclor 1016 ND 0.059 EPA 8082A 2-20-18 2-20-18 Aroclor 1221 ND 0.059 EPA 8082A 2-20-18 2-20-18 Aroclor 1242 ND 0.059 EPA 8082A 2-20-18 2-20-18 Aroclor 1242 ND 0.059 EPA 8082A 2-20-18 2-20-18 Aroclor 1248 ND 0.059 EPA 8082A 2-20-18 2-20-18 Aroclor 1248 ND 0.059 EPA 8082A 2-20-18 2-20-18 Aroclor 1254 ND 0.059 EPA 8082A 2-20-18 2-20-18 Aroclor 1260 ND 0.059 EPA 8082A 2-20-18 2-20-18 Aroclor 1260 ND 0.059 EPA 8082A 2-20-18 2-20-18 Aroclor 1260 ND 0.059 EPA 8082A 2-20-18 2-20-18 Aroclor 1260 ND 0.059 EPA 8082A 2-20-18 2-20-18 Aroclor 1260 ND 0.059 EPA 8082A 2-20-18 2-20-18 Aroclor 1260 ND 0.059 EPA 8082A 2-20-18 2-20-18 Aroclor 1260 ND 0.059 EPA 8082A 2-20-18 2-20-18 Aroclor 1261 ND 0.059 EPA 8082A 2-20-18 2-20-18 Aroclor 1261 ND 0.059 EPA 8082A 2-20-18 2-20-18 Aroclor 1261 ND 0.057 EPA 8082A 2-20-18 2-20-18 Aroclor 1261 ND 0.057 EPA 8082A 2-20-18 2-20-18 Aroclor 1262 ND 0.057 EPA 8082A 2-20-18 2-20-18 Aroclor 1264 ND 0.057 EPA 8082A 2-20-18 2-20-18 Aroclor 1264 ND 0.057 EPA 8082A 2-20-18 2-20-18 Aroclor 1264 ND 0.057 EPA 8082A 2-20-18 2-20-18 Aroclor 1264 ND 0.057 EPA 8082A 2-20-18 2-20-18 Aroclor 1264 ND 0.057 EPA 8082A 2-20-18 2-20-18 Aroclor 1264 ND 0.057 EPA 8082A 2-20-18 2-20-18 Aroclor 1264 ND 0.057 EPA 8082A 2-20-18 2-20-18 Aroclor 1268 ND 0.057 EPA 8082A 2-20-18 2-20-18 Aroclor 1268 ND 0.057 EPA 8082A 2-20-18 2-20-18 Aroclor 1268 ND 0.057 EPA 8082A 2-20-18 2-20-18 2-20-18 Aroclor 1260 ND 0.057 EPA 8082A 2-20-18 2-20-18 2-20-18 Aroclor 1260 ND 0.057 EPA 8082A 2-20-18 2-20-18 2-20-18 Aroclo		ND	0.056	EPA 8082A	2-20-18	2-20-18	
Aroclor 1242 ND 0.056 EPA 8082A 2-20-18 2-20-18 Aroclor 1248 ND 0.056 EPA 8082A 2-20-18 2-20-18 Aroclor 1254 ND 0.056 EPA 8082A 2-20-18 2-20-18 Aroclor 1260 ND 0.056 EPA 8082A 2-20-18 2-20-18 Aroclor 1260 ND 0.056 EPA 8082A 2-20-18 2-20-18 Aroclor 1260 ND 0.056 EPA 8082A 2-20-18 2-20-18 Aroclor 1260 ND 0.056 EPA 8082A 2-20-18 2-20-18 Aroclor 1260 ND 0.056 EPA 8082A 2-20-18 2-20-18 Aroclor 1016 ND 0.059 EPA 8082A 2-20-18 2-20-18 Aroclor 1232 ND 0.059 EPA 8082A 2-20-18 2-20-18 Aroclor 1232 ND 0.059 EPA 8082A 2-20-18 2-20-18 Aroclor 1242 ND 0.059 EPA 8082A 2-20-18 2-20-18 Aroclor 1248 ND 0.059 EPA 8082A 2-20-18 2-20-18 Aroclor 1254 ND 0.059 EPA 8082A 2-20-18 2-20-18 Aroclor 1260 ND 0.059 EPA 8082A 2-20-18 2-20-18 Aroclor 1260 ND 0.059 EPA 8082A 2-20-18 2-20-18 Aroclor 1260 ND 0.059 EPA 8082A 2-20-18 2-20-18 Aroclor 1260 ND 0.059 EPA 8082A 2-20-18 2-20-18 Aroclor 1260 ND 0.059 EPA 8082A 2-20-18 2-20-18 Aroclor 1260 ND 0.059 EPA 8082A 2-20-18 2-20-18 Aroclor 1260 ND 0.059 EPA 8082A 2-20-18 2-20-18 Aroclor 1260 ND 0.059 EPA 8082A 2-20-18 2-20-18 Aroclor 1260 ND 0.059 EPA 8082A 2-20-18 2-20-18 Aroclor 1260 ND 0.059 EPA 8082A 2-20-18 2-20-18 Aroclor 1260 ND 0.059 EPA 8082A 2-20-18 2-20-18 Aroclor 1260 ND 0.057 EPA 8082A 2-20-18 2-20-18 Aroclor 1232 ND 0.057 EPA 8082A 2-20-18 2-20-18 Aroclor 1232 ND 0.057 EPA 8082A 2-20-18 2-20-18 Aroclor 1232 ND 0.057 EPA 8082A 2-20-18 2-20-18 Aroclor 1232 ND 0.057 EPA 8082A 2-20-18 2-20-18 Aroclor 1248 ND 0.057 EPA 8082A 2-20-18 2-20-18 Aroclor 1248 ND 0.057 EPA 8082A 2-20-18 2-20-18 Aroclor 1248 ND 0.057 EPA 8082A 2-20-18 2-20-18 Aroclor 1248 ND 0.057 EPA 8082A 2-20-18 2-20-18 Aroclor 1248 ND 0.057 EPA 8082A 2-20-18 2-20-18 Aroclor 1248 ND 0.057 EPA 8082A 2-20-18 2-20-18 Aroclor 1248 ND 0.057 EPA 8082A 2-20-18 2-20-18 Aroclor 1248 ND 0.057 EPA 8082A 2-20-18 2-20-18 Aroclor 1254 ND 0.057 EPA 8082A 2-20-18 2-20-18 Aroclor 1256 ND 0.057 EPA 8082A 2-20-18 2-20-18 Aroclor 1256 ND 0.057 EPA 8082A 2-20-18 2-20-18 Aroclor 1256 ND 0.057 EPA 8082A 2-20-18 2-20-18 Aroclor 1256 ND 0.057 EPA 8082	Aroclor 1221	ND	0.056	EPA 8082A	2-20-18	2-20-18	
Aroclor 1248 ND 0.056 EPA 8082A 2-20-18 2-20-18 Aroclor 1254 ND 0.056 EPA 8082A 2-20-18 2-20-18 Aroclor 1260 ND 0.056 EPA 8082A 2-20-18 2-20-18 Bull Discourse Percent Recovery Control Limits DCB PH-11-SS1,SS2,SS3,SS4 Comp.  Aroclor 1016 ND 0.059 EPA 8082A 2-20-18 2-20-18 Aroclor 1232 ND 0.059 EPA 8082A 2-20-18 2-20-18 Aroclor 1242 ND 0.059 EPA 8082A 2-20-18 2-20-18 Aroclor 1248 ND 0.059 EPA 8082A 2-20-18 2-20-18 Aroclor 1248 ND 0.059 EPA 8082A 2-20-18 2-20-18 Aroclor 1254 ND 0.059 EPA 8082A 2-20-18 2-20-18 Aroclor 1260 ND 0.059 EPA 8082A 2-20-18 2-20-18 Aroclor 1260 ND 0.059 EPA 8082A 2-20-18 2-20-18 Aroclor 1260 ND 0.059 EPA 8082A 2-20-18 2-20-18 Aroclor 1260 ND 0.059 EPA 8082A 2-20-18 2-20-18 Aroclor 1260 ND 0.059 EPA 8082A 2-20-18 2-20-18 Aroclor 1260 ND 0.059 EPA 8082A 2-20-18 2-20-18 Aroclor 1260 ND 0.059 EPA 8082A 2-20-18 2-20-18 Aroclor 1260 ND 0.059 EPA 8082A 2-20-18 2-20-18 Aroclor 1260 ND 0.059 EPA 8082A 2-20-18 2-20-18 Aroclor 1260 ND 0.059 EPA 8082A 2-20-18 2-20-18 Aroclor 1260 ND 0.059 EPA 8082A 2-20-18 2-20-18 Aroclor 1260 ND 0.059 EPA 8082A 2-20-18 2-20-18 Aroclor 1260 ND 0.057 EPA 8082A 2-20-18 2-20-18 Aroclor 1232 ND 0.057 EPA 8082A 2-20-18 2-20-18 Aroclor 1232 ND 0.057 EPA 8082A 2-20-18 2-20-18 Aroclor 1242 ND 0.057 EPA 8082A 2-20-18 2-20-18 Aroclor 1244 ND 0.057 EPA 8082A 2-20-18 2-20-18 Aroclor 1244 ND 0.057 EPA 8082A 2-20-18 2-20-18 Aroclor 1244 ND 0.057 EPA 8082A 2-20-18 2-20-18 Aroclor 1244 ND 0.057 EPA 8082A 2-20-18 2-20-18 Aroclor 1248 ND 0.057 EPA 8082A 2-20-18 2-20-18 Aroclor 1248 ND 0.057 EPA 8082A 2-20-18 2-20-18 Aroclor 1248 ND 0.057 EPA 8082A 2-20-18 2-20-18 Aroclor 1248 ND 0.057 EPA 8082A 2-20-18 2-20-18 Aroclor 1254 ND 0.057 EPA 8082A 2-20-18 2-20-18 Aroclor 1254 ND 0.057 EPA 8082A 2-20-18 2-20-18 Aroclor 1256 ND 0.057 EPA 8082A 2-20-18 2-20-18 Aroclor 1256 ND 0.057 EPA 8082A 2-20-18 2-20-18 Aroclor 1256 ND 0.057 EPA 8082A 2-20-18 2-20-18 Aroclor 1256 ND 0.057 EPA 8082A 2-20-18 2-20-18 Aroclor 1256 ND 0.057 EPA 8082A 2-20-18 2-20-18 Aroclor 1256 ND 0.057 EPA 8082A 2-20-18 2-20-1	Aroclor 1232	ND	0.056	EPA 8082A			
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Client ID:   PH-11-SS1,SS2,SS3,SS4 Comp.	Aroclor 1260	ND	0.056	EPA 8082A	2-20-18	2-20-18	
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Laboratory ID:         02-151-30,31,32,33 Comp.           Aroclor 1016         ND         0.059         EPA 8082A         2-20-18         2-20-18           Aroclor 1221         ND         0.059         EPA 8082A         2-20-18         2-20-18           Aroclor 1232         ND         0.059         EPA 8082A         2-20-18         2-20-18           Aroclor 1242         ND         0.059         EPA 8082A         2-20-18         2-20-18           Aroclor 1248         ND         0.059         EPA 8082A         2-20-18         2-20-18           Aroclor 1254         ND         0.059         EPA 8082A         2-20-18         2-20-18           Aroclor 1260         ND         0.059         EPA 8082A         2-20-18         2-20-18           Surrogate:         Percent Recovery         Control Limits         70         40-134         2-20-18         2-20-18           Client ID:         PH-10-SS1,SS2,SS3 Comp.         2-20-18         2-20-18         2-20-18         2-20-18           Aroclor 1016         ND         0.057         EPA 8082A         2-20-18         2-20-18           Aroclor 1221         ND         0.057         EPA 8082A         2-20-18         2-20-18           Aroclor 1232 </td <td>DCB</td> <td>84</td> <td>40-134</td> <td></td> <td></td> <td></td> <td></td>	DCB	84	40-134				
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Aroclor 1254 Aroclor 1260 ND 0.059 EPA 8082A 2-20-18 2-20-18  2-20-18  Surrogate: Percent Recovery TO 40-134  Client ID: Laboratory ID: O2-151-34,35,36 Comp.  Aroclor 1221 ND 0.057 EPA 8082A 2-20-18 2-20-18 2-20-18  2-20-18			0.059	EPA 8082A	2-20-18	2-20-18	
Aroclor 1260         ND         0.059         EPA 8082A         2-20-18           Surrogate:         Percent Recovery         Control Limits           DCB         70         40-134           Client ID:         PH-10-SS1,SS2,SS3 Comp.           Laboratory ID:         02-151-34,35,36 Comp.           Aroclor 1016         ND         0.057         EPA 8082A         2-20-18         2-20-18           Aroclor 1221         ND         0.057         EPA 8082A         2-20-18         2-20-18           Aroclor 1232         ND         0.057         EPA 8082A         2-20-18         2-20-18           Aroclor 1242         ND         0.057         EPA 8082A         2-20-18         2-20-18           Aroclor 1248         ND         0.057         EPA 8082A         2-20-18         2-20-18           Aroclor 1254         ND         0.057         EPA 8082A         2-20-18         2-20-18           Aroclor 1260         ND         0.057         EPA 8082A         2-20-18         2-20-18           Surrogate:         Percent Recovery         Control Limits         Control Limits		ND	0.059	EPA 8082A	2-20-18	2-20-18	
Surrogate:         Percent Recovery         Control Limits           DCB         70         40-134           Client ID:         PH-10-SS1,SS2,SS3 Comp.           Laboratory ID:         02-151-34,35,36 Comp.           Aroclor 1016         ND         0.057         EPA 8082A         2-20-18         2-20-18           Aroclor 1221         ND         0.057         EPA 8082A         2-20-18         2-20-18           Aroclor 1232         ND         0.057         EPA 8082A         2-20-18         2-20-18           Aroclor 1242         ND         0.057         EPA 8082A         2-20-18         2-20-18           Aroclor 1248         ND         0.057         EPA 8082A         2-20-18         2-20-18           Aroclor 1254         ND         0.057         EPA 8082A         2-20-18         2-20-18           Aroclor 1260         ND         0.057         EPA 8082A         2-20-18         2-20-18           Surrogate:         Percent Recovery         Control Limits		ND	0.059	EPA 8082A	2-20-18	2-20-18	
Client ID:         PH-10-SS1,SS2,SS3 Comp.           Laboratory ID:         02-151-34,35,36 Comp.           Aroclor 1016         ND         0.057         EPA 8082A         2-20-18         2-20-18           Aroclor 1221         ND         0.057         EPA 8082A         2-20-18         2-20-18           Aroclor 1232         ND         0.057         EPA 8082A         2-20-18         2-20-18           Aroclor 1242         ND         0.057         EPA 8082A         2-20-18         2-20-18           Aroclor 1248         ND         0.057         EPA 8082A         2-20-18         2-20-18           Aroclor 1254         ND         0.057         EPA 8082A         2-20-18         2-20-18           Aroclor 1260         ND         0.057         EPA 8082A         2-20-18         2-20-18           Surrogate:         Percent Recovery         Control Limits		Percent Recovery	Control Limits				
Laboratory ID:         02-151-34,35,36 Comp.           Aroclor 1016         ND         0.057         EPA 8082A         2-20-18         2-20-18           Aroclor 1221         ND         0.057         EPA 8082A         2-20-18         2-20-18           Aroclor 1232         ND         0.057         EPA 8082A         2-20-18         2-20-18           Aroclor 1242         ND         0.057         EPA 8082A         2-20-18         2-20-18           Aroclor 1248         ND         0.057         EPA 8082A         2-20-18         2-20-18           Aroclor 1254         ND         0.057         EPA 8082A         2-20-18         2-20-18           Aroclor 1260         ND         0.057         EPA 8082A         2-20-18         2-20-18           Surrogate:         Percent Recovery         Control Limits	-	70	40-134				
Laboratory ID:         02-151-34,35,36 Comp.           Aroclor 1016         ND         0.057         EPA 8082A         2-20-18         2-20-18           Aroclor 1221         ND         0.057         EPA 8082A         2-20-18         2-20-18           Aroclor 1232         ND         0.057         EPA 8082A         2-20-18         2-20-18           Aroclor 1242         ND         0.057         EPA 8082A         2-20-18         2-20-18           Aroclor 1248         ND         0.057         EPA 8082A         2-20-18         2-20-18           Aroclor 1254         ND         0.057         EPA 8082A         2-20-18         2-20-18           Aroclor 1260         ND         0.057         EPA 8082A         2-20-18         2-20-18           Surrogate:         Percent Recovery         Control Limits	Client ID:	PH-10-SS1.SS2.SS3 Comp.					
Aroclor 1016         ND         0.057         EPA 8082A         2-20-18         2-20-18           Aroclor 1221         ND         0.057         EPA 8082A         2-20-18         2-20-18           Aroclor 1232         ND         0.057         EPA 8082A         2-20-18         2-20-18           Aroclor 1242         ND         0.057         EPA 8082A         2-20-18         2-20-18           Aroclor 1248         ND         0.057         EPA 8082A         2-20-18         2-20-18           Aroclor 1254         ND         0.057         EPA 8082A         2-20-18         2-20-18           Aroclor 1260         ND         0.057         EPA 8082A         2-20-18         2-20-18           Surrogate:         Percent Recovery         Control Limits	Laboratory ID:						
Aroclor 1221         ND         0.057         EPA 8082A         2-20-18         2-20-18           Aroclor 1232         ND         0.057         EPA 8082A         2-20-18         2-20-18           Aroclor 1242         ND         0.057         EPA 8082A         2-20-18         2-20-18           Aroclor 1248         ND         0.057         EPA 8082A         2-20-18         2-20-18           Aroclor 1254         ND         0.057         EPA 8082A         2-20-18         2-20-18           Aroclor 1260         ND         0.057         EPA 8082A         2-20-18         2-20-18           Surrogate:         Percent Recovery         Control Limits			0.057	EPA 8082A	2-20-18	2-20-18	
Aroclor 1232         ND         0.057         EPA 8082A         2-20-18         2-20-18           Aroclor 1242         ND         0.057         EPA 8082A         2-20-18         2-20-18           Aroclor 1248         ND         0.057         EPA 8082A         2-20-18         2-20-18           Aroclor 1254         ND         0.057         EPA 8082A         2-20-18         2-20-18           Aroclor 1260         ND         0.057         EPA 8082A         2-20-18         2-20-18           Surrogate:         Percent Recovery         Control Limits					2-20-18	2-20-18	
Aroclor 1242         ND         0.057         EPA 8082A         2-20-18         2-20-18           Aroclor 1248         ND         0.057         EPA 8082A         2-20-18         2-20-18           Aroclor 1254         ND         0.057         EPA 8082A         2-20-18         2-20-18           Aroclor 1260         ND         0.057         EPA 8082A         2-20-18         2-20-18           Surrogate:         Percent Recovery         Control Limits				EPA 8082A	2-20-18	2-20-18	
Aroclor 1248         ND         0.057         EPA 8082A         2-20-18         2-20-18           Aroclor 1254         ND         0.057         EPA 8082A         2-20-18         2-20-18           Aroclor 1260         ND         0.057         EPA 8082A         2-20-18         2-20-18           Surrogate:         Percent Recovery         Control Limits			0.057	EPA 8082A	2-20-18	2-20-18	
Aroclor 1254         ND         0.057         EPA 8082A         2-20-18         2-20-18           Aroclor 1260         ND         0.057         EPA 8082A         2-20-18         2-20-18           Surrogate:         Percent Recovery         Control Limits		ND	0.057	EPA 8082A	2-20-18	2-20-18	
Aroclor 1260         ND         0.057         EPA 8082A         2-20-18         2-20-18           Surrogate:         Percent Recovery         Control Limits		ND	0.057	EPA 8082A	2-20-18	2-20-18	
Surrogate: Percent Recovery Control Limits		ND	0.057	EPA 8082A	2-20-18	2-20-18	
		Percent Recovery	Control Limits				
	DCB	-	40-134				

#### PCBs EPA 8082A

Matrix:

Soil

Units:

3.3 (1)				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	PH-4-SS1,SS2,SS3 Comp.					
Laboratory ID:	02-151-37,38,39 Comp.					
Aroclor 1016	ND	0.060	EPA 8082A	2-20-18	2-20-18	
Aroclor 1221	ND	0.060	EPA 8082A	2-20-18	2-20-18	
Aroclor 1232	ND	0.060	EPA 8082A	2-20-18	2-20-18	
Aroclor 1242	ND	0.060	EPA 8082A	2-20-18	2-20-18	
Aroclor 1248	ND	0.060	EPA 8082A	2-20-18	2-20-18	
Aroclor 1254	ND	0.060	EPA 8082A	2-20-18	2-20-18	
Aroclor 1260	ND	0.060	EPA 8082A	2-20-18	2-20-18	
Surrogate:	Percent Recovery	Control Limits				
DCB	82	40-134				

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Method:	1102	20	(9)	Company of the	1				- 0		0		,		2	Review	er: C	Jens	en '	
Sample Collect	tion D	ates:	1.1	3-15	8				X		**	\$	- 6	-		ke r te ti	<b>U</b> 1. C	GCHS		
The following of				were		wed:			N		3	3	ے, ج			,				
Sample Identification	1	2	3 0	4	5	6 &	75	-8 ·	35	10	158	125	13	14	15	16	17	18	19	20
Identification		<u>\$</u>	3	Ma	Camp	رع	G	3	2	-3	-8		255,255							
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	-	185,525,525,F.HM	PH-8-581,552,553	PH-W-557,554,555	14.9.551,557,553	PH-1-551,552,559	- 5	2		-	PH-11: 551552.953	PH-10-551	SS-7-49							
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Validation	14.6.552	· -	+	<u>۲</u>	7.	$\dot{\Xi}$	A1.2.55	M1-3 551	14.5.351	M-12-381	*	i	其							
Criteria Sample results		9	0	9	. 0	7	(I	-	0	0	· 0	-		ļ		-		-	<del> </del>	
	A-												2							
Holding Times	A												<u>→</u>							
Completion	A																			
Method Blanks	A	-											<del>_</del>		,					
LCS/LCSD	A												$\rightarrow$							
duplicate RPD	//																			
MS/MSD:																				
Note:X = Criteria	a were	valuate	ed and	not me	t. A=	Criteria	a were	evaluat	ed and	met. N	= Data	was n	ot avai	lable f	or revie	w. NA	= No	applic	able.	
Comments:																				
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#### CHLORINATED ACID **HERBICIDES EPA 8151A**

Matrix: Soil

Units: ug/Kg (ppb)

oritis. agring (ppb)				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	PH-6-SS2,SS1 Comp.					
Laboratory ID:	02-151-01,02 Comp.					
Dalapon	ND	280	EPA 8151A	2-16-18	2-21-18	
Dicamba	ND	11	EPA 8151A	2-16-18	2-21-18	
MCPP	ND	1100	EPA 8151A	2-16-18	2-21-18	
MCPA	ND	1100	EPA 8151A	2-16-18	2-21-18	
Dichlorprop	ND	86	EPA 8151A	2-16-18	2-21-18	
2,4-D	ND	11	EPA 8151A	2-16-18	2-21-18	
Pentachlorophenol	6.4	5.8	EPA 8151A	2-16-18	2-21-18	
2,4,5-TP (Silvex)	ND	12	EPA 8151A	2-16-18	2-21-18	
2,4,5-T	ND	12	EPA 8151A	2-16-18	2-21-18	
2,4-DB	ND	12	EPA 8151A	2-16-18	2-21-18	
Dinoseb	ND	11	EPA 8151A	2-16-18	2-21-18	
Surrogate:	Percent Recovery	Control Limits				
DCAA	57	10-126				
Client ID:	PH-7-SS3,SS2,SS1 Comp	<b>)</b> .				
Laboratory ID:	02-151-03,04,05 Comp.					
		222	EDA 04544	0.40.40	0.04.40	

Client ID:	PH-7-SS3,SS2,SS1 Comp.				
Laboratory ID:	02-151-03,04,05 Comp.				
Dalapon	ND	260	EPA 8151A	2-16-18	2-21-18
Dicamba	ND	11	EPA 8151A	2-16-18	2-21-18
MCPP	ND	1100	EPA 8151A	2-16-18	2-21-18
MCPA	ND	1100	EPA 8151A	2-16-18	2-21-18
Dichlorprop	ND	82	EPA 8151A	2-16-18	2-21-18
2,4-D	ND	11	EPA 8151A	2-16-18	2-21-18
Pentachlorophenol	ND	5.5	EPA 8151A	2-16-18	2-21-18
2,4,5-TP (Silvex)	ND	11	EPA 8151A	2-16-18	2-21-18
2,4,5-T	ND	11	EPA 8151A	2-16-18	2-21-18
2,4-DB	ND	11	EPA 8151A	2-16-18	2-21-18
Dinoseb	ND	11	EPA 8151A	2-16-18	2-21-18
Surrogate:	Percent Recovery	Control Limits			

Surrogate: Control Limits Percent Recovery DCAA 47 10-126

Project: 1267-013

#### CHLORINATED ACID **HERBICIDES EPA 8151A**

Matrix: Soil

Units: ug/Kg (ppb)						
				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	PH-8-SS1,SS2,SS3 Comp.					
Laboratory ID:	02-151-06,07,08 Comp.					
Dalapon	ND	260	EPA 8151A	2-16-18	2-21-18	
Dicamba	ND	10	EPA 8151A	2-16-18	2-21-18	
MCPP	ND	1000	EPA 8151A	2-16-18	2-21-18	
MCPA	ND	1000	EPA 8151A	2-16-18	2-21-18	
Dichlorprop	ND	79	EPA 8151A	2-16-18	2-21-18	
2,4-D	ND	10	EPA 8151A	2-16-18	2-21-18	
Pentachlorophenol	ND	5.3	EPA 8151A	2-16-18	2-21-18	
2,4,5-TP (Silvex)	ND	11	EPA 8151A	2-16-18	2-21-18	
2,4,5-T	ND	11	EPA 8151A	2-16-18	2-21-18	
2,4-DB	ND	11	EPA 8151A	2-16-18	2-21-18	
Dinoseb	ND	11	EPA 8151A	2-16-18	2-21-18	
Surrogate:	Percent Recovery	Control Limits				
DCAA	53	10-126				
Client ID:	PH-6-SS3,SS4,SS5 Comp.					
Laboratory ID:	02-151-09,10,11 Comp.					
Dalapon	ND	290	EPA 8151A	2-16-18	2-16-18	
Dicamba	ND	12	EPA 8151A	2-16-18	2-16-18	
MCPP	ND	1200	EPA 8151A	2-16-18	2-16-18	
MCPA	ND	1200	EPA 8151A	2-16-18	2-16-18	
Dichlorprop	ND	89	EPA 8151A	2-16-18	2-16-18	
2,4-D	ND	12	EPA 8151A	2-16-18	2-16-18	
Pentachlorophenol	ND	6.0	EPA 8151A	2-16-18	2-16-18	
					0 10 10	

Surrogate: DCAA

2,4,5-TP (Silvex)

2,4,5-T

2,4-DB

Dinoseb

Percent Recovery 35

ND

ND

ND

ND

12 Control Limits 10-126

12

12

12

2-16-18

2-16-18

2-16-18

2-16-18

EPA 8151A

EPA 8151A

**EPA 8151A** 

**EPA 8151A** 

2-16-18

2-16-18

2-16-18

2-16-18

Project: 1267-013

# CHLORINATED ACID HERBICIDES EPA 8151A

Matrix: Soil

Units: ug/Kg (ppb)

Units: ug/Kg (ppb)				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	PH-9-SS1,SS2,SS3 Comp.					
Laboratory ID:	02-151-12,13,14 Comp.					
Dalapon	ND	280	EPA 8151A	2-16-18	2-20-18	
Dicamba	ND	11	EPA 8151A	2-16-18	2-20-18	
MCPP	ND	1100	EPA 8151A	2-16-18	2-20-18	
MCPA	ND	1100	EPA 8151A	2-16-18	2-20-18	
Dichlorprop	ND	86	EPA 8151A	2-16-18	2-20-18	
2,4-D	ND	11	EPA 8151A	2-16-18	2-20-18	
Pentachlorophenol	ND	5.8	EPA 8151A	2-16-18	2-20-18	
2,4,5-TP (Silvex)	ND	12	EPA 8151A	2-16-18	2-20-18	
2,4,5-T	ND	12	EPA 8151A	2-16-18	2-20-18	
2,4-DB	ND	12	EPA 8151A	2-16-18	2-20-18	
Dinoseb	ND	12	EPA 8151A	2-16-18	2-20-18	
Surrogate:	Percent Recovery	Control Limits				
DCAA	72	10-126				
Client ID:	PH-1-SS1,SS2,SS3 Comp.					
Laboratory ID:	02-151-15,16,17 Comp.					
Dalapon	ND	270	EPA 8151A	2-16-18	2-21-18	
Dicamba	ND	11	EPA 8151A	2-16-18	2-21-18	
MCPP	ND	1100	EPA 8151A	2-16-18	2-21-18	
MCPA	ND	1100	EPA 8151A	2-16-18	2-21-18	
Dichlorprop	ND	84	EPA 8151A	2-16-18	2-21-18	
2,4-D	ND	11	EPA 8151A	2-16-18	2-21-18	
Pentachlorophenol	ND	5.6	EPA 8151A	2-16-18	2-21-18	
2,4,5-TP (Silvex)	ND	11	EPA 8151A	2-16-18	2-21-18	
2,4,5-T	ND	11	EPA 8151A	2-16-18	2-21-18	
2,4-DB	ND	11	EPA 8151A	2-16-18	2-21-18	
Dinoseb	ND	11	EPA 8151A	2-16-18	2-21-18	
Surrogate:	Percent Recovery	Control Limits				
		10 100				

DCAA

10-126

56

Project: 1267-013

#### CHLORINATED ACID HERBICIDES EPA 8151A

Matrix: Soil

Units: ug/Kg (ppb)

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Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	PH-2-SS1,SS2,SS3 Comp.					
Laboratory ID:	02-151-18,19,20 Comp.					
Dalapon	ND	260	EPA 8151A	2-16-18	2-21-18	
Dicamba	ND	11	EPA 8151A	2-16-18	2-21-18	
MCPP	ND	1100	EPA 8151A	2-16-18	2-21-18	
MCPA	ND	1100	EPA 8151A	2-16-18	2-21-18	
Dichlorprop	ND	81	EPA 8151A	2-16-18	2-21-18	
2,4-D	ND	11	EPA 8151A	2-16-18	2-21-18	
Pentachlorophenol	ND	5.5	EPA 8151A	2-16-18	2-21-18	
2,4,5-TP (Silvex)	ND	11	EPA 8151A	2-16-18	2-21-18	
2,4,5-T	ND	11	EPA 8151A	2-16-18	2-21-18	
2,4-DB	ND	11	EPA 8151A	2-16-18	2-21-18	
Dinoseb	ND	11	EPA 8151A	2-16-18	2-21-18	
Surrogate:	Percent Recovery	Control Limits				
DCAA	56	10-126				
Client ID:	PH-3-SS1,SS2 Comp.					
Laboratory ID:	02-151-21,22 Comp.					
Dalapon	ND	310	EPA 8151A	2-16-18	2-17-18	
Dicamba	ND	13	EPA 8151A	2-16-18	2-17-18	
MCPP	ND	1300	EPA 8151A	2-16-18	2-17-18	
MCPA	ND	1300	EPA 8151A	2-16-18	2-17-18	
Dichlorprop	ND	97	EPA 8151A	2-16-18	2-17-18	
2,4-D	ND	13	EPA 8151A	2-16-18	2-17-18	
Pentachlorophenol	ND	6.5	EPA 8151A	2-16-18	2-17-18	
2,4,5-TP (Silvex)	ND	13	EPA 8151A	2-16-18	2-17-18	
2,4,5-T	ND	13	EPA 8151A	2-16-18	2-17-18	
2,4-DB	ND	13	EPA 8151A	2-16-18	2-17-18	
Dinoseb	ND	13	EPA 8151A	2-16-18	2-17-18	
Surrogate:	Percent Recovery	Control Limits				
2011	45	40.406				

DCAA

10-126

45

Project: 1267-013

# CHLORINATED ACID HERBICIDES EPA 8151A

Matrix: Soil

Analyta	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Analyte Client ID:	PH-5-SS1,SS2,SS3,SS4,SS5 Comp		Metriou	ricparcu	Analyzea	riago
		р.				
Laboratory ID:	02-151-23,24,25,26,27 Comp.		EDA 0454A	0.40.40	2-17-18	
Dalapon	ND	280	EPA 8151A	2-16-18		
Dicamba	ND	11	EPA 8151A	2-16-18	2-17-18	
MCPP	ND	1100	EPA 8151A	2-16-18	2-17-18	
MCPA	ND	1100	EPA 8151A	2-16-18	2-17-18	
Dichlorprop	ND	86	EPA 8151A	2-16-18	2-17-18	
2,4-D	ND	11	EPA 8151A	2-16-18	2-17-18	
Pentachlorophenol	ND	5.7	EPA 8151A	2-16-18	2-17-18	
2,4,5-TP (Silvex)	ND	11	EPA 8151A	2-16-18	2-17-18	
2,4,5-T	ND	11	EPA 8151A	2-16-18	2-17-18	
2,4-DB	ND	11	EPA 8151A	2-16-18	2-17-18	
Dinoseb	ND	11	EPA 8151A	2-16-18	2-17-18	
Surrogate:	Percent Recovery	Control Limits				
DCAA	37	10-126				
Client ID:	PH-12-SS1,SS2 Comp.					
Laboratory ID:	02-151-28,29 Comp.					
Dalapon	ND	260	EPA 8151A	2-16-18	2-21-18	
Dicamba	ND	11	EPA 8151A	2-16-18	2-21-18	
MCPP	ND	1000	EPA 8151A	2-16-18	2-21-18	
MCPA	ND	1000	EPA 8151A	2-16-18	2-21-18	
Dichlorprop	ND	79	EPA 8151A	2-16-18	2-21-18	
2,4-D	ND	11	EPA 8151A	2-16-18	2-21-18	
Pentachlorophenol	ND	5.3	EPA 8151A	2-16-18	2-21-18	
2,4,5-TP (Silvex)	ND	11	EPA 8151A	2-16-18	2-21-18	
2,4,5-T	ND	11	EPA 8151A	2-16-18	2-21-18	
2,4-DB	ND	11	EPA 8151A	2-16-18	2-21-18	
Dinoseb	ND	11	EPA 8151A	2-16-18	2-21-18	
Surrogate:	Percent Recovery	Control Limits				
DCAA	59	10-126				
and the same of th						

#### CHLORINATED ACID **HERBICIDES EPA 8151A**

Matrix: Soil

ua/Ka (ppb) Units:

Analysis	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Analyte Client ID:	PH-11-SS1,SS2,SS3,SS4 Comp		Metriod	1 Toparou	7.0.0.	
		ρ.				
Laboratory ID:	02-151-30,31,32,33 Comp.	270	EPA 8151A	2-16-18	2-21-18	
Dalapon	ND	270		2-16-18	2-21-18	
Dicamba	ND	11	EPA 8151A		2-21-18	
MCPP	ND	1100	EPA 8151A	2-16-18		
MCPA	ND	1100	EPA 8151A	2-16-18	2-21-18	
Dichlorprop	ND	83	EPA 8151A	2-16-18	2-21-18	
2,4-D	ND	11	EPA 8151A	2-16-18	2-21-18	
Pentachlorophenol	ND	5.6	EPA 8151A	2-16-18	2-21-18	
2,4,5-TP (Silvex)	ND	11	EPA 8151A	2-16-18	2-21-18	
2,4,5-T	ND	11	EPA 8151A	2-16-18	2-21-18	
2,4-DB	ND	11	EPA 8151A	2-16-18	2-21-18	
Dinoseb	ND	11	EPA 8151A	2-16-18	2-21-18	
Surrogate:	Percent Recovery	Control Limits				
DCAA	61	10-126				
Client ID:	PH-10-SS1,SS2,SS3 Comp.					
Laboratory ID:	02-151-34,35,36 Comp.					
Dalapon	ND	260	EPA 8151A	2-16-18	2-17-18	
Dicamba	ND	11	EPA 8151A	2-16-18	2-17-18	
MCPP	ND	1100	EPA 8151A	2-16-18	2-17-18	

Laboratory .D.						
Dalapon	ND	260	EPA 8151A	2-16-18	2-17-18	
Dicamba	ND	11	EPA 8151A	2-16-18	2-17-18	
MCPP	ND	1100	EPA 8151A	2-16-18	2-17-18	
MCPA	ND	1100	EPA 8151A	2-16-18	2-17-18	
Dichlorprop	ND	81	EPA 8151A	2-16-18	2-17-18	
2.4-D	ND	11	EPA 8151A	2-16-18	2-17-18	
Pentachlorophenol	ND	5.4	EPA 8151A	2-16-18	2-17-18	
	ND	11	EPA 8151A	2-16-18	2-17-18	
2,4,5-TP (Silvex)	ND	11	EPA 8151A	2-16-18	2-17-18	
2,4,5-T		11	EPA 8151A	2-16-18	2-17-18	
2,4-DB	ND	11	EPA 8151A	2-16-18	2-17-18	
Dinoseb	ND	11	EFACISIA	2-10-10	2-11-10	

Control Limits Percent Recovery Surrogate: 52 10-126 DCAA

# CHLORINATED ACID HERBICIDES EPA 8151A

Matrix:

Soil

			Date	Date	
Result	PQL	Method	Prepared	Analyzed	Flags
PH-4-SS1,SS2,SS3 Comp.					
02-151-37,38,39 Comp.					
ND	280	EPA 8151A	2-16-18	2-17-18	
ND	11	EPA 8151A	2-16-18	2-17-18	
ND	1100	EPA 8151A	2-16-18	2-17-18	
ND	1100	EPA 8151A	2-16-18	2-17-18	
ND	85	EPA 8151A	2-16-18	2-17-18	
ND	11	EPA 8151A	2-16-18	2-17-18	
ND	5.7	EPA 8151A	2-16-18	2-17-18	
ND	11	EPA 8151A	2-16-18	2-17-18	
ND	11	EPA 8151A	2-16-18	2-17-18	
ND	11	EPA 8151A	2-16-18	2-17-18	
ND	11	EPA 8151A	2-16-18	2-17-18	
Percent Recovery	Control Limits				
47	10-126				
	PH-4-SS1,SS2,SS3 Comp. 02-151-37,38,39 Comp. ND ND ND ND ND ND ND ND ND ND ND ND ND	PH-4-SS1,SS2,SS3 Comp.         02-151-37,38,39 Comp.         ND       280         ND       11         ND       1100         ND       85         ND       11         ND       5.7         ND       11         ND       11         ND       11         ND       11         ND       11         ND       11         Percent Recovery       Control Limits	PH-4-SS1,SS2,SS3 Comp.         02-151-37,38,39 Comp.         ND       280       EPA 8151A         ND       11       EPA 8151A         ND       1100       EPA 8151A         ND       85       EPA 8151A         ND       11       EPA 8151A         ND       5.7       EPA 8151A         ND       11       EPA 8151A         Percent Recovery       Control Limits	PH-4-SS1,SS2,SS3 Comp.  02-151-37,38,39 Comp.  ND 280 EPA 8151A 2-16-18  ND 11 EPA 8151A 2-16-18  ND 1100 EPA 8151A 2-16-18  ND 1100 EPA 8151A 2-16-18  ND 85 EPA 8151A 2-16-18  ND 11 EPA 8151A 2-16-18  ND 11 EPA 8151A 2-16-18  ND 5.7 EPA 8151A 2-16-18  ND 11 EPA 8151A 2-16-18  ND 11 EPA 8151A 2-16-18  ND 11 EPA 8151A 2-16-18  ND 11 EPA 8151A 2-16-18  ND 11 EPA 8151A 2-16-18  ND 11 EPA 8151A 2-16-18  ND 11 EPA 8151A 2-16-18  ND 11 EPA 8151A 2-16-18  ND 11 EPA 8151A 2-16-18  Percent Recovery Control Limits	Result         PQL         Method         Prepared         Analyzed           PH-4-SS1,SS2,SS3 Comp.           02-151-37,38,39 Comp.           ND         280         EPA 8151A         2-16-18         2-17-18           ND         11         EPA 8151A         2-16-18         2-17-18           ND         1100         EPA 8151A         2-16-18         2-17-18           ND         1100         EPA 8151A         2-16-18         2-17-18           ND         85         EPA 8151A         2-16-18         2-17-18           ND         11         EPA 8151A         2-16-18         2-17-18

# Levion 7471B Levion Validation Worksheet

	NOV		15	Ho	), [	V/-			_						S	DG:_	180	5-11	<u>e</u> +	
Date Reviewed Sample Collect	l:	7. 4	20.1	8.18											ŀ	<b>Keviev</b>	ver: C	Jense	n	
The following of	lata va	lidatio	n area	s were	reviev	wed:														
Sample Identification	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
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	3	王	Z.	1.0	1	H.	T.	#	\$		ض خ	-06.HAZ								
	10.14A1.01	M4.01.HA1.02	PH. 63. HAP.O	201-144-62-HQ	0.124.00 F	PUT - 64- FTAT 1- 62	14.05.4A1.01	PH-05- HA1-02	PH-06-44-01	PLT-06-1474 1-02	M4.06. HM2.0	Ċ								
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Criteria		0	9	0	3	7	-	3	<u> </u>	7	9			ļ			-			
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Holding Times	1											7)								
Completion	A											$\rightarrow$								
Method Blanks	14-											_				ļ				
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duplicate RPD	A											<b>-&gt;</b>					ļ			
MS/MSD:	A											<del>-)</del>								
Note:X = Criteria	a were	evaluat	ed and	not me	t. A=	Criteri	a were	evaluat	ed and	met. N	= Data	a was n	ot ava	ilable f	or revi	ew. N	$\Lambda = N_0$	applic	able.	
Comments:	uls	es		lth				600	,											
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# **TOTAL METALS** EPA 6010D/7471B

Matrix:

Soil

Units:

	0 0 11 7					
				Date	Date	
Analyte	Result	PQL	EPA Method	Prepared	Analyzed	Flags
Lab ID:	03-167-01					
Client ID:	PH-01-HA1-01					
Arsenic	ND	12	6010D	3-22-18	3-22-18	
Lab ID: Client ID:	03-167-02 <b>PH-01-HA1-02</b>					
Arsenic	ND	11	C040D	0.00.40	0.00.40	
Alsellic	ND	11	6010D	3-22-18	3-22-18	
Lab ID:	03-167-04					
Client ID:	PH-03-HA1-01				·	
Lead	42	6.1	6010D	3-22-18	3-22-18	
Mercury	ND	0.31	7471B	3-23-18	3-23-18	
Lab ID:	03-167-05					
Client ID:	PH-03-HA1-02					
Lead	14	5.8	6010D	3-22-18	3-22-18	
Mercury	0.92	0.29	7471B	3-23-18	3-23-18	
Lab ID:	03-167-08		•			
Client ID:	PH-04-HA1-01					
Lead	15	5.6	6010D	3-22-18	3-22-18	

Project: 1267-013

#### TOTAL METALS EPA 6010D/7471B

Matrix:

Soil

Units:

Offico.	mg/kg (ppm)					
				Date	Date	
Analyte	Result	PQL	EPA Method	Prepared	Analyzed	Flags
Lab ID:	03-167-09					
Client ID:	PH-04-HA1-02					
Lead	ND	6.1	6010D	3-22-18	3-22-18	
Lab ID:	03-167-12					
Client ID:	PH-05-HA1-01					
Lead	170	6.0	6010D	3-22-18	3-22-18	
Lab ID:	03-167-13 <b>PH-05-HA1-02</b>					
Lead	8.6	5.8	6010D	3-22-18	3-22-18	
Lab ID:	03-167-16 <b>PH-06-HA1-01</b>					
Mercury	0.94	0.30	7471B	3-22-18	3-22-18	
Lab ID:	03-167-17 <b>PH-06-HA1-02</b>					
Mercury	0.48	0.29	7471B	3-22-18	3-22-18	

# **TOTAL METALS** EPA 6010D/7471B

Matrix:

Soil

Units:

				Date	Date	
Analyte	Result	PQL	<b>EPA Method</b>	Prepared	Analyzed	Flags
Lab ID:	03-167-20					90
Client ID:	PH-06-HA2-01					
Lead	190	5.8	6010D	3-22-18	3-22-18	
Lab ID:	03-167-21					
Client ID:	PH-06-HA2-02					
Lead	21	5.9	6010D	3-22-18	3-22-18	



# Chain of Gustody

Page of

문화함당 경험 명명합리로 등록 등록 등록 등록 등록 등록 등록 등록 등록 등록 등록 등록 등록		earound Requ working day			3	ode	rat	ory	Nu	mb	er:		. 1			-										
Phone: (425) 883-3881 • www.onsite-env.com Company:	MANAGE PER PER PER PER PER PER PER PER PER PE	(Check One)		BART LINE AND THE STREET							Automotive training team	A	100	The same of the sa	17 000 47 17 17 18	VSIM			and statement an	THE PERSON AND THE PE		And Plant Management	And a design of the second second	and the state of t	-	
Project Number:	Same		1 Day	de sesses establishes des				(dn-ue		THE RESERVE THE PROPERTY OF THE PARTY OF THE		2000	THE PERSON NAMED IN	At a second	818	s 8270D	3151A		And the last of th				FALSE USE SERVICE	A CONTRACTOR OF THE PARTY OF TH	On the Johnson, commencer,	THE PARTY OF THE P
Project Name:	Stanc	lard (7 Days) analysis 5 Da		sts				SG Clean-up)		s 8260C	ers Colty	SiM	(ievel-v		icides 30	Pesticide	rbicides	T I I I I I I I I I I I I I I I I I I I			) 1664A			THE REAL PROPERTY OF THE PERSON	***************************************	ALCOHOLOGICA AND A ACT USA
Project Manager: Sampled by:		(other)		Number of Containers	HOID	NV/TPH-GX/87EX	GX GX	NWTPH-Dx ( Acid .	\$260C	Halogenated Volatiles 82600	EDB EPA 8011 (Waters Colty)	Semivolatiles 8270D/SIM (with tow-level PAHS)	70D/SIM (lo	382A	Organochionne Pesticides 30316	Organophosphorus Pesticides 82700/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	etals	HEM (oil and grease)		And the second s	and the second second	The state of the s	ture
Lab (0 Sample Identification	Date Sampled	line Sampled	Manage	Number	MWTPH-HCID	NWTPH	NWTPH-GX	NWTPH	Volatiles 8280C	Halogen	EDB EP/	Sentivol (with tow	PAHs 82	PCBs 8082A	Organor	Organop	Chlorine	Total RC	Total M	TCLP Metals	HEM (0)					"n Moisture
Lab (0 Sample Identification	SARA	0135	5.3		of the same of the													THE PERSON NAMED IN COLUMN 1						117		O
2 Ph-01-467-52							mercan de la company			-										AND DESCRIPTION OF THE PERSON	1	A,				27.77%
3 Paga Har 10 70	The state of the s					10.01	A PARTY AND A PART		- Carylina and a second	-	-									-						
	T ALIE					Adv. National Control of the Control	-		and the same of th	The state of the s	-							The same of the sa		<u> </u>	<u> </u>		X			
5 (1) - 3 - 12 - 13							1	and the same and t	-		1						-	To a second	1		The state of the s					0.00
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Signature  Relinquished	- C	ompany						h,"			-													-		
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# Chain of Custody

	Analytical La 14648 NE (	borntory Testing Services 15th Street - Redmend, WA 98052	101	roaroued Req n working da	sest ys)		Carried Street	abo	rate	ory		nbe	£.						-					-	TOTAL PROPERTY.		
Compa		5) 883-3881 • www.onsite-env.com	A PARTY DAY	(Check One)		Management of the control of the con					41.1	T					S		Anna Janes								
Projec	Number:	<u> </u>	Sam		] i Day	a de la constitución de la const	And the state of t		The spine over the spine about	(dn	The Market Name					8	8270D/SIM	P.1	-	a care contract			THE THE PROPERTY OF STREET				
Projec	Name:		☐ 2 Da		3 Days	A THE WASHINGTON			Mary and the Commercial	Clean-	A per general and a second	20 20	191	(ia		8081	ides 8	es 8151.4	-			(4)	A COMPANY OF THE PARTY OF THE P			-	-
Projec	Manager:		_ Estan	dard (7 Days) Lanalysis 5 Da	iys)	Siers		-		Acid / SG Clean-up)	A COLUMN TOWNS OF THE PARTY OF	95 850	5	D/Sit/A is) ovv-lev	A COLUMN TO SERVICE A COLU	sticides	Pestic	erbicid			MIN AND AND AND AND AND AND AND AND AND AN	e) 1664A		10 m ( 10 m ) 10 m )			
Sampl		<u>Combanda</u>		(other)		Number of Containers	40.0	NWTPH-GX/ETEX			Volatiles 8260C	Rangehared Volames 82600	2001 1 (00	Semivolatiles \$270D/SIM (with low-level PAHs) PAHs \$270D/SIM (low-level)	52A	Organochlonne Pesticides 8081B	Organophosphorus Pesticidas	Chlorinated Acid Herbicides	Total RORA Metals	Total MTCA Matals	tals.	HEM (oil and grease)		the state of the s	7 1/2		÷)
Lab 10			Date	Time Sampled	EA.L.I.	agram agram	NWTPH-HCID	WYPH-	NWTPH-GX	NVTPH-Dx (	Volatiles 8260C	alegena Dia FPA		emivola vith low- AHs 827	PCSs 8082A	rganoci	douation	hiorinat	otal RCF	otal MTC	TOLP Metals	EM (o)				The second second	% Moisture
Contraction of the contraction o		imple Identification	Sampled	Sammen	Malix	1	-	-	3	-	> 12		-	10 5 C	10		0_			15	1-	I					35
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is	Pur Mari	44 - 10		135.		o marine										AND THE PERSON NAMED IN									o concession		
Constant of the Constant of th			Control and an Australia												ALL STREET, ST									100	TIAN DALLY BOARD	and the second	4
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Reline	quished	Signature		ompany				Date	1.75 - 4	_	Time	-3:	-	Commer	its/Sp	ectai	instr	uction	ns .							_	
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Relin	quished	177.04						1	K. I		100		-														
Rece	ived	A Processing	±-1-	10	XF.			3/	19/	8		30															
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Revie	wed/Date		-	Reviewed/Da	te									Chromat	ogran	ns wil	th fina	al rep	ort :	Els	etroni	c Data	a Deliv	erable	es (EC	DDs)	



# Chain of Gustody

Page of

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Compo		25) 853-3881 • vrvvv onsite-env.com		(Check One		The second second second									-			E		Ī		T						
Project	Number:		☐ San		1 Day	1		Barrier Barrier		(d		MATERIAL PROPERTY.						00.31				-	THE PERSON NAMED IN COLUMN 2		Maria Printers	Table		
	Nome:		□ 20	ays	3 Days		***************************************			n-use		A111-0010-1-1-1					13.150 13.150	\$ 827	3151A	-	7.		***************************************		and a second			
	Manager:	my From White	Star	ndard (7 Days) H analysis 5 Da	avsi	50	THE THE PERSON NAMED IN	The second second		Acid / SG Clean-up)	00000	20220	s Only)	SW	-level)	AL 100 LOS 1910 LOS 1	ides 80	sticide	ioides 8	ALL SALES	and the second	* I'm IV PROVIDENCE	68.4A		The same same	A STANSON OF THE PERSON OF		
Project	Manager:	1 4 4 5 5		,	-7-7	sine	And Control of the Co	X		Acid /	- Action	annes	Water	70D/8	A (fow		Pestic	rus Pe	Herb	NS.	sis		3Se) (			40.000		
Sample	ed by:			(other)	t management cas	Number of Containers	HCID	NWTPH-SWRTEX	-Gx	NWTPH-DX (	Volailles 8260C	Street vo	EDB EFA 8011 (Waters Only)	Semivolatiles 8270D/StM (with low-level PAHs)	70D/SII	182A	Organochlorine Pesticides 8031E	Organophosphorus Pesticides 8270D.SIM	Chiornaled Acid Herbicides 8151A	Total RCRA Metals	fotal MTCA Metals	erals	HEM (oil and grease) 1864A	-	THE REAL PROPERTY OF THE PERSON OF THE PERSO	The same of the same of the same		92
Lah ID		ample identification	Date Sampled	Time Sampled	Mairix	timbe	NWTPH-HCID	Hellan	NWTPH-GX	HALL HA	/olatiles	Targona,	DB EF	Semboli with low	AHS 82	PCBs 8082A	rganoc	rganop	Hiorna	otal RC	Stal IAT	TOLP Metals	EM (off		-		100	A Moisture
21	24	75 m.	Retiring	141977	S+ .5	-							-	3, E	li.				<u> </u>				-		1 2 1 X		-	4
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W. Harrison of the Control of the Co												Property and				-	-											
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		Signature		ompany				Date			fime			Com	men	is/Spe	eclal	instru	elion	IS								
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Method: MHA Date Reviewed: Sample Collection The following date	J MA 3.28.18 on Dates: 2. ta validation an	1718 Carry 13.18 reas were review	:	WY NOITA 225 Coll	PRKSHEI		2	<u> </u>	SDG:_ Review	180 ver: C	Z·1	51 en	
Identification		PH-10-555,5554,555 Colours PH-10-555,5554,555 Colours PH-9-551,557,555 Colours PH-9-551,557,555 Colours PH-9-551,557,555 Colours PH-9-551,557,555 Colours PH-9-551,557,555 Colours PH-9-551,557,555 Colours PH-9-551,557,557	M.1-551552,553 Comp.	14.3 551,552 Comp.	M.12.931,552 COMP =		وددبجد	15	16	17	18	19	20
Sample results Holding Times Completion	7	P	2 &	no	PH PH	\$ \$\frac{1}{2}\$	<u> </u>						
Method Blanks  LCS  duplicate RPD  MS/MSD:  Note:X = Criteria we  Comments:	A - A - A - A - A - A - A - A - A - A -	d not met. A=	Criteria were ey	'aluated and m	et. N = Data	Was not ava	ilable fo	review	v. NA	- Not on			
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#### **TOTAL METALS** EPA 6010D/7471B

Matrix:

Soil

Units:

				Date	Date	
Analyte	Result	PQL	EPA Method	Prepared	Analyzed	Flags
Lab ID: Client ID:	02-151-01,02 Comp. PH-6-SS2,SS1 Comp.					
Arsenic	ND	12	6010D	2-20-18	2-20-18	
Barium	59	3.0	6010D	2-21-18	2-21-18	
Cadmium	0.61	0.61	6010D	2-20-18	2-20-18	
Chromium	17	0.61	6010D	2-20-18	2-20-18	
Lead	120	6.1	6010D	2-20-18	2-20-18	
Mercury	1.0	0.30	7471B	2-21-18	2-21-18	
Selenium	ND	12	6010D	2-20-18	2-20-18	
Silver	ND	1.2	6010D	2-20-18	2-20-18	

Lab ID: Client ID:	02-151-03,04,05 Comp. PH-7-SS3,SS2,SS1 Comp.					
Arsenic	ND	12	6010D	2-20-18	2-20-18	
Barium	45	2.9	6010D	2-21-18	2-21-18	
Cadmium	ND	0.58	6010D	2-20-18	2-20-18	
Chromium	24	0.58	6010D	2-20-18	2-20-18	
Lead	100	5.8	6010D	2-20-18	2-20-18	
Mercury	ND	0.29	7471B	2-21-18	2-21-18	
Selenium	ND	12	6010D	2-20-18	2-20-18	
Silver	ND	1.2	6010D	2-20-18	2-20-18	

2-20-18

2-21-18

2-20-18

2-20-18

Date of Report: March 5, 2018

Samples Submitted: February 14, 2018 Laboratory Reference: 1802-151

Project: 1267-013

### **TOTAL METALS** EPA 6010D/7471B

Matrix:

Soil

Units:

Lead Mercury

Selenium

Silver

ma/ka (nnm)

160

ND

ND

ND

Units:	mg/kg (ppm)					
				Date	Date	
Analyte	Result	PQL	<b>EPA Method</b>	Prepared	Analyzed	Flags
Lab ID:	02-151-06,07,08 Comp.					
Client ID:	PH-8-SS1,SS2,SS3 Comp.					
Arsenic	ND	11	6010D	2-20-18	2-20-18	
Barium	28	2.8	6010D	2-21-18	2-21-18	
Cadmium	ND	0.56	6010D	2-20-18	2-20-18	
Chromium	15	0.56	6010D	2-20-18	2-20-18	
Lead	61	5.6	6010D	2-20-18	2-20-18	
Mercury	ND	0.28	7471B	2-21-18	2-21-18	
Selenium	ND	11	6010D	2-20-18	2-20-18	
Silver	ND	1.1	6010D	2-20-18	2-20-18	
Lab ID:	02-151-09,10,11 Comp.					
Client ID:	PH-6-SS3,SS4,SS5 Comp.					
Arsenic	ND	13	6010D	2-20-18	2-20-18	
Barium	130	3.2	6010D	2-21-18	2-21-18	
Cadmium	ND	0.63	6010D	2-20-18	2-20-18	
Chromium	27	0.63	6010D	2-20-18	2-20-18	

6010D

7471B

6010D

6010D

2-20-18

2-21-18

2-20-18

2-20-18

6.3

0.32

13

1.3

Project: 1267-013

# **TOTAL METALS** EPA 6010D/7471B

Matrix:

Soil

Units:

	55 (FF)			Date	Date	
Analyte	Result	PQL	EPA Method	Prepared	Analyzed	Flags
Lab ID: Client ID:	02-151-12,13,14 Comp. PH-9-SS1,SS2,SS3 Comp.					
Arsenic	ND	12	6010D	2-20-18	2-20-18	
Barium	53	3.1	6010D	2-21-18	2-21-18	
Cadmium	ND	0.61	6010D	2-20-18	2-20-18	
Chromium	15	0.61	6010D	2-20-18	2-20-18	
Lead	81	6.1	6010D	2-20-18	2-20-18	
Mercury	ND	0.31	7471B	2-21-18	2-21-18	
Selenium	ND	12	6010D	2-20-18	2-20-18	
Silver	ND	1.2	6010D	2-20-18	2-20-18	

Lab ID: Client ID:	02-151-15,16,17 Comp. PH-1-SS1,SS2,SS3 Comp.				1000	
Arsenic	76	12	6010D	2-20-18	2-20-18	
Barium	110	3.0	6010D	2-21-18	2-21-18	
Cadmium	ND	0.59	6010D	2-20-18	2-20-18	
Chromium	29	0.59	6010D	2-20-18	2-20-18	
Lead	87	5.9	6010D	2-20-18	2-20-18	
Mercury	ND	0.30	7471B	2-21-18	2-21-18	
Selenium	ND	12	6010D	2-20-18	2-20-18	
Silver	ND	1.2	6010D	2-20-18	2-20-18	

Date of Report: March 5, 2018

Samples Submitted: February 14, 2018 Laboratory Reference: 1802-151

Project: 1267-013

# TOTAL METALS EPA 6010D/7471B

Matrix:

Soil

Units:

				Date	Date	
Analyte	Result	PQL	EPA Method	Prepared	Analyzed	Flags
Lab ID: Client ID:	02-151-18,19,20 Comp. PH-2-SS1,SS2,SS3 Comp.					
Arsenic	ND	11	6010D	2-20-18	2-20-18	
Barium	46	2.9	6010D	2-21-18	2-21-18	
Cadmium	ND	0.57	6010D	2-20-18	2-20-18	
Chromium	16	0.57	6010D	2-20-18	2-20-18	
Lead	100	5.7	6010D	2-20-18	2-20-18	
Mercury	ND	0.29	7471B	2-21-18	2-21-18	
Selenium	ND	11	6010D	2-20-18	2-20-18	
Silver	ND	1.1	6010D	2-20-18	2-20-18	

Lab ID: Client ID:	02-151-21,22 Comp. PH-3-SS1,SS2 Comp.					
Arsenic	ND	14	6010D	2-20-18	2-20-18	
Barium	92	3.4	6010D	2-21-18	2-21-18	
Cadmium	0.79	0.69	6010D	2-20-18	2-20-18	
Chromium	32	0.69	6010D	2-20-18	2-20-18	
Lead	300	6.9	6010D	2-20-18	2-20-18	
Mercury	1.6	0.69	7471B	2-21-18	2-21-18	
Selenium	ND	14	6010D	2-20-18	2-20-18	
Silver	ND	1.4	6010D	2-20-18	2-20-18	***************************************

Date of Report: March 5, 2018 Samples Submitted: February 14, 2018

Laboratory Reference: 1802-151

Project: 1267-013

## TOTAL METALS EPA 6010D/7471B

Matrix:

Soil

Units:

Units:	mg/kg (ppm)					
				Date	Date	
Analyte	Result	PQL	EPA Method	Prepared	Analyzed	Fla
Lab ID:	02-151-23,24,25,26,27 Comp.					
Client ID:	PH-5-SS1,SS2,SS3,SS4,SS5 Comp.					
Arsenic	ND	12	6010D	2-20-18	2-20-18	
Barium	99	3.0	6010D	2-21-18	2-21-18	
Cadmium	ND	0.60	6010D	2-20-18	2-20-18	
Chromium	22	0.60	6010D	2-20-18	2-20-18	
Lead	140	6.0	6010D	2-20-18	2-20-18	
Mercury	ND	0.30	7471B	2-21-18	2-21-18	
Selenium	ND	12	6010D	2-20-18	2-20-18	
Silver	ND	1.2	6010D	2-20-18	2-20-18	
Lab ID:	02-151-28,29 Comp.					
Client ID:	PH-12-SS1,SS2 Comp.					
Arsenic	ND	11	6010D	2-20-18	2-20-18	
Barium	31	2.8	6010D	2-21-18	2-21-18	
Cadmium	0.59	0.56	6010D	2-20-18	2-20-18	
Chromium	15	0.56	6010D	2-20-18	2-20-18	
Lead	72	5.6	6010D	2-20-18	2-20-18	
Mercury	0.36	0.28	7471B	2-21-18	2-21-18	
Selenium	ND	11	6010D	2-20-18	2-20-18	
Silver	ND	1.1	6010D	2-20-18	2-20-18	

# **TOTAL METALS** EPA 6010D/7471B

Matrix:

Soil

Units:

	manta (ppm)					
				Date	Date	
Analyte	Result	PQL	EPA Method	Prepared	Analyzed	Flags
Lab ID:	02-151-30,31,32,33 Comp.					
Client ID:	PH-11-SS1,SS2,SS3,SS4 Comp.					
Arsenic	ND	12	6010D	2-20-18	2-20-18	
Barium	46	2.9	6010D	2-21-18	2-21-18	
Cadmium	0.64	0.59	6010D	2-20-18	2-20-18	
Chromium	15	0.59	6010D	2-20-18	2-20-18	
Lead	74	5.9	6010D	2-20-18	2-20-18	
Mercury	ND	0.29	7471B	2-21-18	2-21-18	
Selenium	ND	12	6010D	2-20-18	2-20-18	
Silver	ND	1.2	6010D	2-20-18	2-20-18	
Lab ID:	02-151-34,35,36 Comp.					
Client ID:	PH-10-SS1,SS2,SS3 Comp.					
Arsenic	ND	11	6010D	2-20-18	2-20-18	
Barium	54	2.9	6010D	2-21-18	2-21-18	
Cadmium	ND	0.57	6010D	2-20-18	2-20-18	
Chromium	15	0.57	6010D	2-20-18	2-20-18	
Lead	80	5.7	6010D	2-20-18	2-20-18	
Mercury	ND	0.29	7471B	2-21-18	2-21-18	
Selenium	ND	11	6010D	2-20-18	2-20-18	
Silver	ND	1.1	6010D	2-20-18	2-20-18	

Project: 1267-013

## **TOTAL METALS** EPA 6010D/7471B

Matrix:

Soil

Units:

				Date	Date	
Analyte	Result	PQL	<b>EPA Method</b>	Prepared	Analyzed	Flags
Lab ID:	02-151-37,38,39 Comp.					i iugo
Client ID:	PH-4-SS1,SS2,SS3 Comp.					
Arsenic	ND	12	6010D	2-20-18	2-20-18	
Barium	62	3.0	6010D	2-21-18	2-21-18	
Cadmium	0.75	0.60	6010D	2-20-18	2-20-18	
Chromium	27	0.60	6010D	2-20-18	2-20-18	
Lead	190	6.0	6010D	2-20-18	2-20-18	
Mercury	ND	0.30	7471B	2-21-18	2-21-18	
Selenium	ND	12	6010D	2-20-18	2-20-18	
Silver	ND ND	1.2	6010D	2-20-18	2-20-18	

individual 5th VALIDATION WORKSHEET Method: Hh 749 Date Reviewed: Sample Collection Dates: 2. The following data validation areas were reviewed: 12 18 19 Sample 11 13 14 15 16 17 20 3 Identification Validation Criteria Sample results Holding Times Completion Method Blanks LCS duplicate RPD() MS/MSD: Note:X = Criteria were evaluated and not met. A = Criteria were evaluated and met. N = Data was not available for review. NA = Not applicable. Comments:

20/2

VALIDATION WORKSHEET Method: WAIV Suls Ph/ASOVLE Date Reviewed: Reviewer: C Jensen Sample Collection Dates: The following data validation areas were reviewed: Sample 3 8 10 11 12 13 14 15 16 17 18 19 20 Identification Validation Criteria Sample results Holding Times 7 Completion Method Blanks LCS duplicate RPD MS/MSD: Note:X = Criteria were evaluated and not met. A = Criteria were evaluated and met. N = Data was not available for review. NA = Not applicable. Comments:

# **TOTAL METALS** EPA 6010D/7471B

Matrix:

Soil

Units:

				Date	Date	
Analyte	Result	PQL	EPA Method	Prepared	Analyzed	Flags
Lab ID:	02-151-01					
Client ID:	PH-6-SS2					
Mercury	2.6	1.6	7471B	2-27-18	2-27-18	
Lab ID:	02-151-02					
Client ID:	PH-6-SS1					
Mercury	ND	0.32	7471B	2-27-18	2-27-18	
Lab ID:	02-151-03					
Client ID:	PH-7-SS3				le 1	
Lead	69 )	5.9	6010D	3-2-18	3-2-18	
Lab ID:	02-151-04					
Client ID:	PH-7-SS2					
Lead	40 (	5.7	6010D	3-2-18	3-2-18	

## **TOTAL METALS EPA 6010D**

Matrix:

Soil

Units:

			Date	Data	
			Date	Date	
Result	PQL	EPA Method	Prepared	Analyzed	Flags
02-151-05			,		
PH-7-SS1					
84	9 5.7	6010D	3-2-18	3-2-18	
3	•				
02-151-09					
PH-6-SS3					
59	9 5.7	6010D	3-2-18	3-2-18	
J					
02-151-10					
PH-6-SS4					
93	9 6.6	6010D	3-2-18	3-2-18	
J					
02-151-11					
PH-6-SS5 ,					
270	7.6	6010D	3-2-18	3-2-18	
	02-151-05 PH-7-SS1  84  02-151-09 PH-6-SS3  59  02-151-10 PH-6-SS4  93  02-151-11 PH-6-SS5	02-151-05 PH-7-SS1  84	02-151-05 PH-7-SS1  84	02-151-05 PH-7-SS1  84	02-151-05 PH-7-SS1  84

# **TOTAL METALS EPA 6010D**

Matrix:

Soil

Units:

	3.13 (PP.1.)					
				Date	Date	
Analyte	Result	PQL	<b>EPA Method</b>	Prepared	Analyzed	Flags
Lab ID:	02-151-15					90
Client ID:	PH-1-SS1					
Arsenic	110	11	6010D	3-2-18	3-2-18	
Lead	65 J 9	5.7	6010D	3-2-18	3-2-18	
Lab ID:	02-151-16					
Client ID:	PH-1-SS2					
Arsenic	70	12	6010D	3-2-18	3-2-18	
Lead	66 ] 9	5.8	6010D	3-2-18	3-2-18	
Lab ID:	02-151-17					
Client ID:	PH-1-SS3					
Arsenic	ND	14	6010D	3-2-18	3-2-18	
Lead	250	6.8	6010D	3-2-18	3-2-18	
	,				0210	
Lab ID:	02-151-18					
Client ID:	PH-2-SS1					
Lead	40 ) 0	5.8	6010D	3-2-18	3-2-18	
				02.10	J-Z-10	_

(201010) 747119 VALIDATION WORKSHEET	
Method: Whale Malauri 1 Date Reviewed: 3.28.18 Sample Collection Dates: 2.13.18	SDG: 1802 · 15   Reviewer: C Jensen
Sample Identification 1 582, 582, 581 (6 m/g) 1783, 582, 583 (6 m/g) 1783, 582, 583 (6 m/g) 1883, 583, 583, 583, 583, 583, 583, 583,	15   16   17   18   19   20
Validation Criteria  Sample results  Holding Times  Completion	
Method Blanks A	
MS/MSD:  Note:X = Criteria were evaluated and not met. A = Criteria were evaluated and met. N = Data was not available for rev	eview. NA = Not applicable.
prep 2 2018 2 2118 pw flag.	
7 2 2018 2 2118	
in number incorrect: dup is in for Ph.	lf. See next Mechlest. Indiv. Sals.

## **TOTAL METALS** EPA 6010D/7471B

Matrix:

Soil

Units:

				Date	Date	
Analyte	Result	PQL	EPA Method	Prepared	Analyzed	Flags
Lab ID: Client ID:	02-151-01,02 Comp. PH-6-SS2,SS1 Comp.					
Arsenic	ND	12	6010D	2-20-18	2-20-18	
Barium	59	3.0	6010D	2-21-18	2-21-18	
Cadmium	0.61	0.61	6010D	2-20-18	2-20-18	
Chromium	17	0.61	6010D	2-20-18	2-20-18	
Lead	120	6.1	6010D	2-20-18	2-20-18	
Mercury	1.0	0.30	7471B	2-21-18	2-21-18	
Selenium	ND	12	6010D	2-20-18	2-20-18	
Silver	ND	1.2	6010D	2-20-18	2-20-18	

Lab ID: Client ID:	02-151-03,04,05 Comp. PH-7-SS3,SS2,SS1 Comp.					
Arsenic	ND	12	6010D	2-20-18	2-20-18	
Barium	45	2.9	6010D	2-21-18	2-21-18	
Cadmium	ND	0.58	6010D	2-20-18	2-20-18	
Chromium	24	0.58	6010D	2-20-18	2-20-18	
Lead	100	5.8	6010D	2-20-18	2-20-18	
Mercury	ND	0.29	7471B	2-21-18	2-21-18	
Selenium	ND	12	6010D	2-20-18	2-20-18	
Silver	ND	1.2	6010D	2-20-18	2-20-18	

Project: 1267-013

## **TOTAL METALS** EPA 6010D/7471B

Matrix:

Soil

Units:

ma/ka (nnm)

Units:	mg/kg (ppm)					
				Date	Date	
Analyte	Result	PQL	EPA Method	Prepared	Analyzed	Flags
Lab ID:	02-151-06,07,08 Comp.					
Client ID:	PH-8-SS1,SS2,SS3 Comp.					
Arsenic	ND	11	6010D	2-20-18	2-20-18	
Barium	28	2.8	6010D	2-21-18	2-21-18	
Cadmium	ND	0.56	6010D	2-20-18	2-20-18	
Chromium	15	0.56	6010D	2-20-18	2-20-18	
Lead	61	5.6	6010D	2-20-18	2-20-18	
Mercury	ND	0.28	7471B	2-21-18	2-21-18	
Selenium	ND	11	6010D	2-20-18	2-20-18	
Silver	ND	1.1	6010D	2-20-18	2-20-18	
Lab ID:	02-151-09,10,11 Comp.					
Client ID:	PH-6-SS3,SS4,SS5 Comp.					
		40	6010D	2 20 48	2 20 18	
Arsenic	ND	13	6010D	2-20-18	2-20-18	
Barium	130	3.2	6010D	2-21-18	2-21-18	
Cadmium	ND	0.63	6010D	2-20-18	2-20-18	
Chromium	27	0.63	6010D	2-20-18	2-20-18	
Lead	160	6.3	6010D	2-20-18	2-20-18	
Mercury	ND	0.32	7471B	2-21-18	2-21-18	
Selenium	ND	13	6010D	2-20-18	2-20-18	
Silver	ND	1.3	6010D	2-20-18	2-20-18	

Project: 1267-013

# **TOTAL METALS** EPA 6010D/7471B

Matrix:

Soil

Units:

Office.	mg/kg (ppm)			Date	Date	
Analyte	Result	PQL	EPA Method	Prepared	Analyzed	Flags
Lab ID: Client ID:	02-151-12,13,14 Comp. PH-9-SS1,SS2,SS3 Comp.					
Arsenic	ND	12	6010D	2-20-18	2-20-18	
Barium	53	3.1	6010D	2-21-18	2-21-18	
Cadmium	ND	0.61	6010D	2-20-18	2-20-18	
Chromium	15	0.61	6010D	2-20-18	2-20-18	
Lead	81	6.1	6010D	2-20-18	2-20-18	
Mercury	ND	0.31	7471B	2-21-18	2-21-18	
Selenium	ND	12	6010D	2-20-18	2-20-18	
Silver	ND	1.2	6010D	2-20-18	2-20-18	
Lab ID: Client ID:	02-151-15,16,17 Comp. PH-1-SS1,SS2,SS3 Comp.					
Arsenic	76	12	6010D	2-20-18	2-20-18	

Lab ID:	02-151-15,16,17 Comp.					
Client ID:	PH-1-SS1,SS2,SS3 Comp.					
Arsenic	76	12	6010D	2-20-18	2-20-18	
Barium	110	3.0	6010D	2-21-18	2-21-18	
Cadmium	ND	0.59	6010D	2-20-18	2-20-18	
Chromium	29	0.59	6010D	2-20-18	2-20-18	
Lead	87	5.9	6010D	2-20-18	2-20-18	
Mercury	ND	0.30	7471B	2-21-18	2-21-18	
Selenium	ND	12	6010D	2-20-18	2-20-18	
Silver	ND	1.2	6010D	2-20-18	2-20-18	

Date of Report: March 5, 2018

Samples Submitted: February 14, 2018 Laboratory Reference: 1802-151

Project: 1267-013

# TOTAL METALS EPA 6010D/7471B

Matrix:

Soil

Units:

				Date	Date	
Analyte	Result	PQL	EPA Method	Prepared	Analyzed	Flags
Lab ID: Client ID:	02-151-18,19,20 Comp. PH-2-SS1,SS2,SS3 Comp.					
Arsenic	ND	11	6010D	2-20-18	2-20-18	
Barium	46	2.9	6010D	2-21-18	2-21-18	
Cadmium	ND	0.57	6010D	2-20-18	2-20-18	
Chromium	16	0.57	6010D	2-20-18	2-20-18	
Lead	100	5.7	6010D	2-20-18	2-20-18	
Mercury	ND	0.29	7471B	2-21-18	2-21-18	
Selenium	ND	11	6010D	2-20-18	2-20-18	
Silver	ND	1.1	6010D	2-20-18	2-20-18	

Lab ID: Client ID:	02-151-21,22 Comp. PH-3-SS1,SS2 Comp.					
Arsenic	ND	14	6010D	2-20-18	2-20-18	
Barium	92	3.4	6010D	2-21-18	2-21-18	
Cadmium	0.79	0.69	6010D	2-20-18	2-20-18	
Chromium	32	0.69	6010D	2-20-18	2-20-18	
Lead	300	6.9	6010D	2-20-18	2-20-18	
Mercury	1.6	0.69	7471B	2-21-18	2-21-18	
Selenium	ND	14	6010D	2-20-18	2-20-18	
Silver	ND	1.4	6010D	2-20-18	2-20-18	***************************************

Date of Report: March 5, 2018 Samples Submitted: February 14, 2018

Laboratory Reference: 1802-151

Project: 1267-013

## TOTAL METALS EPA 6010D/7471B

Matrix:

Soil

Units:

Units:	mg/kg (ppm)					
				Date	Date	
Analyte	Result	PQL	EPA Method	Prepared	Analyzed	Fla
Lab ID:	02-151-23,24,25,26,27 Comp.					
Client ID:	PH-5-SS1,SS2,SS3,SS4,SS5 Comp.					
Arsenic	ND	12	6010D	2-20-18	2-20-18	
Barium	99	3.0	6010D	2-21-18	2-21-18	
Cadmium	ND	0.60	6010D	2-20-18	2-20-18	
Chromium	22	0.60	6010D	2-20-18	2-20-18	
Lead	140	6.0	6010D	2-20-18	2-20-18	
Mercury	ND	0.30	7471B	2-21-18	2-21-18	
Selenium	ND	12	6010D	2-20-18	2-20-18	
Silver	ND	1.2	6010D	2-20-18	2-20-18	
Lab ID:	02-151-28,29 Comp.					
Client ID:	PH-12-SS1,SS2 Comp.					
Arsenic	ND	11	6010D	2-20-18	2-20-18	
Barium	31	2.8	6010D	2-21-18	2-21-18	
Cadmium	0.59	0.56	6010D	2-20-18	2-20-18	
Chromium	15	0.56	6010D	2-20-18	2-20-18	
Lead	72	5.6	6010D	2-20-18	2-20-18	
Mercury	0.36	0.28	7471B	2-21-18	2-21-18	
Selenium	ND	11	6010D	2-20-18	2-20-18	
Silver	ND	1.1	6010D	2-20-18	2-20-18	

# **TOTAL METALS** EPA 6010D/7471B

Matrix:

Soil

Units:

	manta (ppm)					
				Date	Date	
Analyte	Result	PQL	EPA Method	Prepared	Analyzed	Flags
Lab ID:	02-151-30,31,32,33 Comp.					
Client ID:	PH-11-SS1,SS2,SS3,SS4 Comp.					
Arsenic	ND	12	6010D	2-20-18	2-20-18	
Barium	46	2.9	6010D	2-21-18	2-21-18	
Cadmium	0.64	0.59	6010D	2-20-18	2-20-18	
Chromium	15	0.59	6010D	2-20-18	2-20-18	
Lead	74	5.9	6010D	2-20-18	2-20-18	
Mercury	ND	0.29	7471B	2-21-18	2-21-18	
Selenium	ND	12	6010D	2-20-18	2-20-18	
Silver	ND	1.2	6010D	2-20-18	2-20-18	
Lab ID:	02-151-34,35,36 Comp.					
Client ID:	PH-10-SS1,SS2,SS3 Comp.					
Arsenic	ND	11	6010D	2-20-18	2-20-18	
Barium	54	2.9	6010D	2-21-18	2-21-18	
Cadmium	ND	0.57	6010D	2-20-18	2-20-18	
Chromium	15	0.57	6010D	2-20-18	2-20-18	
Lead	80	5.7	6010D	2-20-18	2-20-18	
Mercury	ND	0.29	7471B	2-21-18	2-21-18	
Selenium	ND	11	6010D	2-20-18	2-20-18	
Silver	ND	1.1	6010D	2-20-18	2-20-18	

Project: 1267-013

## **TOTAL METALS** EPA 6010D/7471B

Matrix:

Soil

Units:

				Date	Date	
Analyte	Result	PQL	<b>EPA Method</b>	Prepared	Analyzed	Flags
Lab ID:	02-151-37,38,39 Comp.					i iugo
Client ID:	PH-4-SS1,SS2,SS3 Comp.					
Arsenic	ND	12	6010D	2-20-18	2-20-18	
Barium	62	3.0	6010D	2-21-18	2-21-18	
Cadmium	0.75	0.60	6010D	2-20-18	2-20-18	
Chromium	27	0.60	6010D	2-20-18	2-20-18	
Lead	190	6.0	6010D	2-20-18	2-20-18	
Mercury	ND	0.30	7471B	2-21-18	2-21-18	
Selenium	ND	12	6010D	2-20-18	2-20-18	
Silver	ND ND	1.2	6010D	2-20-18	2-20-18	

individual 5th VALIDATION WORKSHEET Method: Hh 749 Date Reviewed: Sample Collection Dates: 2. The following data validation areas were reviewed: 12 18 19 Sample 11 13 14 15 16 17 20 3 Identification Validation Criteria Sample results Holding Times Completion Method Blanks LCS duplicate RPD() MS/MSD: Note:X = Criteria were evaluated and not met. A = Criteria were evaluated and met. N = Data was not available for review. NA = Not applicable. Comments:

20/2

VALIDATION WORKSHEET Method: WAIV Suls Ph/ASOVLE Date Reviewed: Reviewer: C Jensen Sample Collection Dates: The following data validation areas were reviewed: Sample 3 8 10 11 12 13 14 15 16 17 18 19 20 Identification Validation Criteria Sample results Holding Times 7 Completion Method Blanks LCS duplicate RPD MS/MSD: Note:X = Criteria were evaluated and not met. A = Criteria were evaluated and met. N = Data was not available for review. NA = Not applicable. Comments:

# **TOTAL METALS** EPA 6010D/7471B

Matrix:

Soil

Units:

				Date	Date	
Analyte	Result	PQL	EPA Method	Prepared	Analyzed	Flags
Lab ID:	02-151-01					
Client ID:	PH-6-SS2					
Mercury	2.6	1.6	7471B	2-27-18	2-27-18	
Lab ID:	00 454 00					
	02-151-02					
Client ID:	PH-6-SS1					
Mercury	ND	0.32	7471B	2-27-18	2-27-18	
Lab ID:	02-151-03					
Client ID:	PH-7-SS3	•			- '	
Lead	69 )	5.9	6010D	3-2-18	3-2-18	
	O					
Lab ID:	02-151-04					
Client ID:	PH-7-SS2					
	\ (	η				
Lead	40	5.7	6010D	3-2-18	3-2-18	

## **TOTAL METALS EPA 6010D**

Matrix:

Soil

Units:

			Date	Data	
			Date	Date	
Result	PQL	EPA Method	Prepared	Analyzed	Flags
02-151-05			,		
PH-7-SS1					
84	9 5.7	6010D	3-2-18	3-2-18	
3	•				
02-151-09					
PH-6-SS3					
59	9 5.7	6010D	3-2-18	3-2-18	
J					
02-151-10					
PH-6-SS4					
93	9 6.6	6010D	3-2-18	3-2-18	
J					
02-151-11					
PH-6-SS5 ,					
270	7.6	6010D	3-2-18	3-2-18	
	02-151-05 PH-7-SS1  84  02-151-09 PH-6-SS3  59  02-151-10 PH-6-SS4  93  02-151-11 PH-6-SS5	02-151-05 PH-7-SS1  84	02-151-05 PH-7-SS1  84	02-151-05 PH-7-SS1  84	02-151-05 PH-7-SS1  84

# **TOTAL METALS EPA 6010D**

Matrix:

Soil

Units:

	3.13 (PP.1.)					
				Date	Date	
Analyte	Result	PQL	<b>EPA Method</b>	Prepared	Analyzed	Flags
Lab ID:	02-151-15					90
Client ID:	PH-1-SS1					
Arsenic	110	11	6010D	3-2-18	3-2-18	
Lead	65 J 9	5.7	6010D	3-2-18	3-2-18	
Lab ID:	02-151-16					
Client ID:	PH-1-SS2					
Arsenic	70	12	6010D	3-2-18	3-2-18	
Lead	66 ] 9	5.8	6010D	3-2-18	3-2-18	
Lab ID:	02-151-17					
Client ID:	PH-1-SS3					
Arsenic	ND	14	6010D	3-2-18	3-2-18	
Lead	250	6.8	6010D	3-2-18	3-2-18	
	,				0210	
Lab ID:	02-151-18					
Client ID:	PH-2-SS1					
Lead	40 ) 0	5.8	6010D	3-2-18	3-2-18	
				02.10	J-Z-10	_

## TOTAL METALS EPA 6010D/7471B

Matrix:

Soil

Units:

				Date	Date	
Analyte	Result	PQL	<b>EPA Method</b>	Prepared	Analyzed	Flags
Lab ID:	02-151-19					
Client ID:	PH-2-SS2					
Lead	140 2 9	5.7	6010D	3-2-18	3-2-18	
Lab ID:	02-151-20					
Client ID:	PH-2-SS3					
Lead	98 19	5.8	6010D	3-2-18	3-2-18	
Lab ID:	02-151-21					
Client ID:	PH-3-SS1					
Lead	270 1.9	6.3	6010D	3-2-18	3-2-18	
Mercury	1.6	0.63	7471B	2-27-18	2-27-18	

## **TOTAL METALS** EPA 6010D/7471B

Matrix:

Soil

Units:

				Date	Date	
Analyte	Result	PQL	EPA Method	Prepared	Analyzed	Flags
Lab ID: Client ID:	02-151-01,02 Comp. PH-6-SS2,SS1 Comp.					
Arsenic	ND	12	6010D	2-20-18	2-20-18	
Barium	59	3.0	6010D	2-21-18	2-21-18	
Cadmium	0.61	0.61	6010D	2-20-18	2-20-18	
Chromium	17	0.61	6010D	2-20-18	2-20-18	
Lead	120	6.1	6010D	2-20-18	2-20-18	
Mercury	1.0	0.30	7471B	2-21-18	2-21-18	
Selenium	ND	12	6010D	2-20-18	2-20-18	
Silver	ND	1.2	6010D	2-20-18	2-20-18	

Lab ID: Client ID:	02-151-03,04,05 Comp. PH-7-SS3,SS2,SS1 Comp.					
Arsenic	ND	12	6010D	2-20-18	2-20-18	
Barium	45	2.9	6010D	2-21-18	2-21-18	
Cadmium	ND	0.58	6010D	2-20-18	2-20-18	
Chromium	24	0.58	6010D	2-20-18	2-20-18	
Lead	100	5.8	6010D	2-20-18	2-20-18	
Mercury	ND	0.29	7471B	2-21-18	2-21-18	
Selenium	ND	12	6010D	2-20-18	2-20-18	
Silver	ND	1.2	6010D	2-20-18	2-20-18	

Project: 1267-013

## **TOTAL METALS** EPA 6010D/7471B

Matrix:

Soil

Units:

ma/ka (nnm)

Units:	mg/kg (ppm)					
				Date	Date	
Analyte	Result	PQL	EPA Method	Prepared	Analyzed	Flags
Lab ID:	02-151-06,07,08 Comp.					
Client ID:	PH-8-SS1,SS2,SS3 Comp.					
Arsenic	ND	11	6010D	2-20-18	2-20-18	
Barium	28	2.8	6010D	2-21-18	2-21-18	
Cadmium	ND	0.56	6010D	2-20-18	2-20-18	
Chromium	15	0.56	6010D	2-20-18	2-20-18	
Lead	61	5.6	6010D	2-20-18	2-20-18	
Mercury	ND	0.28	7471B	2-21-18	2-21-18	
Selenium	ND	11	6010D	2-20-18	2-20-18	
Silver	ND	1.1	6010D	2-20-18	2-20-18	
Lab ID:	02-151-09,10,11 Comp.					
Client ID:	PH-6-SS3,SS4,SS5 Comp.					
		40	6010D	2 20 48	2 20 18	
Arsenic	ND	13	6010D	2-20-18	2-20-18	
Barium	130	3.2	6010D	2-21-18	2-21-18	
Cadmium	ND	0.63	6010D	2-20-18	2-20-18	
Chromium	27	0.63	6010D	2-20-18	2-20-18	
Lead	160	6.3	6010D	2-20-18	2-20-18	
Mercury	ND	0.32	7471B	2-21-18	2-21-18	
Selenium	ND	13	6010D	2-20-18	2-20-18	
Silver	ND	1.3	6010D	2-20-18	2-20-18	

Project: 1267-013

# **TOTAL METALS** EPA 6010D/7471B

Matrix:

Soil

Units:

Office.	mg/kg (ppm)			Date	Date	
Analyte	Result	PQL	EPA Method	Prepared	Analyzed	Flags
Lab ID: Client ID:	02-151-12,13,14 Comp. PH-9-SS1,SS2,SS3 Comp.					
Arsenic	ND	12	6010D	2-20-18	2-20-18	
Barium	53	3.1	6010D	2-21-18	2-21-18	
Cadmium	ND	0.61	6010D	2-20-18	2-20-18	
Chromium	15	0.61	6010D	2-20-18	2-20-18	
Lead	81	6.1	6010D	2-20-18	2-20-18	
Mercury	ND	0.31	7471B	2-21-18	2-21-18	
Selenium	ND	12	6010D	2-20-18	2-20-18	
Silver	ND	1.2	6010D	2-20-18	2-20-18	
Lab ID: Client ID:	02-151-15,16,17 Comp. PH-1-SS1,SS2,SS3 Comp.					
Arsenic	76	12	6010D	2-20-18	2-20-18	

Lab ID:	02-151-15,16,17 Comp.					
Client ID:	PH-1-SS1,SS2,SS3 Comp.					
Arsenic	76	12	6010D	2-20-18	2-20-18	
Barium	110	3.0	6010D	2-21-18	2-21-18	
Cadmium	ND	0.59	6010D	2-20-18	2-20-18	
Chromium	29	0.59	6010D	2-20-18	2-20-18	
Lead	87	5.9	6010D	2-20-18	2-20-18	
Mercury	ND	0.30	7471B	2-21-18	2-21-18	
Selenium	ND	12	6010D	2-20-18	2-20-18	
Silver	ND	1.2	6010D	2-20-18	2-20-18	

Date of Report: March 5, 2018

Samples Submitted: February 14, 2018 Laboratory Reference: 1802-151

Project: 1267-013

# TOTAL METALS EPA 6010D/7471B

Matrix:

Soil

Units:

				Date	Date	
Analyte	Result	PQL	EPA Method	Prepared	Analyzed	Flags
Lab ID: Client ID:	02-151-18,19,20 Comp. PH-2-SS1,SS2,SS3 Comp.					
Arsenic	ND	11	6010D	2-20-18	2-20-18	
Barium	46	2.9	6010D	2-21-18	2-21-18	
Cadmium	ND	0.57	6010D	2-20-18	2-20-18	
Chromium	16	0.57	6010D	2-20-18	2-20-18	
Lead	100	5.7	6010D	2-20-18	2-20-18	
Mercury	ND	0.29	7471B	2-21-18	2-21-18	
Selenium	ND	11	6010D	2-20-18	2-20-18	
Silver	ND	1.1	6010D	2-20-18	2-20-18	

Lab ID: Client ID:	02-151-21,22 Comp. PH-3-SS1,SS2 Comp.					
Arsenic	ND	14	6010D	2-20-18	2-20-18	
Barium	92	3.4	6010D	2-21-18	2-21-18	
Cadmium	0.79	0.69	6010D	2-20-18	2-20-18	
Chromium	32	0.69	6010D	2-20-18	2-20-18	
Lead	300	6.9	6010D	2-20-18	2-20-18	
Mercury	1.6	0.69	7471B	2-21-18	2-21-18	
Selenium	ND	14	6010D	2-20-18	2-20-18	
Silver	ND	1.4	6010D	2-20-18	2-20-18	***************************************

Date of Report: March 5, 2018 Samples Submitted: February 14, 2018

Laboratory Reference: 1802-151

Project: 1267-013

## TOTAL METALS EPA 6010D/7471B

Matrix:

Soil

Units:

Units:	mg/kg (ppm)					
				Date	Date	
Analyte	Result	PQL	EPA Method	Prepared	Analyzed	Fla
Lab ID:	02-151-23,24,25,26,27 Comp.					
Client ID:	PH-5-SS1,SS2,SS3,SS4,SS5 Comp.					
Arsenic	ND	12	6010D	2-20-18	2-20-18	
Barium	99	3.0	6010D	2-21-18	2-21-18	
Cadmium	ND	0.60	6010D	2-20-18	2-20-18	
Chromium	22	0.60	6010D	2-20-18	2-20-18	
Lead	140	6.0	6010D	2-20-18	2-20-18	
Mercury	ND	0.30	7471B	2-21-18	2-21-18	
Selenium	ND	12	6010D	2-20-18	2-20-18	
Silver	ND	1.2	6010D	2-20-18	2-20-18	
Lab ID:	02-151-28,29 Comp.					
Client ID:	PH-12-SS1,SS2 Comp.					
Arsenic	ND	11	6010D	2-20-18	2-20-18	
Barium	31	2.8	6010D	2-21-18	2-21-18	
Cadmium	0.59	0.56	6010D	2-20-18	2-20-18	
Chromium	15	0.56	6010D	2-20-18	2-20-18	
Lead	72	5.6	6010D	2-20-18	2-20-18	
Mercury	0.36	0.28	7471B	2-21-18	2-21-18	
Selenium	ND	11	6010D	2-20-18	2-20-18	
Silver	ND	1.1	6010D	2-20-18	2-20-18	

# **TOTAL METALS** EPA 6010D/7471B

Matrix:

Soil

Units:

	manta (ppm)					
				Date	Date	
Analyte	Result	PQL	EPA Method	Prepared	Analyzed	Flags
Lab ID:	02-151-30,31,32,33 Comp.					
Client ID:	PH-11-SS1,SS2,SS3,SS4 Comp.					
Arsenic	ND	12	6010D	2-20-18	2-20-18	
Barium	46	2.9	6010D	2-21-18	2-21-18	
Cadmium	0.64	0.59	6010D	2-20-18	2-20-18	
Chromium	15	0.59	6010D	2-20-18	2-20-18	
Lead	74	5.9	6010D	2-20-18	2-20-18	
Mercury	ND	0.29	7471B	2-21-18	2-21-18	
Selenium	ND	12	6010D	2-20-18	2-20-18	
Silver	ND	1.2	6010D	2-20-18	2-20-18	
Lab ID:	02-151-34,35,36 Comp.					
Client ID:	PH-10-SS1,SS2,SS3 Comp.					
Arsenic	ND	11	6010D	2-20-18	2-20-18	
Barium	54	2.9	6010D	2-21-18	2-21-18	
Cadmium	ND	0.57	6010D	2-20-18	2-20-18	
Chromium	15	0.57	6010D	2-20-18	2-20-18	
Lead	80	5.7	6010D	2-20-18	2-20-18	
Mercury	ND	0.29	7471B	2-21-18	2-21-18	
Selenium	ND	11	6010D	2-20-18	2-20-18	
Silver	ND	1.1	6010D	2-20-18	2-20-18	

Project: 1267-013

## **TOTAL METALS** EPA 6010D/7471B

Matrix:

Soil

Units:

				Date	Date	
Analyte	Result	PQL	<b>EPA Method</b>	Prepared	Analyzed	Flags
Lab ID:	02-151-37,38,39 Comp.					i iugo
Client ID:	PH-4-SS1,SS2,SS3 Comp.					
Arsenic	ND	12	6010D	2-20-18	2-20-18	
Barium	62	3.0	6010D	2-21-18	2-21-18	
Cadmium	0.75	0.60	6010D	2-20-18	2-20-18	
Chromium	27	0.60	6010D	2-20-18	2-20-18	
Lead	190	6.0	6010D	2-20-18	2-20-18	
Mercury	ND	0.30	7471B	2-21-18	2-21-18	
Selenium	ND	12	6010D	2-20-18	2-20-18	
Silver	ND ND	1.2	6010D	2-20-18	2-20-18	

individual 5th VALIDATION WORKSHEET Method: Hh 749 Date Reviewed: Sample Collection Dates: 2. The following data validation areas were reviewed: 12 18 19 Sample 11 13 14 15 16 17 20 3 Identification Validation Criteria Sample results Holding Times Completion Method Blanks LCS duplicate RPD() MS/MSD: Note:X = Criteria were evaluated and not met. A = Criteria were evaluated and met. N = Data was not available for review. NA = Not applicable. Comments:

20/2

VALIDATION WORKSHEET Method: WAIV Suls Ph/ASOVLE Date Reviewed: Reviewer: C Jensen Sample Collection Dates: The following data validation areas were reviewed: Sample 3 8 10 11 12 13 14 15 16 17 18 19 20 Identification Validation Criteria Sample results Holding Times 7 Completion Method Blanks LCS duplicate RPD MS/MSD: Note:X = Criteria were evaluated and not met. A = Criteria were evaluated and met. N = Data was not available for review. NA = Not applicable. Comments:

# **TOTAL METALS** EPA 6010D/7471B

Matrix:

Soil

Units:

				Date	Date	
Analyte	Result	PQL	EPA Method	Prepared	Analyzed	Flags
Lab ID:	02-151-01					
Client ID:	PH-6-SS2					
Mercury	2.6	1.6	7471B	2-27-18	2-27-18	
Lab ID:	00 454 00					
	02-151-02					
Client ID:	PH-6-SS1					
Mercury	ND	0.32	7471B	2-27-18	2-27-18	
Lab ID:	02-151-03					
Client ID:	PH-7-SS3	•			- '	
Lead	69 )	5.9	6010D	3-2-18	3-2-18	
	O					
Lab ID:	02-151-04					
Client ID:	PH-7-SS2					
	\ (	η				
Lead	40	5.7	6010D	3-2-18	3-2-18	

Date of Report: March 5, 2018 Samples Submitted: February 14, 2018

Laboratory Reference: 1802-151 Project: 1267-013

## **TOTAL METALS EPA 6010D**

Matrix:

Soil

Units:

				Date	Date	
Analyte	Result	PQL	EPA Method	Prepared	Analyzed	Flags
Lab ID:	02-151-05					
Client ID:	PH-7-SS1					
Lead	84 ) 9	5.7	6010D	3-2-18	3-2-18	
Lab ID:	02-151-09					
Client ID:	PH-6-SS3					
Lead	59 ) 9	5.7	6010D	3-2-18	3-2-18	
Lab ID:	02-151-10					
Client ID:	PH-6-SS4					
Lead	93 9	6.6	6010D	3-2-18	3-2-18	
	J					40,140
Lab ID:	02-151-11					
Client ID:	PH-6-SS5 ,					
Lead	270	7.6	6010D	3-2-18	3-2-18	

#### **TOTAL METALS EPA 6010D**

Matrix:

Soil

Units:

	3.13 (PP.1.)					
				Date	Date	
Analyte	Result	PQL	<b>EPA Method</b>	Prepared	Analyzed	Flags
Lab ID:	02-151-15					90
Client ID:	PH-1-SS1					
Arsenic	110	11	6010D	3-2-18	3-2-18	
Lead	65 J 9	5.7	6010D	3-2-18	3-2-18	
Lab ID:	02-151-16					
Client ID:	PH-1-SS2					
Arsenic	70	12	6010D	3-2-18	3-2-18	
Lead	66 ] 9	5.8	6010D	3-2-18	3-2-18	
Lab ID:	02-151-17					
Client ID:	PH-1-SS3					
Arsenic	ND	14	6010D	3-2-18	3-2-18	
Lead	250	6.8	6010D	3-2-18	3-2-18	
	,				0210	
Lab ID:	02-151-18					
Client ID:	PH-2-SS1					
Lead	40 ) 0	5.8	6010D	3-2-18	3-2-18	
				02.10	J-Z-10	_

#### TOTAL METALS EPA 6010D/7471B

Matrix:

Soil

Units:

				Date	Date	
Analyte	Result	PQL	<b>EPA Method</b>	Prepared	Analyzed	Flags
Lab ID:	02-151-19					
Client ID:	PH-2-SS2					
Lead	140 2 9	5.7	6010D	3-2-18	3-2-18	
Lab ID:	02-151-20					
Client ID:	PH-2-SS3					
Lead	98 19	5.8	6010D	3-2-18	3-2-18	
Lab ID:	02-151-21					
Client ID:	PH-3-SS1					
Lead	270 1.9	6.3	6010D	3-2-18	3-2-18	
Mercury	1.6	0.63	7471B	2-27-18	2-27-18	

#### TOTAL METALS EPA 6010D/7471B

Matrix:

Soil

Units:

				Date	Date	
Analyte	Result	PQL	EPA Method	Prepared	Analyzed	Flags
Lab ID:	02-151-22					
Client ID:	PH-3-SS2					
Lead	320 J 9	7.4	6010D	3-2-18	3-2-18	. /2
Mercury	2.4	1.9	7471B	2-27-18	2-27-18	
Lab ID:	02-151-23					
Client ID:	PH-5-SS1					
Lead	110 ) 9	5.8	6010D	3-2-18	3-2-18	
Lab ID:	02-151-24					
Client ID:	PH-5-SS2					
Lead	170 ) 9	6.6	6010D	3-2-18	3-2-18	
Lab ID:	02-151-25					
Client ID:	PH-5-SS3					
Lead	320 ) 9	6.3	6010D	3-2-18	3-2-18	

Project: 1267-013

#### **TOTAL METALS EPA 6010D**

Matrix:

Soil

Units:

	99 (PP)					
Analyte	Page 14			Date	Date	
Lab ID:	Result	PQL	EPA Method	Prepared	Analyzed	Flags
	02-151-26					
Client ID:	PH-5-SS4					
Lead	80 ) 9	5.9	6010D	3-2-18	3-2-18	
					0.2-10	
Lab ID:	02-151-27					
Client ID:	PH-5-SS5					
Lead	140 ) 9	6.1	6010D	3-2-18	3-2-18	
Lab ID:	02-151-30					
Client ID:	PH-11-SS1					
Cadmium	1.7	0.57	6010D	3-2-18	3-2-18	
Lead	160 \ 9	5.7	6010D	3-2-18	3-2-18	
Lab ID:	02-151-31					
Client ID:	PH-11-SS2					
Cadmium	ND	0.64	6010D	3-2-18	3-2-18	
Lead	49 1 7	6.4	6010D	3-2-18	3-2-18	

#### **TOTAL METALS EPA 6010D**

Matrix:

Soil

Units:

				Date	Date	
Analyte	Result	PQL	<b>EPA Method</b>	Prepared	Analyzed	Flags
Lab ID:	02-151-32				, <b>,</b>	riago
Client ID:	PH-11-SS3					
Cadmium	ND	0.56	6010D	3-2-18	3-2-18	
Lead	47 E'	5.6	6010D	3-2-18	3-2-18	
Lab ID:	02-151-33					
Client ID:	PH-11-SS4					
Cadmium	ND	0.57	6010D	3-2-18	3-2-18	
Lead	52	5.7	6010D	3-2-18	3 <b>-</b> 2-18	
	<b>.</b>					
Lab ID:	02-151-37					
Client ID:	PH-4-SS1					141
Cadmium	ND	0.60	6010D	3-2-18	3-2-18	
Lead	85	6.0	6010D	3-2-18	3-2-18	
Lab ID:	02-151-38					
Client ID:	PH-4-SS2					
Cadmium	ND	0.62	6010D	3-2-18	3-2-18	···
_ead	88 9	6.2	6010D	3-2-18	3-2-18	

Project: 1267-013

#### **TOTAL METALS EPA 6010D**

Matrix:

Soil

Units:

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flore
Lab ID:	02-151-39			· · · · · · · · · · · · · · · · · · ·	Allalyzeu	Flags
Client ID:	PH-4-SS3					
Cadmium	1.3	0.59	6010D	3-2-18	3-2-18	
Lead	340 1 9	5.9	6010D	3-2-18	3-2-18	

CeoroD

**YALIDATION WORKSHEET** Method: Date Reviewed: Sample Collection Dates: The following data validation areas were reviewed: Sample 8 10 11 12 13 14 15 16 17 18 19 20 Identification Validation Criteria Sample results Holding Times Completion Method Blanks LCS duplicate RPD) MS/MSD: Note:X = Criteria were evaluated and not met. A = Criteria were evaluated and met. N = Data was not available for review. NA = Not applicable. Comments:

#### **TCLP METALS** EPA 1311/6010D

Matrix: Units:

TCLP Extract mg/L (ppm)

				Date	Date	
Analyte	Result	PQL	EPA Method	Prepared	Analyzed	Flags
Lab ID:	02-151-15					
Client ID:	PH-1-SS1					
Arsenic	ND	0.40	6010D	3-14-18	3-14-18	
Lab ID:	02-151-22					
Client ID:	PH-3-SS2					
Lead	ND	0.20	6010D	3-14-18	3-14-18	
Lab ID:	02-151-39					
Client ID:	PH-4-SS3					
Lead	ND	0.20	6010D	3-14-18	3-14-18	



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Lab (D		mpte identification	Date Sampled	lime Sampled	William	Number	NW TPH-HCID	NWTPH-Gx/BTEX	NWTPH-6x	NW1PH-Dx (	Volatife	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Serrivolatiles 8270D/SIM (with low-level PAHS)	PAHS	PCEs 2082A	Organochlorine Pesticides 80818.	Organophospherus Pesticides 82700/SIM	Chlounated Acid Herbicides 8151A	Total RCRA Metols	Total (V	TCLP	HEM (of and grease) 1884A	101	TOTAL	10	% Moisture	of Champson, but and the
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### Sample/Cooler Receipt and Acceptance Checklist

SEC					
Client:			N/WA/		
Client Project Name/Number: 1267-013		Initiated by:	111/		-
OnSite Project Number:	Date Initiated: 2/14/18			-	
1.0 Cooler Verification					
1.1 Were there custody seals on the outside of the cooler?	Yes	(No.)	N/A	1 2 3 4	
1.2 Were the custody seals intact?	Yes	No	NIA	1 2 3 4	
1.3 Were the custody seals signed and dated by last custodian?	Yes	No	(N/A)	1 2 3 4	
1.4 Were the samples delivered on ice or blue ice?	Yes	No		1 2 3 4	
1.5 Were samples received between 0-6 degrees Celsius?	(es)	No	Temperature:	1,3	
1.6 Have shipping bills (if any) been attached to the back of this form?	Yes	(NA)		•	
1.7 How were the samples delivered?	Client	Courier	UPS/FedEx	OSE Pickup	Other
2.0 Chain of Custody Verification					
2.1 Was a Chain of Custody submitted with the samples?	Yes	No	BY THE REAL PROPERTY OF THE PERSON OF THE PE	1 2 3 4	
2.2 Was the COC legible and written in permanent ink?	Yes	No		1 2 3 4	
2.3 Have samples been relinquished and accepted by each custodian?	Yes Yes	No		1 2 3 4	
2.4 Did the sample labels (ID. date, time, preservative) agree with COC?	Yes	No		1 2 3 4	
2.5 Were all of the samples listed on the COC submitted?	(es)	No		1 2 3 4	
2.6 Were any of the samples submitted omitted from the COC?	Yes	No		1 2 3 4	
3.0 Sample Verification		en monte proprieta de la constante de la const		ne la Roma provincia de la composición de la composición de la composición de la composición de la composición	
3.1 Were any sample containers broken or compromised?	Yes	No		1 2 3 4	
3.2 Were any sample labels missing or illegible?	Yes	No		1 2 3 4	
3.3 Have the correct containers been used for each analysis requested?  3.4 Have the samples been correctly preserved?	Yes	No	m	1 2 3 4	
	Yes	No	NVA	1 2 3 4	
3.5 Are volatiles samples free from headspace and bubbles greater than 6mm?	Yes	No	N/A?	1 2 3 4	
3.6 Is there sufficient sample submitted to perform requested analyses?	Yes	No		1 2 3 4	
3.7 Have any holding times already expired or will expire in 24 hours? 3.8 Was method 5035A used?	Yes	No		1 2 3 4	
	Yes	No	N/A	1 2 3 4	
3.9 If 5035A was used, which sampling option was used (#1, 2, or 3).	#		N/A	1234	BROKES BESTANIS CHAPTER WATER BY
Explain any discrepancies:					
	THE RESIDENCE OF THE PERSON AS PARTY.				Maria Consideration and Assessed
			***************************************		
		***************************************			
		Taken hade to Armen harmonic state on the con-			

<sup>1 -</sup> Discuss issue in Case Narrative

<sup>3 -</sup> Client contacted to discuss problem

<sup>2 -</sup> Process Sample As-is

<sup>4 -</sup> Sample cannot be analyzed or client does not wish to proceed

### **DATA VALIDATION REPORT**

#### Seattle City Light Phinney Substation March 2018

#### Prepared for:

Sound Earth Strategies, Inc. 2811 Fairview Ave East, Suite 2000 Seattle, Washington 98102

#### Prepared by:

Validata, LLC 3346 NE 178<sup>th</sup> St. Lake Forest Park, Washington 98155

#### PROJECT NARRATIVE

#### Data Validation

This report summarizes the results of the summary level validation (Stage 2A) performed on water samples for the Seattle City Light sampling project. A complete list of samples is provided in the Sample Index. Samples were analyzed by OnSite Environmental laboratory, Redmond, Washington. The analytical methods are listed below:

Analysis	Method	Reviewer
Petroleum Hydrocarbons – Diesel Range	NWTPH-Dx	C. Jensen
Organics, Lube Oil Organics		
Polychlorinated Hydrocarbons	8082A	C. Jensen
Total Metals/Mercury	6010D/7471B	C. Jensen

The data were reviewed using guidance and quality control criteria documented in the analytical methods; *USEPA National Functional Guidelines for Organic Data Review* (EPA, 1999 & 2008) and *USEPA National Functional Guidelines for Inorganic Data Review* (EPA, 2010 & 2014).

The goal of data validation is to assign data assessment qualifiers for assistance in data interpretation. Results assigned as estimated (J or UJ), data may be used for site evaluation and risk assessment purposes but reasons for data qualification should be taken into consideration when interpreting sample concentrations. For results assigned an R, the data are rejected and should not be used for site evaluation purposes. Unqualified data implies the data meet the data quality objectives as stated in the documents and methods referenced above. A summary of the data qualifiers used in validation are included in Appendix A. The summary of Qualified Data are provided in Appendix B. All validation worksheets are provided in Appendix C.

#### SAMPLE INDEX

SDG	Sample ID	Lab ID	NWTPH- Dx	PCBs	Total Metals/ Mercury
1802-150	PH-CON2-01,03,02 Comp.	02-150-01,02,03 Comp	X	X	X
1802-150	PH-CON1-01,03,02 Comp.	02-150-04,05,06 Comp	x	X	х

#### DATA VALIDATION REPORT

### Petroleum Hydrocarbons – NWTPH-Dx – Diesel Range Organics and Lube Oil Range Organics

This report documents the review of analytical data from the analyses of samples and the associated laboratory and field quality control (QC) samples. OnSite laboratory, Redmond, Washington. Refer to the Sample Index for a complete list of samples.

SDG	NUMBER OF SAMPLES	VALIDATION LEVEL
1802-150	2	STAGE 2A

#### DATA PACKAGE COMPLETENESS

The laboratory submitted all required deliverables for a Stage 2A review. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

#### TECHNICAL DATA VALIDATION

The QC requirements that were reviewed are listed below.

Sample Receipt, Preservation, and Holding	Matrix Spikes/Matrix Spike Duplicates
Times	(MS/MSD)
Laboratory Blanks	Field Duplicates
Field Blanks	Target Analyte List
Surrogate Compounds	Reporting Limits
Laboratory Control Samples (LCS)	Reported Results

#### Sample Receipt, Preservation, and Holding Times

As stated in validation guidance documents, sample shipping coolers should arrive at the laboratory within the advisory temperature range of 2°C - 6°C and be extracted within 7 days for aqueous samples and 14 days for soil samples. Sample extracts must be analyzed within 40 days of extraction. The following exceptions were noted during validation.

SDG 1802-150: The cooler temperatures were within the temperature range of 2-6  $^{\circ}$ C, at 3 $^{\circ}$ C.

#### Method and Field Blanks

The method blanks were all reported as undetected for target compounds. Field blanks were not submitted with this sampling event.

#### **Surrogate Compounds**

Surrogates were added to all samples. All surrogate recoveries were within the laboratory control limits.

#### Matrix Spike/Matrix Spike Duplicates

Matrix spike/matrix spike duplicate (MS/MSD) samples were not specifically analyzed for this dataset. The laboratory demonstrated precision through the analysis of laboratory duplicate samples with acceptable results.

#### **Field Duplicates**

Field duplicate samples were not collected for this dataset.

#### **Laboratory Duplicates**

Laboratory duplicates were analyzed at the required frequency to demonstrate precision. Results were acceptable.

#### **Target Analyte List**

A sampling plan was not available for review.

#### **Reporting Limits**

The laboratory reporting limits were sufficiently below the MTCA Method A cleanup levels.

#### Reported Results

No problems were noted.

#### OVERALL ASSESSMENT

As determined by this evaluation, the laboratory followed the specified analytical method. With the exceptions noted above, accuracy was acceptable as demonstrated by the surrogate recovery values and precision by the laboratory duplicate precision. All data are acceptable for use.

#### DATA VALIDATION REPORT Metals/Mercury - Method 6010D/7471B

This report documents the review of analytical data from the analyses of samples and the associated laboratory and field quality control (QC) samples. OnSite Environmental, Inc. laboratory, Seattle, Washington. Refer to the Sample Index for a complete list of samples.

SDG	NUMBER OF SAMPLES	VALIDATION LEVEL
1802-150	2	STAGE 2A

#### DATA PACKAGE COMPLETENESS

With the exception noted below, the laboratory submitted all required deliverables. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

#### TECHNICAL DATA VALIDATION

The QC requirements that were reviewed are listed below.

Sample Receipt, Preservation, and Holding Times	Matrix Spikes/Matrix Spike Duplicates (MS/MSD)
Laboratory Blanks	Field Duplicates
Field Blanks	Target Analyte List
Surrogate Compounds	Reporting Limits
Laboratory Control Samples (LCS)	Reported Results

#### Sample Receipt, Preservation, and Holding Times

As stated in validation guidance documents, sample shipping coolers should arrive at the laboratory within the advisory temperature range of 2°C - 6°C and metals must be analyzed

within 6 months and mercury within 28 days of sample collection. The following exceptions were noted during validation:

SDG 1802-150: The cooler temperatures were within the temperature range of 2-6  $^{\circ}$ C, at 3 $^{\circ}$ C.

#### Method and Field Blanks

The method blanks were all reported as undetected for target compounds. Field blanks were not submitted with this sampling event.

#### **Surrogate Compounds**

Not Applicable.

#### Matrix Spike/Matrix Spike Duplicates

Matrix spike/matrix spike duplicate (MS/MSD) samples were analyzed with acceptable results.

#### **Field Duplicates**

Field duplicate samples were not collected for this dataset.

#### **Laboratory Duplicates**

Laboratory duplicates were analyzed with acceptable results.

#### **Target Analyte List**

A sampling plan was not available for review.

#### **Reporting Limits**

The laboratory reporting limits were sufficiently below the MTCA Method A cleanup levels.

#### Reported Results

Results reported were deemed acceptable.

#### OVERALL ASSESSMENT

As determined by this evaluation, the laboratory followed the specified analytical method. With the exceptions noted above, accuracy was acceptable as demonstrated by the MS/MSD recovery values. Precision was also acceptable as demonstrated by the MS/MSD duplicate RPD values. All data are acceptable for use.

#### **Target Analyte List**

A sampling plan was not available for review.

#### **Reporting Limits**

The laboratory reporting limits were sufficiently below the MTCA Method A cleanup levels.

#### Reported Results

No problems were noted.

#### OVERALL ASSESSMENT

As determined by this evaluation, the laboratory followed the specified analytical method. With the exceptions noted above, accuracy was acceptable as demonstrated by the surrogate recovery values and precision by the laboratory duplicate precision. All data are acceptable for use.

#### DATA VALIDATION REPORT Metals/Mercury - Method 6010D/7471B

This report documents the review of analytical data from the analyses of samples and the associated laboratory and field quality control (QC) samples. OnSite Environmental, Inc. laboratory, Seattle, Washington. Refer to the Sample Index for a complete list of samples.

SDG	NUMBER OF SAMPLES	VALIDATION LEVEL
1802-150	2	STAGE 2A

#### DATA PACKAGE COMPLETENESS

With the exception noted below, the laboratory submitted all required deliverables. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

#### TECHNICAL DATA VALIDATION

The QC requirements that were reviewed are listed below.

Sample Receipt, Preservation, and Holding Times	Matrix Spikes/Matrix Spike Duplicates (MS/MSD)
Laboratory Blanks	Field Duplicates
Field Blanks	Target Analyte List
Surrogate Compounds	Reporting Limits
Laboratory Control Samples (LCS)	Reported Results

#### Sample Receipt, Preservation, and Holding Times

As stated in validation guidance documents, sample shipping coolers should arrive at the laboratory within the advisory temperature range of 2°C - 6°C and metals must be analyzed

within 6 months and mercury within 28 days of sample collection. The following exceptions were noted during validation:

SDG 1802-150: The cooler temperatures were within the temperature range of 2-6  $^{\circ}$ C, at 3 $^{\circ}$ C.

#### Method and Field Blanks

The method blanks were all reported as undetected for target compounds. Field blanks were not submitted with this sampling event.

#### **Surrogate Compounds**

Not Applicable.

#### Matrix Spike/Matrix Spike Duplicates

Matrix spike/matrix spike duplicate (MS/MSD) samples were analyzed with acceptable results.

#### **Field Duplicates**

Field duplicate samples were not collected for this dataset.

#### **Laboratory Duplicates**

Laboratory duplicates were analyzed with acceptable results.

#### **Target Analyte List**

A sampling plan was not available for review.

#### **Reporting Limits**

The laboratory reporting limits were sufficiently below the MTCA Method A cleanup levels.

#### Reported Results

Results reported were deemed acceptable.

#### OVERALL ASSESSMENT

As determined by this evaluation, the laboratory followed the specified analytical method. With the exceptions noted above, accuracy was acceptable as demonstrated by the MS/MSD recovery values. Precision was also acceptable as demonstrated by the MS/MSD duplicate RPD values. All data are acceptable for use.

#### DATA VALIDATION REPORT

#### Polychlorinated Hydrocarbons – 8082A

This report documents the review of analytical data from the analyses of samples and the associated laboratory and field quality control (QC) samples. OnSite laboratory, Redmond, Washington. Refer to the Sample Index for a complete list of samples.

SDG	NUMBER OF SAMPLES	VALIDATION LEVEL
1802-150	2	STAGE 2A

#### DATA PACKAGE COMPLETENESS

The laboratory submitted all required deliverables for a Stage 2A review. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

#### TECHNICAL DATA VALIDATION

The QC requirements that were reviewed are listed below.

Sample Receipt, Preservation, and Holding Times	Matrix Spikes/Matrix Spike Duplicates (MS/MSD)
Laboratory Blanks	Field Duplicates
Field Blanks	Target Analyte List
Surrogate Compounds	Reporting Limits
Laboratory Control Samples (LCS)	Reported Results

#### Sample Receipt, Preservation, and Holding Times

As stated in validation guidance documents, sample shipping coolers should arrive at the laboratory within the advisory temperature range of 2°C - 6°C and be extracted within 7 days for aqueous samples and 14 days for soil samples. Sample extracts must be analyzed within 40 days of extraction. The following exceptions were noted during validation.

SDG 1802-150: The cooler temperatures were within the temperature range of 2-6 °C, at 3°C. Sample holding times were met.

#### Method and Field Blanks

The method blanks were all reported as undetected for target compounds. Field blanks were not submitted with this sampling event.

#### **Surrogate Compounds**

Surrogates were added to all samples. All surrogate recoveries were within the laboratory control limits.

#### Matrix Spike/Matrix Spike Duplicates

Matrix spike/matrix spike duplicate (MS/MSD) samples were not specifically analyzed for this dataset. The laboratory demonstrated precision through the analysis of laboratory duplicate samples with acceptable results.

#### **Field Duplicates**

Field duplicate samples were not collected for this dataset.

#### **Laboratory Duplicates**

Laboratory duplicates were not analyzed, the laboratory demonstrated precision with acceptable laboratory control and control duplicate sample analysis.

#### **Target Analyte List**

A sampling plan was not available for review.

#### **Reporting Limits**

The laboratory reporting limits were sufficiently below the MTCA Method A cleanup levels.

#### Reported Results

No problems were noted.

#### OVERALL ASSESSMENT

As determined by this evaluation, the laboratory followed the specified analytical method. Accuracy was acceptable as demonstrated by the surrogate recovery values and precision by the laboratory control sample and control sample duplicate precision. All data are acceptable for use.

# APPENDIX A DATA QUALIFIER DEFINITIONS REASON CODES

### DATA VALIDATION QUALIFIER CODES Based on National Functional Guidelines

The following definitions provide brief explanations of the qualifiers assigned to results in the data review process.

- U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
- J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- NJ The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents the approximate concentration.
- UJ The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

### DATA QUALIFIER REASON CODES

Group	Code	Reason for Qualification
Sample Handling	1	Improper Sample Handling or Sample Preservation (i.e., headspace, cooler)
Instrument Performance	24	Instrument Performance (i.e., tune, resolution, retention time window, endrin
		breakdown, lock-mass)
Instrument Performance	5A	Initial Calibration (RF, %RSD, r2)
Instrument Performance	5B	Calibration Verification (CCV, CCAL; RF, %D, %R)
		Use bias flags (H,L)1 where appropriate
Instrument Performance	5C	Initial Calibration Verification (ICV %D, %R)
		Use bias flags (H,L)1 where appropriate
Blank Contamination	6	Field Blank Contamination (Equipment Rinsate, Trip Blank, etc.)
Blank Contamination	7	Lab Blank Contamination (i.e., method blank, instrument blank, etc.)
		Use low bias flag (L)1 for negative instrument blanks
Precision and Accuracy	8	Matrix Spike (MS and/or MSD) Recoveries
,		Use bias flags (H,L)1 where appropriate
Precision and Accuracy	9	Precision (all replicates: LCS/LCSD, MS/MSD, Lab Replicate, Field
ŕ		Replicate)
Precision and Accuracy	10	Laboratory Control Sample Recoveries (a.k.a. Blank Spikes)
,		Use bias flags (H,L)1 where appropriate
Precision and Accuracy	12	Reference Material
·		Use bias flags (H,L)1 where appropriate
Precision and Accuracy	13	Surrogate Spike Recoveries (a.k.a. labeled compounds, recovery standards)
•		Use bias flags (H,L)1 where appropriate
Interferences	16	ICP/ICP-MS Serial Dilution Percent Difference
Interferences	17	ICP/ICP-MS Interference Check Standard Recovery
		Use bias flags (H,L)1 where appropriate
Interferences	19	Internal Standard Performance (i.e., area, retention time, recovery)
Interferences	22	Elevated Detection Limit due to Interference (i.e., chemical and/or matrix)
Interferences	23	Bias from Matrix Interference (i.e. diphenyl ether, PCB/pesticides)
Identification and Quantitation	2	Chromatographic pattern in sample does not match pattern of calibration
		standard
Identification and Quantitation	3	2nd column confirmation (RPD or %D)
Identification and Quantitation	4	Tentatively Identified Compound (TIC) (associated with NJ only)
Identification and Quantitation	20	Calibration Range or Linear Range Exceeded
Identification and Quantitation	25	Compound Identification (i.e., ion ratio, retention time, relative abundance,
identification and Quantitation	23	etc.)
Miscellaneous	11	A more appropriate result is reported (multiple reported analyses i.e.,
	1	dilutions, reextractions,
		etc. Associated with "R" and "DNR" only)
Miscellaneous	14	Other (See DV report for details)

### APPENDIX B QUALIFIED DATA SUMMARY TABLE

### Qualified Data Sample Summary

Sample ID	Lab ID	Compound	Concentration	units	Qualifier, Code
	No Data were qualified				

## APPENDIX C DATA VALIDATION CHECKLISTS

### VALIDATION WORKSHEET

VALIDATION WORKSHEET													1002 100											
	ethod: NWTPH. DX Drw, Whe oil													SDG: 1802-150 Reviewer: C Jensen										
Method:	14	70	12/	· 1/		DI.	2	10 47	ک ک	$\sim$					F	Review	er: C	Jense	en					
Date Reviewed:		1000	1 och	21	<b>4</b>																			
Sample Collecti The following da	oto Da	ida <b>ci</b> on	areas	were	reviev	ved:												10	10	20				
Sample	18	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20				
Identification	2	5																						
	2	9																						
	~	, 2	-																					
	19	0																						
	$\overline{\lambda}$	5	-																					
	7	7																						
	2	-CON1-01,03,02																						
	3	3																						
	3	)-																						
	1-	+																						
Validation Criteria	PH-CON2-01,	_						-							-		-	-	-	-				
Sample results	A	17						-					-	-	-	-	-	-	-	-				
Holding Times	A	4				ļ		-	-	-	-	+	-	-	-	-	+-	-	-					
Completion	A	14			ļ			-		-	-	+	-	+	+	1	1	1						
Method Blanks	A	A					-	_			-		-	-	-	-	+-	-	+-	-				
1.00																								
LCS duplicate RPD	1	A		-		1																		
	H	17		-	+	+-	+	+-	-		+-													
MS/MSD:														11.1.1.	C	Jan. N	IA = NI	ot appl	icable					
Note:X = Criter	ia were	evaluat	ed and	not m	et. A=	- Crite	ria wer	e evalı	iated a	nd met.	N = D	ata was	not av	ailable	for rev	new. P	IA - IN	от аррі	icabic.					
Comments:				Su	W	sat	ED	-0	W															
Spl 7.1 prep 2.1 pm 2.	3.18	,				0							,											
Med 2.	15,1	18																						
1M 2	16.	18	<u>-</u>																					
3%																								
									· · · · · · · · · · · · · · · · · · ·															

#### **NWTPH-Dx**

Matrix: Soil

Units: mg/Kg (ppm)

onits. Ing/ng (ppin)				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	PH-CON2-01,03,02 Comp.					
Laboratory ID:	02-150-01,02,03 Comp.					
Diesel Range Organics	ND	26	NWTPH-Dx	2-15-18	2-16-18	
Lube Oil Range Organics	ND	52	NWTPH-Dx	2-15-18	2-16-18	
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	100	50-150				
Client ID:	PH-CON1-01,03,02 Comp.					
Laboratory ID:	02-150-04,05,06 Comp.					
Diesel Range Organics	ND	26	<b>NWTPH-Dx</b>	2-15-18	2-16-18	
Lube Oil Range Organics	ND	52	NWTPH-Dx	2-15-18	2-16-18	
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	78	50-150				

	60/00 /7471B VALIDATION WORKSHEET													SDG: 1802-150 Reviewer: C Jensen											
Mothod:	Me	la l	1/	4													S	DG:	80L	Jense	<u>_</u>				
Date Revi	ewed:	2.	1. 6 0		_/												Т	evien	ci. C	GCHSC					
Sample C	ollection	on Dat	tes:	areas	were	reviev	wed:									1	15	16	17	18	19	20			
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Validation		28/50,10-5M2-H9	PH-(6M)-01,13,62																						
Criteria Sample res	ults			-		+	+	+	+	+	_			1											
		A	4			-	-	+-	+	-	+		-	+-	+	+	1								
Holding Ti		14	B				-	+	-	+	$\dashv$		-	+-	+	+-	-	1							
Completion	n	1	17		-	-	+	+		$\dashv$	$\dashv$		1	1											
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duplicate I		A.	1	-					+		-		+-		_	+	+								
MS/MSD:		A	14										N = D	oto 1V2	s not a	vailable	for re	view.	VA = N	ot app	icable.				
Note:X =	Criteri	a were	evalua	ted and			= Crite	eria we	ere eva	luateo	ana	met.	N-D	ala wa	3 not a	vanaon	7 10. 11								
Comment	is:	Mc	ful	1		Gz.																			
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un		2.7	Le.18	5	2.	21.	18																		
700.																									
						****																			

#### **TOTAL METALS** EPA 6010D/7471B

Matrix:

Soil

Units:	mg/kg (ppm)					
				Date	Date	
Analyte	Result	PQL	EPA Method	Prepared	Analyzed	Flags
Lab ID:	02-150-01,02,03 Comp.					
Client ID:	PH-CON2-01,03,02 Comp.					
Arsenic	26	10	6010D	2-23-18	2-26-18	
Barium	87	5.2	6010D	2-23-18	2-26-18	
Cadmium	ND	0.52	6010D	2-23-18	2-26-18	
Chromium	20	0.52	6010D	2-23-18	2-26-18	
Lead	5.9	5.2	6010D	2-23-18	2-26-18	
Mercury	ND	0.26	7471B	2-21-18	2-21-18	
Selenium	ND	10	6010D	2-23-18	2-26-18	
Silver	ND	1.0	6010D	2-23-18	2-26-18	
	00 150 01 05 00 0					
Lab ID: Client ID:	02-150-04,05,06 Comp. PH-CON1-01,03,02 Comp.					
Arsenic	23	10	6010D	2-23-18	2-26-18	
Barium	83	2.6	6010D	2-23-18	2-26-18	
Cadmium	ND	0.52	6010D	2-23-18	2-26-18	
Chromium	19	0.52	6010D	2-23-18	2-26-18	
Lead	ND	5.2	6010D	2-23-18	2-26-18	
Mercury	ND	0.26	7471B	2-21-18	2-21-18	
Selenium	ND	10	6010D	2-23-18	2-26-18	
Silver	ND	1.0	6010D	2-23-18	2-26-18	

### VALIDATION WORKSHEET

VALIDATION WORKSHEET																				
DC							S	SDG: 1802-150 Reviewer: C Jensen												
Method: PC	12/	000	Urs											F	leview	er: C	Jense	en		
Date Reviewed Sample Collect		1.13	13	.18																
The following d	ata vali	dation	areas	were	reviev	wed:				1	1 44	12	13	14	15	16	17	18	19	20
Sample	1	2	3	4	5	6	7	8	9	10	11	12	13	14	13	1				
Identification		3																		
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Sample results	A	A									-			-	+-	-	-	-	-	-
Holding Times	A	A									-			-	-	-	-	+-	+-	
Completion	A	A									-	-		-	+	+	+	+	1	
	1	Á																		
Method Blanks	A	-		-	+	+-	$\dashv$	-												
LCS/LCSC	A	A									-			+-	+	_				
duplicate RPD												-		-	+-	+	_	+	1	
MS/MSD:																			lianbla	
Note:X = Crite	ria were	evaluat	ted and	d not n	net. A	= Crit	eria w	ere eva	luated	and met	$N = \Gamma$	oata wa	s not a	vailable	e for re	view.	NA = I	vot app	псавте	
Comments:	ila were	Cvaraa	tou turi																	
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1																				

Date of Report: February 27, 2018 Samples Submitted: February 14, 2018 Laboratory Reference: 1802-150

Project: 1267-013

#### PCBs EPA 8082A

Soil Matrix:

Units: mg/Kg (ppm)

0 0 11 7				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	PH-CON2-01,03,02 Comp.					
Laboratory ID:	02-150-01,02,03 Comp.					
Aroclor 1016	ND	0.052	EPA 8082A	2-20-18	2-20-18	
Aroclor 1221	ND	0.052	EPA 8082A	2-20-18	2-20-18	
Aroclor 1232	ND	0.052	EPA 8082A	2-20-18	2-20-18	
Aroclor 1242	ND	0.052	EPA 8082A	2-20-18	2-20-18	
Aroclor 1248	ND	0.052	EPA 8082A	2-20-18	2-20-18	
Aroclor 1254	ND	0.052	EPA 8082A	2-20-18	2-20-18	
Aroclor 1260	ND	0.052	EPA 8082A	2-20-18	2-20-18	
Surrogate:	Percent Recovery	Control Limits				
DCB	86	40-134				
Client ID:	PH-CON1-01,03,02 Comp.					
Laboratory ID:	02-150-04,05,06 Comp.					
Aroclor 1016	ND	0.052	EPA 8082A	2-20-18	2-20-18	
Aroclor 1221	ND	0.052	EPA 8082A	2-20-18	2-20-18	
Aroclor 1232	ND	0.052	EPA 8082A	2-20-18	2-20-18	
Aroclor 1242	ND	0.052	EPA 8082A	2-20-18	2-20-18	
Aroclor 1248	ND	0.052	EPA 8082A	2-20-18	2-20-18	
Aroclor 1254	ND	0.052	EPA 8082A	2-20-18	2-20-18	
Aroclor 1260	ND	0.052	EPA 8082A	2-20-18	2-20-18	
Surrogate:	Percent Recovery	Control Limits				
DCB	89	40-134				

# MA Onsite

### Chain of Custody

Page of

	Analytical Lab	######################################		orcaroand Rec in working da		STORY (S. B. S. BROW)	STATE OF THE PARTY	abo	rate	w	Num	ber:														
Compo	Phone: (125)	883-3881 • www.onsite-env.com		(Check One)								5.					216		The same of the sa		TOTAL STATEMENT AND	Man or property of the World of the		A COMP TANK		and the same of th
Projec	ungal (Lata (An K Number:	(Maga)	_ II San	ne Day	1 Day					Œ.		ALL REPORTS	Na Joseph Maria				7007	4			7	Part of the control o		CORE COMPANY	VALUE OF THE PERSON NAMED IN	and the same of th
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