EVREN NORTHWEST INC.
environmental & natural resource consultants

with

CREEKSIDE ENVIRONMENTAL CONSULTING, LLC

PHASE II ENVIRONMENTAL SITE ASSESSMENT

Bergh Property

Township 1S, Range 4E Section 19BB
Tax Lot 6500
Gresham, Oregon

Prepared for:

Lusted Water District
P.O. Box 2026,
Gresham, OR 97030

Jointly issued on:

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This

Phase II Environmental Site Assessment

Report for:

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Township 1S, Range 4E Section 19BB
Tax Lot 6500
Gresham, Oregon

Has been prepared for the sole benefit and use of our Client:

Lusted Water District

P.O. Box 2026
Gresham, Oregon 97030

and its assignees

Issued February 27, 2019 *by:*

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Table of Contents

List of Tables, Figures and Appendices

Tables

Figures

Appendices

List of Acronyms and Abbreviations

bgs	below ground surface
Client	Lusted Water District
CFSLs	Clean Fill Screening Levels
Creekside	Creekside Environmental Consulting LLC
DRO	diesel-range organics
DU	Decision Unit
ENW	EVREN Northwest, Inc.
EPA	U. S. Environmental Protection Agency
ESA	Environmental Site Assessment
F&BI	Friedman & Bruya, Inc.
GRO	gasoline-range organics
HCID	Hydrocarbon Identification
ISM	Incremental Sampling Methodology
ITRC	Interstate Technology & Regulatory Council
mg/Kg	milligrams per Kilogram
OAR	Oregon Administrative Rules
ODEQ	Oregon Department of Environmental Quality
QA/QC	Quality Assurance / Quality Control
PAHs	polynuclear aromatic hydrocarbons
PCBs	polychlorinated biphenyls
PID	photoionization detector
RBC	risk-based concentration
RBDM	Risk-Based Decision Making for the Remediation of Contaminated Sites
RCRA	Resource Conservation and Recovery Act
RRO	residual (oil)-range organics
SLRBC	screening level risk-based concentration
TPH	total petroleum hydrocarbons
UCL	upper confidence limit
RBDM	ODEQ's September 2003 *Risk-Based Decision Making for the Remediation of Petroleum-Contaminated Sites* guidance document
REC	recognized environmental condition
SLRBCs	screening-level risk-based concentrations
SOW	scope of work
UST	underground storage tank
VOCs	volatile organic constituents

1.0 Introduction

At the request of the Lusted Water District (Client), a Phase II Environmental Site Assessment (ESA) was conducted at the commercial/industrial property identified as tax lot 6500 in Township 1 South, Range 4 East, Section 19 of the Willamette Meridian (subject property; Figures 1 and 2). Creekside Environmental Consulting LLC (Creekside) directed this work in partnership with EVREN Northwest, Inc. (ENW).

In December 2018, a Phase I ESA[1] identified the following recognized environmental conditions (RECs) related to the subject properties:

- *Historical research has indicated the subject site was used as a storage yard for the Bergh Machinery Company from the early 1960s to mid-2010s. Aerial photographs showed the storage of vehicles and unknown materials on the subject site during this period. Creekside recommends an investigation into the nature of soils where vehicles and materials were stored.*
- *During a site reconnaissance survey of the subject site, Creekside observed areas of surface soil staining in the area beneath an open shed structure in the eastern part of the site. Creekside recommends an investigation into the nature of soils where soil staining was observed.*
- *Although records do not indicate their presence, a geophysical survey is recommended to look for potential subsurface anomalies such as underground storage tanks (USTs) or septic tanks at the site.*

The Phase I ESA noted, although not a REC, potential heating oil tanks and other possible subsurface features are a possible concern based on site history. A geophysical survey is recommended to determine if there are any underground storage tanks on the site.

The Scope of Work described in this report was conducted to address these RECs. This work is being done under a signed change order agreement between Creekside Environmental Consulting and Lusted Water District dated January 2019. **This report is for the exclusive use of the Client and its legal counsels.**

2.0 Scope of Work

Creekside/ENW directed or completed the following Scope of Work (SOW) for this project:

- Ordered utility clearance (One Call) to provide clearance for this project's soil sampling program.
- Coordinated a geophysical survey to locate features such as USTs, septic tanks and other utilities.
- Prepared a Sampling and Analysis Plan using the guidance provided in the Interstate Technology & Regulatory Council (IRTC) Incremental Sampling Methodology (ISM) guidance document.[2]
- Collected two (2) surface soil samples using ISM protocol from two decision units (DUs).

[1] Creekside, December 2018. *Phase I Environmental Site Assessment*, 1S4E19BB 6500, Gresham, Oregon.

[2] ITRC, February 2012. *Incremental Sampling Methodology, Technical and Regulatory Guidance*: Prepared by The Interstate Technology & Regulatory Council Incremental Sampling Methodology Team.

- Collected three (3) discrete soil samples in areas of observed soil staining.
- Submitted ISM and discrete samples to an independent laboratory for selected analytical procedures.
- Evaluated analytical data with respect to Oregon regulatory standards and guidance documents.
- Prepared this report documenting findings and analytical data.

The field activities described in this report were performed on February 1 and 8, 2019.

3.0 Site Description

The subject property (see Figures 1 and 2) is comprised of one tax lot located in Multnomah County, Oregon. The outline of the property is rectangular in shape and approximately 0.73 acres in total area. Surrounding areas are residential or rural residential in use. The site is located at the northeast corner of the intersection of SE Powell Valley Road and 282nd Avenue.

Topography. The US Geological Survey Sandy, OR 7.5-minute quadrangle identifies the site at an approximate elevation of 532 feet above mean sea level (Figure 1). The subject site and surrounding area slope to the south to southwest.

Geologic Setting. The site is in the Powell Valley area, an upland area of the Portland Basin. The Portland Basin is a low-lying area between the Oregon Cascade Range to the east and the Portland Hills and Tualatin Mountains to the west. The Columbia and Willamette Rivers are the principal streams within the basin.

According to geologic mapping by The Oregon Department of Geology and Mineral Industries (ODOGAMI)[3], which is based on mapping by Madin (2004)[4], the subject property and surrounding area are mapped as fluvial sediments of the Pliocene Troutdale Formation, which are described as fluvial mudstone, sandstone and conglomerate and older fluvial terraces. The site and surrounding area were identified by Trimble (1963)[5] as Quaternary Loess (Ql) and the underlying Springwater Formation (Qsw). Quaternary loess is described as yellowish-brown clayey sandy silt of aeolian origin, which is chiefly quartzose silt with lesser amounts of sand and clay-size particles and attains a maximum known thickness of 55 feet. The Springwater Formation is described as boulder cobble gravel and mudflow deposits, which are weathered to a depth of about 75 feet and composed mostly of a saprolite with red soil capping that is locally more than 200 feet thick.

Surface Waters. There are no surface waters on the subject site. The nearest off-site surface water is Kelly Creek, located within 0.3 mile to the northeast.

Ground Water. The Oregon Water Science Center Database indicates depth to ground water in the vicinity of the subject site is approximately 120 feet below ground surface (bgs). For the purposes of this report, it is assumed that shallow ground-water flow generally mimics surface water flow (i.e. from

[3] ODOGAMI, Geologic Map of Oregon (Interactive); https://gis.dogami.oregon.gov/maps/geologicmap/

[4] Madin, I.P., 2004, Preliminary Digital Geologic Compilation Map of the Greater Portland Urban Area, Oregon: Oregon Department of Geology and Mineral Industries Open File Report O-04-02, scale 1:24,000.

[5] Trimble, D.E., 1963, Geology of Portland, Oregon and Adjacent Areas: U.S. Geological Survey Bulletin no. 1119, 117 p., figures, and Map and Diagrammatic Section of Portland, Oregon and Adjacent Areas, scale 1:62,500.

topographic highs to topographic lows). However, multiple factors can affect the direction of ground-water flow in subsurface layers including, but not limited to, sediment/rock type, subsurface utility lines, buried river valleys and stream beds, folds, fractures, and faults. The direction of ground water flow in the subject area is generally expected to be to the south, based on the local topography.

4.0 Methods

This section describes the methods used to conduct the Scope of Work. Field activities for this project were performed in February 2019 and are documented in the photographic log included as Appendix A.

4.1 Work Objectives

ENW developed and conducted the Scope of Work with the following specific objectives:

- To perform all work conduct at the subject site in a safe manner for technical personnel.
- To perform all work efficiently and cost-effectively, without interfering or otherwise affecting with the condition and operation of the property.
- To document information and data generated under this Scope of Work that is valid for the intended use.

4.2 Preparation Activities

Field Work Preparation. An in-house Sampling and Analysis Plan was developed based on the recommendations of the Phase I ESA and the work objectives listed above.

One Call Notification. Prior to any subsurface site work, a call was placed with One Call Utility Notification Service to identify and locate all public utilities near each of the proposed sampling locations.

4.3 Geophysical Survey

A geophysical survey was conducted on February 1, 2019 by GeoPotential, Inc. of Boring, Oregon, to identify any subsurface features of interest (e.g., possible USTs, septic tanks, and other utilities). The survey utilized Aqua-Tronics electromagnetic sensing equipment, a magnetometer, and ground-penetrating radar to scan for subsurface features/anomalies. The geophysical survey was conducted along numerous transects spaced approximately eight (8) to 10 feet apart. Transects were traversed initially in the north-south direction, then subsequently in the east-west direction to cover the entire site. The interior of the three-sided outbuilding was scanned in a denser pattern since this area was interpreted as being more likely to have buried features of concern.

It should be noted that except where investigated by excavation, all anomalies and interpretations should be considered (somewhat) speculative. Geophysical anomalies result from contrasts of geophysical signatures of subsurface materials and, in some cases, from interference with surface and overhead features. Geophysical characteristics result from a variety of factors (e.g., density, distribution, porosity, contrasts in soil composition, intergranular fluid composition and saturation, etc.), and similar anomalies may be produced by different sources. Furthermore, similar sources may result in differing (or

obscured) geophysical signatures as a result of other conditions that affect the recognition of contrasting subsurface materials.

4.4 Soil Sample Collection

The objective of the Sampling Analysis Plan was to obtain representative sampling results across the yard area (designated DU01), beneath the three-sided outbuilding structure (DU02), and beneath three areas of soil staining inside the outbuilding (discrete samples GS01, GS02 and GS03). Decision unit areas and discrete sample locations are shown on Figure 3.

4.4.1 ISM Sample Methods

Incremental Sampling Methodology (ISM) was used to characterize surface soil in both DUs. ISM consists of collecting many small increments of soil (grab samples of equal mass) from a given DU and compositing them into one larger sample. In the laboratory the relatively large soil sample is thoroughly dried, sieved, sub-sampled, ground, and then separated into specifically sized aliquots for chemical analysis. The resulting contaminant concentrations represent the average concentration for the entire DU. This sampling procedure will minimize effects of heterogeneity (micro scale and short scale) in the soil to provide a more accurate representation of average contaminant concentrations within each DU.

A 50-increment soil sample was collected from each of two DUs. Incremental samples were collected using a decontaminated stainless-steel push probe. A soil core was collected from 0 to 6 inches bgs. The bottom portion (approximately 3 to 4 inches) of the soil core, weighing approximately 40 grams, was placed in a dedicated laboratory-provided one-gallon glass sample jar. Sampling personnel wore fresh Nitrile gloves. The stainless-steel probe was decontaminated between DUs.

Samples were uniquely labeled as follows: DU01-190208-IS-0.5, indicating the IS was collected from DU01 from a depth of approximately 0.5 feet bgs on Febuary 8, 2019.

4.4.2 Discrete Sample Methods

Discrete sampling methods were used to characterize surface soils inside the three-sided structure where surface staining was observed. Discrete soil samples were collected using a decontaminated stainless-steel hand auger. Grab soil samples were collected from the auger bucket to field screen soils for evidence of contamination and describe soil types. Field screening utilized a combination of visual inspection (i.e., for soil staining) and vapor headspace readings using a photoionization detector (PID).

Soils retained for laboratory analysis were transferred directly into laboratory-prepared glass sample jars using clean Nitrile gloves. Each sample jar was completely filled to minimize headspace inside the sample container. Each sample jar was uniquely labelled, recorded onto a formal chain-of-custody, and placed in a cooler on artificial ice pending delivery to the laboratory.

4.5 Laboratory Sub-Sampling, Compositing and Analytical Methods

Two (2) ISM samples and three (3) discrete samples were submitted to Friedman & Bruya, Inc. (F&BI) of Seattle, Washington for analysis. Prior to analysis, incremental samples were processed in accordance with the afore-mentioned ITRC protocols. Per the ISM protocol, each incremental sample was dried, sieved, sub-sampled and composited. Appropriately-sized sample aliquots were prepared for total

petroleum hydrocarbons and metals analysis conducted by F&BI. Additional analyses were ordered based on preliminary laboratory results.

Copies of the laboratory analytical reports with Quality Assurance / Quality Control (QA/QC_ documentation are provided in Appendix B. Table 4-1 describes the analytical plan.

Table 4-1. Analytical Methods Used

Analytical Method	Constituents	Soil
Northwest Method NWTPH-HCID	Total Petroleum Hydrocarbon Identification	All DU and discrete samples
Northwest Method NWTPH-Dx	Diesel- and Residual-range organics (DRO and RRO, respectively)	Samples containing DRO and RRO by HCID
U.S. Environmental Protection Agency (EPA) Method 8270D SIM	Polynuclear aromatic hydrocarbons (PAHs)	Samples containing DRO or RRO by HCID
EPA Method 8082A	Polychlorinated biphenyls (PCBs)	Samples containing RRO by HCID
EPA Method 8260C	Volatile organic compounds (full list VOC)	Samples containing RRO by HCID
EPA 6020/200.8	Resource Conservation and Recovery Act (RCRA) 8 Metals (Arsenic, Barium, Cadmium, Chromium, Lead, Mercury, Selenium, and Silver	All DU and discrete samples

EPA = US Environmental Protection Agency

4.6 Cleanup Standards

4.6.1 Risk-Based Standards

When a release has occurred, the assessment and remediation of hazardous substances in Oregon are conducted according to Oregon Administrative Rules 340, Division 122, *Hazardous Substance Remedial Action Rules*. Depending on the individual release situation, different pathways to state regulatory closure may be followed.

Analytical results for this Scope of Work were compared to:

- Screening-level risk-based concentrations (SLRBCs) derived in accordance with ODEQ's *Risk-Based Decision Making for the Remediation of Contaminated Sites* (RBDM) guidance document.[6]

[6] Applicable to underground storage tanks regulated under the *Cleanup Rules for Leaking Petroleum Underground Storage Tank Systems* (OAR 340-122-0205 through 340-122-0360) and other sources of contamination regulated under the *Hazardous Substance Remedial Action Rules* (OAR 340-122-0010 through 340-122-0115).

4.6.2 Other Numeric Criteria

Analytical results for this Scope of Work were also compared to:

- Background metal concentrations in soil established by the Oregon Department of Environmental Quality (ODEQ)[7]. ODEQ does not require cleanup for metals concentrations below default background concentrations.
- Clean fill screening levels (CFSLs) for upland sites established by the ODEQ[8]. ODEQ does not require materials in which contaminant concentrations are less than or equal to CFSLs to be regulated as a solid waste. *CFSLs are used to determine if impacts to soil may require future management and are not used for risk screening.*

5.0 Findings

This section describes field observations and sampling results.

5.1 Geophysical Survey

The geophysical survey had the following findings. Identified features are shown on Figure 3.

- No septic tanks or USTs were suggested present, based on interpretation of the geophysical data.
- A water line was identified on the north side of SE Powell Valley Road; a drain pipe was also identified more out in the road.
- What is suggested to be a storm sewer was identified along the East side of SE 282nd, next to the site.
- Several pieces of buried metallic debris (angle-iron, metal strapping) were identified at locations identified as MA01, MA02 and MA03. None of the features were suggestive of a UST or other feature of potential environmental concern.
- What is believed to be a perforated drain line was identified along a portion of the northern boundary of the site. It starts approximately 40 feet from the northwest property corner, runs eastward approximately 65 feet, and is positioned 5 to 6 feet south of the property line. This utility is interpreted to be 2 feet deep at the west end and 2.5 feet deep at the east end. Cobbles exposed near the surface of the apparent drain line were likely displaced from below the surface during trenching operations when the line was installed. Similarly, cobbles exposed at the ground surface just inside the west property line suggest that a drain line may be positioned there as well.

7 ODEQ, March 20, 2013. Fact Sheet: Background Levels of Metals in Soils for Cleanups.

8 ODEQ, 2014. Clean Fill Determinations: Internal Management Directive, last updated July 23, 2014, by Bill Mason. Clean Fill Table for Uplands last updated by Bill Mason, ODEQ-Eugene, June 10, 2014.

5.2 Soil Sampling Analytical Results

Table 1 (behind the text) presents a complete summary of the analytical results for the surface soil samples collected from both decision units and discrete sampling locations.[9] Pertinent findings are provided here:

- DRO was detected in soil from DU02 (covered building floor) and discrete soil samples from GS01, GS02 and GS03. All DRO concentrations were flagged "x" by the laboratory indicating the chromatograms did not match the typical pattern for a diesel product. The flagged results for GS01 and GS02 exceeded the SLRBC.
- RRO was detected in soil from DU02 and discrete soil samples GS01, GS02 and GS03. The RRO concentrations in samples from GS01 and GS02 exceeded the SLRBC.
- Volatile organic constituents (VOCs) were not detected in any of the samples above laboratory method reporting limits (MRLs).
- Several polynuclear aromatic hydrocarbons (PAHs) were detected in GS03/0.5:
    - benz(a)anthracene, Benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, and indeno(1,2,3-cd)pyrene, fluorene and pyrene were each detected at a concentration less than ODEQ's SLRBCs and CFSLs;
    - Benzo(a)pyrene was detected at a concentration greater than is CFSL, though less than its SLRBC.
- Polychlorinated biphenyls as Aroclors were not detected above laboratory MRLs in any of the samples.
- Total arsenic was detected in soil from all soil samples at concentrations above the SLRBC; however, below both CFSLs and the default regional background concentration suggesting no enrichment of arsenic in these areas.
- Total lead was detected in soil from all samples. Only the concentrations reported for GS01, GS02 and GS03 exceeded the SLRBC and CFSL. However, the total lead concentrations were below the default regional background concentration, suggesting no enrichment of lead in these areas.
- Total barium, cadmium and chromium were detected in one or more soil samples at concentrations below their respective default regional background concentrations suggesting no enrichment of these metals in the areas sampled.

Note that ODEQ does not require cleanup of metals that are less than the default regional background concentration.

[9] The ODEQ guidance states that a "non-detect" is considered adequate confirmation that a constituent is not present as long as standard analytical method detection limits are met. Therefore, constituents not detected above the indicated method detection limits are considered to meet the screening levels for the purposes of this investigation.

6.0 Discussion

The findings of this investigation have detected elevated concentrations of DRO and RRO in surface soils beneath the on-site structure in the eastern part of the site. Additionally, concentrations of total lead and benzo(a)pyrene exceed State CFSLs, suggesting future soil management may be required if the soil in this area is removed during site development. Field observations indicate soil impacts are limited to the upper 0.5 to one foot of soil, consistent with a surface spill (i.e., from parked vehicles and equipment). Based on laboratory analysis, impacted soils pose the following potential environmental concerns:

- Impacted soils exceed CFSLs and therefore may require disposal at a licensed disposal facility if removed from the site.
- Impacted soil could pose a potential human health concern under certain future land use scenarios, if left in place.

To further evaluate potential human health risk, the highest concentrations of DRO and RRO in soil samples collected were evaluated against the generic RBCs for all generic soil exposure pathways and receptor present in ODEQ RBDM guidance. The results of this comparison are presented on Table 2 and summarized below. It should be noted that ODEQ's generic RBCs for RRO were specifically calculated for mineral oil and are used here as a conservative estimate of exposure. Actual risk of exposure to RRO-impacted soil was also evaluated from exposure to constituents commonly associated with RRO, consistent with State guidance.

Soil Ingestion, Dermal Contact, and Inhalation Exposure Pathway

This direct exposure pathway is considered complete where a human receptor comes in direct contact with contaminated soil. The highest concentrations of RRO in soil exceeds the RBCs for the residential, urban residential, occupational and construction worker receptor populations, posing a potentially unacceptable human health risk for these receptors. This risk could be mitigated by removal of the impacted soils or capping with a suitable cover material to prevent direct exposure.

- The highest DRO concentration exceeds the applicable RBCs for the residential, urban residential and construction worker receptor populations.

Volatilization to Outdoor Air

Neither DRO nor RRO exceeded the RBCs for the Volatilization to Outdoor Air exposure pathway; ODEQ believes it is highly unlikely that such concentrations will ever be encountered that would cause an unacceptable exposure risk via this pathway.

- Therefore, DRO and RRO do not likely pose an unacceptable human health risk by this pathway.

Vapor Intrusion into Buildings

Neither DRO nor RRO exceeded the RBCs for the Vapor Intrusion into Buildings pathway; ODEQ believes it is highly unlikely that such concentrations will ever be encountered that would cause an unacceptable exposure risk via this pathway.

- Therefore, DRO and RRO do not likely pose an unacceptable human health risk by this pathway.

Leaching to Ground Water

This indirect exposure pathway poses a potential risk via leaching of hazardous constituents downward through the soil column and dissolves into the underlying ground water aquifers. Total lead is present at concentrations in shallow soil exceeding the RBC for leaching to ground water (followed by ingestion) for residential and occupational receptors. DRO does not exceed the RBCs for this exposure pathway. Regarding RRO, ODEQ believes it is highly unlikely that such concentrations will ever be encountered that would cause an unacceptable exposure risk via this pathway.

- Therefore, total lead in surface soil could pose an unacceptable human health risk by the leaching to ground-water pathway.

6.1 Recommendations

Based on the findings of this Scope of Work, Creekside/ENW recommends:

1. Eliminate potentially unacceptable human health risk by removing soils impacted with total lead, DRO and RRO and transporting them to a licensed disposal facility. If implemented, confirmation soil samples should be collected and analyzed for appropriate constituents to document the removal of soils above applicable ODEQ RBCs.
2. Keeping this report as part of the permanent property records.

7.0 Limitations

The scope of this report is limited to observations made during on-site work; interviews with knowledgeable sources; and review of readily available published and unpublished reports and literature. As a result, these conclusions are based on information supplied by others as well as interpretations by qualified parties.

The focus of the site closure does not extend to the presence of the following conditions unless they were the express concerns of contacted personnel, report and literature authors or the work scope.

1. Naturally occurring toxic or hazardous substances in the subsurface soils, geology and water,
2. Toxicity of substances common in current habitable environments, such as stored chemicals, products, building materials and consumables,
3. Contaminants or contaminant concentrations that are not a concern now but may be under future regulatory standards,
4. Unpredictable events that may occur after Creekside/ENW's site work, such as illegal dumping or accidental spillage.

There is no practice that is thorough enough to absolutely identify the presence of all hazardous substances that may be present at a given site. Creekside/ENW's investigation has been focused only on the potential for contamination that was specifically identified in the Scope of Work. Therefore, if contamination other than that specifically mentioned is present and not identified as part of a limited Scope of Work, Creekside/ENW's environmental investigation shall not be construed as a guaranteed absence of such materials. Creekside/ENW have endeavored to collect representative analytical samples

for the locations and depths indicated in this report. However, no sampling program can thoroughly identify all variations in contaminant distribution.

We have performed our services for this project in accordance with our agreement and understanding with the client. This document and the information contained herein have been prepared solely for the use of the client.

Creekside/ENW performed this study under a limited scope of services per our agreement. It is possible, despite the use of reasonable care and interpretation, that Creekside/ENW may have failed to identify regulation violations related to the presence of hazardous substances other than those specifically mentioned at the closure site. Creekside/ENW assumes no responsibility for conditions that we did not specifically evaluate or conditions that were not generally recognized as environmentally unacceptable at the time this report was prepared.

Tables

Table 1 - Summary of Analytical Data, Soil

Location ID							Maximum Soil Concentration (remaining soil)	Soil Matrix Cleanup Level	ODEQs Screening-Level Risk-Based Concentrations SLRBCs[1] (Soil)	Background Concentrations (Regional Default)	Clean Fill Screening Levels or Background Concentrations (as applicable)	Exceeds ODEQs Screening-Level SLRBCs (Soil) and/or Soil Matrix Cleanup Level
Sample ID		DU01-190208-IS-0.5	DU02-190208-IS-0.5	GS01/0.5	GS02/0.5	GS03/0.5						
Date Sampled		2/8/2019	2/8/2019	2/8/2019	2/8/2019	2/8/2019						
Depth Sampled (feet)		0.5	0.5	0.5	0.5	0.5						
Sampled By		ENW	ENW	ENW	ENW	ENW						
Location		Yard	Covered Bldg	Soil Staining Inside Covered Building	Soil Staining Inside Covered Building	Soil Staining Inside Covered Building				Portland Basin		TRUE OR Y FALSE OR N
Constituent of Interest	Note	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)					
Volatile Organic Constituents												
Benzene	c, v	---	<0.03 (ND)	<0.03 (ND)	<0.03 (ND)	<0.03 (ND)	<0.03 (ND)	NE	0.023	---	0.0093	(Y)
Bromodichloromethane	c, v	---	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	NE	0.002	---	0.0025	(Y)
Bromoform	c, v	---	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	NE	0.046	---	0.084	(Y)
Bromomethane	nc, v	---	<0.5 (ND)	<0.5 (ND)	<0.5 (ND)	<0.5 (ND)	<0.5 (ND)	NE	0.083	---	0.098	(Y)
Carbon tetrachloride	c, v	---	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	NE	0.013	---	0.028	(Y)
Chlorobenzene	nc, v	---	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	NE	5.8	---	6.5	N
Chlorodibromomethane (dibromochloromethane)	c, v	---	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	NE	0.0024	---	0.0033	(Y)
Chloroethane (ethyl chloride)	nc, v	---	<0.5 (ND)	<0.5 (ND)	<0.5 (ND)	<0.5 (ND)	<0.5 (ND)	NE	310	---	320	N
Chloroform	c, v	---	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	NE	0.0034	---	0.0033	(Y)
Chloromethane	nc, v	---	<0.5 (ND)	<0.5 (ND)	<0.5 (ND)	<0.5 (ND)	<0.5 (ND)	NE	2.2	---	2.2	N
1,2-Dichlorobenzene	nc, v	---	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	NE	36	---	70	N
1,4-Dichlorobenzene	c, v	---	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	NE	0.057	---	0.081	N
1,1-Dichloroethane	c, v	---	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	NE	0.044	---	0.037	(Y)
1,1-Dichloroethene	nc, v	---	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	NE	6.7	---	11	N
cis-1,2-Dichloroethene	nc, v	---	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	NE	0.63	---	1.2	N
trans-1,2-Dichloroethene	nc, v	---	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	NE	7.0	---	2.5	N
Dichloromethane	c, v	---	<0.5 (ND)	<0.5 (ND)	<0.5 (ND)	<0.5 (ND)	<0.5 (ND)	NE	0.14	---	0.038	(Y)
EDB (1,2-dibromoethane)	c, v	---	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	NE	0.00012	---	0.00081	(Y)
EDC (1,2-dichloroethane)	c, v	---	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	NE	0.0028	---	0.0014	(Y)
Ethylbenzene	c, v	---	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	NE	0.22	---	0.16	N
MTBE (methyl t-butyl ether)	c, v	---	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	NE	0.11	---	0.092	N
Naphthalene	c, v	---	<0.01 (ND)	<0.1 (ND)	<0.1 (ND)	<0.01 (ND)	<0.1 (ND)	NE	0.077	---	0.087	(Y)
iso-Propylbenzene (cumene)	nc, v	---	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	NE	96	---	85.2	N
Tetrachloroethene (PCE)	c, v	---	<0.025 (ND)	<0.025 (ND)	<0.025 (ND)	<0.025 (ND)	<0.025 (ND)	NE	0.46	---	2.4	N
Toluene	nc, v	---	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	NE	83	---	200	N
1,1,1-Trichloroethane	nc, v	---	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	NE	190	---	400	N
1,1,2-Trichloroethane	c, v	---	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	NE	0.0063	---	0.0046	(Y)
Trichloroethene	NA, v	---	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	NE	0.013	---	0.02	(Y)
Trichlorofluoromethane (Freon 11)	nc, v	---	<0.5 (ND)	<0.5 (ND)	<0.5 (ND)	<0.5 (ND)	<0.5 (ND)	NE	61	---	190	N
1,2,4-Trimethylbenzene	nc, v	---	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	NE	10	---	16	N
1,3,5-Trimethylbenzene	nc, v	---	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	NE	11	---	92	N
Vinyl chloride	c, v	---	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	NE	0.00057	---	0.00051	(Y)
Xylenes	nc, v	---	<0.15 (ND)	<0.15 (ND)	<0.15 (ND)	<0.15 (ND)	<0.15 (ND)	NE	23	---	25	N
Metals												
Arsenic	c, nv	1.83	1.50	6.38	3.91	4.17	6.38	NE	0.43	8.8	8.8	<BKG
Barium	nc, nv	84.5	133	115	192	124	192	NE	15000	790	790	N
Cadmium	nc, nv	<1 (ND)	<1 (ND)	<1 (ND)	1.33	1.80	1.80	NE	78	0.63	0.63	N
Chromium (III)	nc, nv	12.6	9.07	25.8	29.0	16.9	29	NE	120000	76	76	N
Lead	NA, nv	26.6	15.4	35.7	53.3	56.6	56.6	NE	30	79	28	<BKG
Mercury	nc, nv	<1 (ND)	<1 (ND)	<1 (ND)	<1 (ND)	<1 (ND)	<1 (ND)	NE	23	0.23	0.23	N
Silver	nc, nv	<1 (ND)	<1 (ND)	<1 (ND)	<1 (ND)	<1 (ND)	<1 (ND)	NE	390	0.82	0.82	N

Table 1 - Summary of Analytical Data, Soil

Location ID											
Sample ID		DU01-190208-IS-0.5	DU02-190208-IS-0.5	GS01/0.5	GS02/0.5	GS03/0.5	Maximum Soil Concentration (remaining soil)	Soil Matrix Cleanup Level	ODEQs Screening-Level Risk-Based Concentrations SLRBCs[1] (Soil)	Background Concentrations (Regional Default)	Clean Fill Screening Levels or Background Concentrations (as applicable)	Exceeds ODEQs Screening-Level SLRBCs (Soil) and/or Soil Matrix Cleanup Level
Date Sampled		2/8/2019	2/8/2019	2/8/2019	2/8/2019	2/8/2019						
Depth Sampled (feet)		0.5	0.5	0.5	0.5	0.5						
Sampled By		ENW	ENW	ENW	ENW	ENW						
Location		Yard	Covered Bldg	Soil Staining Inside Covered Building	Soil Staining Inside Covered Building	Soil Staining Inside Covered Building				Portland Basin		TRUE OR Y FALSE OR N
Constituent of Interest	Note	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)					
Semivolatile Organic Constituents												
Polychlorinated biphenyls (Total PCBs)	c, v		<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	NE	0.23	---	0.2	N
Polycyclic Aromatic Hydrocarbons												
Acenaphthene	nc, v	---	<0.01 (ND)	<0.1 (ND)	<0.1 (ND)	<0.01 (ND)	<0.1 (ND)	NE	770	---	29	N
Anthracene	nc, v	---	<0.01 (ND)	<0.1 (ND)	<0.1 (ND)	<0.01 (ND)	<0.1 (ND)	NE	8200	---	29	N
Benz[a]anthracene	c, v	---	<0.01 (ND)	<0.1 (ND)	<0.1 (ND)	0.017 J	<0.1 (ND)	NE	1.1	---	0.15	N
Benzo[a]pyrene (BaP equivalents)	c, nv	---	<0.1 (ND)	<1 (ND)	<1 (ND)	0.030 J	<1 (ND)	NE	0.11	---	0.015	(Y)
Benzo[b]fluoranthene	c, nv	---	<0.1 (ND)	<1 (ND)	<1 (ND)	0.060 J	<1 (ND)	NE	1.1	---	0.15	N
Benzo[k]fluoranthene	c, nv	---	<0.1 (ND)	<1 (ND)	<1 (ND)	0.014 J	<1 (ND)	NE	11	---	1.1	N
Chrysene	c, nv	---	<0.01 (ND)	<0.1 (ND)	<0.1 (ND)	0.041 J	<0.1 (ND)	NE	110	---	14	N
Dibenz[a,h]anthracene	c, nv	---	<0.1 (ND)	<1 (ND)	<1 (ND)	<0.01 (ND) J	<1 (ND)	NE	0.11	---	0.015	(Y)
Fluoranthene	nc, nv	---	<0.01 (ND)	<0.1 (ND)	<0.1 (ND)	0.040	<0.1 (ND)	NE	2400	---	29	N
Fluorene	nc, v	---	<0.01 (ND)	<0.1 (ND)	<0.1 (ND)	<0.01 (ND)	<0.1 (ND)	NE	770	---	29	N
Indeno[1,2,3-cd]pyrene	c, nv	---	<0.1 (ND)	<1 (ND)	<1 (ND)	0.058 J	<1 (ND)	NE	1.1	---	0.15	N
Pyrene	nc, v	---	0.016	<0.1 (ND)	<0.1 (ND)	0.12	0.12	NE	1800	---	1700	N
Total Petroleum Hydrocarbons												
Generic Gasoline (GRO)	nc, v	<20 (NP)	<20 (NP)	<20 (NP)	<20 (NP)	<20 (NP)	<20 (NP)	80	31	---	---	N
Generic Diesel / Heating Oil (DRO)	nc, v	<50 (NP)	16 x	3000 x	5300 x	720 x	5300 x	500	1100	---	---	Y
Generic Mineral Insulating Oil (RRO)	nc, nv	<250 (NP)	99	46000	19000	2100	46000		2800	---	---	Y

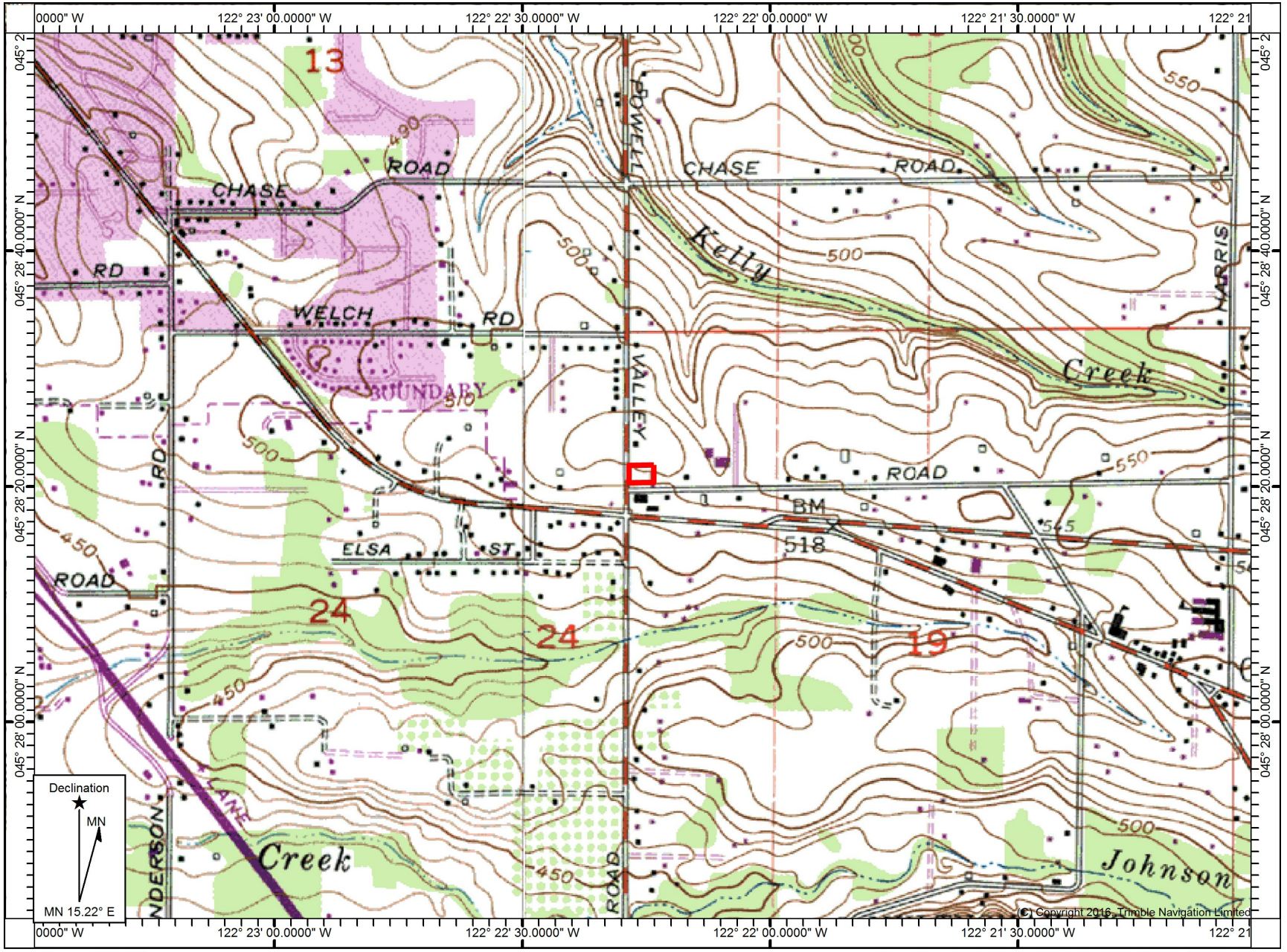
Notes:
mg/Kg = milligram per kilogram or parts per million (ppm).
<# (ND) = not detected at or above the laboratory method reporting limit shown.
NE = not established.
NP = not present at or above the laboratory method reporting limit shown (HCID analysis).
— = not analyzed or not applicable.
c = carcinogenic
nc = noncarcinogenic
v = volatile
nv = nonvolatile
GRO = gasoline-range organics.
DRO = diesel-range organics.
RRO = residual-range organics.
[1] Lowest Risk-Based Concentration for soil (screening level assumes residential use, from ODEQ RBCs dated May 2018).
(Y) indicates analyte not detected, but detection limit is above screening concentration.
J= The result is below method reporting limits. The value reported is an estimate.
x = the pattern of peaks is not indicative of the fuel standard used for quantitation.
<BKG = constituent exceeded its SLRBC; however, was not detected above default backgound concentrations in soil

Table 2. Further Evaluation of COPCs in Soil (Risk Drivers)

Contaminated Medium		SOIL mg/Kg (ppm)																								Maximum Detected Concentration
Exposure Pathway		Soil Ingestion, Dermal Contact, and Inhalation RBC_{ss}										Volatilization to Outdoor Air RBC_{so}						Vapor Intrusion into Buildings RBC_{si}						Leaching to Ground Water RBC_{sw}						
Receptor Scenario		Residential		Urban Residential		Occupational		Construction Worker		Excavation Worker		Residential		Urban Residential		Occupational		Residential		Urban Residential		Occupational		Residential		Urban Residential		Occupational		
Direct or Indirect Pathway (see notes)		DC		DC		DC		DC		DC		IVS		IVS		IVS		IVS		IVS		IVS		IS		IS		IS		
Contaminant of Concern	Note		Note		Note		Note		Note		Note		Note		Note		Note		Note		Note		Note		Note		Note		Note	mg/Kg (ppm)
Metals																														
Lead	NA, nv	400	L	400	L	800	L	800	L	800	L	-	NV	-	NV	-	NV	-	NV	-	NV	-	NV	30	L	30	L	30	L	56.6
Total Petroleum Hydrocarbons																														
Generic Diesel / Heating Oil (DRO)	nc, v	1100		2200		14000		4600		-	>Max	-	>Max	-	>Max	-	>Max	-	>Max	-	>Max	-	>Max	9500		9500		-	>Max	5300
Generic Mineral Insulating Oil (RRO)	nc, nv	2800		5700		36000		11000		-	>Max	-	>Max	-	>Max	-	>Max	-	>Max	-	>Max	-	>Max	-	>Max	-	>Max	-	>Max	46000

Notes:
mg/Kg = milligrams per Kilogram or parts per million
c = carcinogenic
nc = noncarcinogenic
v = volatile
nv = nonvolatile
DRO = diesel-range organics.
RRO = residual-range organics.
>Max = The constituent RBC for this pathway is greater than 100,000 mg/kg. The Department believes it is highly unlikely that such concentrations will ever be encountered.

Figures



Name: SANDY
Date: Jan 1, 1985

0 1000 2000
Feet

Location: 045° 28' 20.9333" N, 122° 22' 15.4578" W
Contour Interval: 10 ft

	Date Drawn: 2/20/2019 CAD File Name: 351-18042-fig1sv_map(v01) Drawn By: JOB Approved By: LDG	Bergh Property 1S4E19BB 6500 Gresham, Oregon	**Site Vicinity Map**	Project No. 351-18042 Figure No. **1**

DRAWN BY	CHECKED BY	APPROVED BY	DRAWING NUMBER
J. BIGELOW 02/26/2019	P. TRONE 02/26/2019	L. GREEN 02/27/2019	351-18042(v01)

LEGEND:

- SUBJECT BUILDINGS
- SUBJECT PROPERTY BOUNDARIES
- BUILDING LOCATIONS
- POLE TRANSFORMER

NOTES:

1. BASE MAP DEVELOPED FROM AN AERIAL PHOTOGRAPH MAP DATED 2017 AND ENW FIELD NOTES.
2. ALL BUILDING, STREET, AND FEATURE LOCATIONS ARE APPROXIMATE.
3. SYMBOLS REPRESENT LOCATION AND DO NOT ALWAYS REPRESENT EXACT SHAPE, SIZE, OR ORIENTATION.

APPROXIMATE SCALE

0 50 100 FEET

N

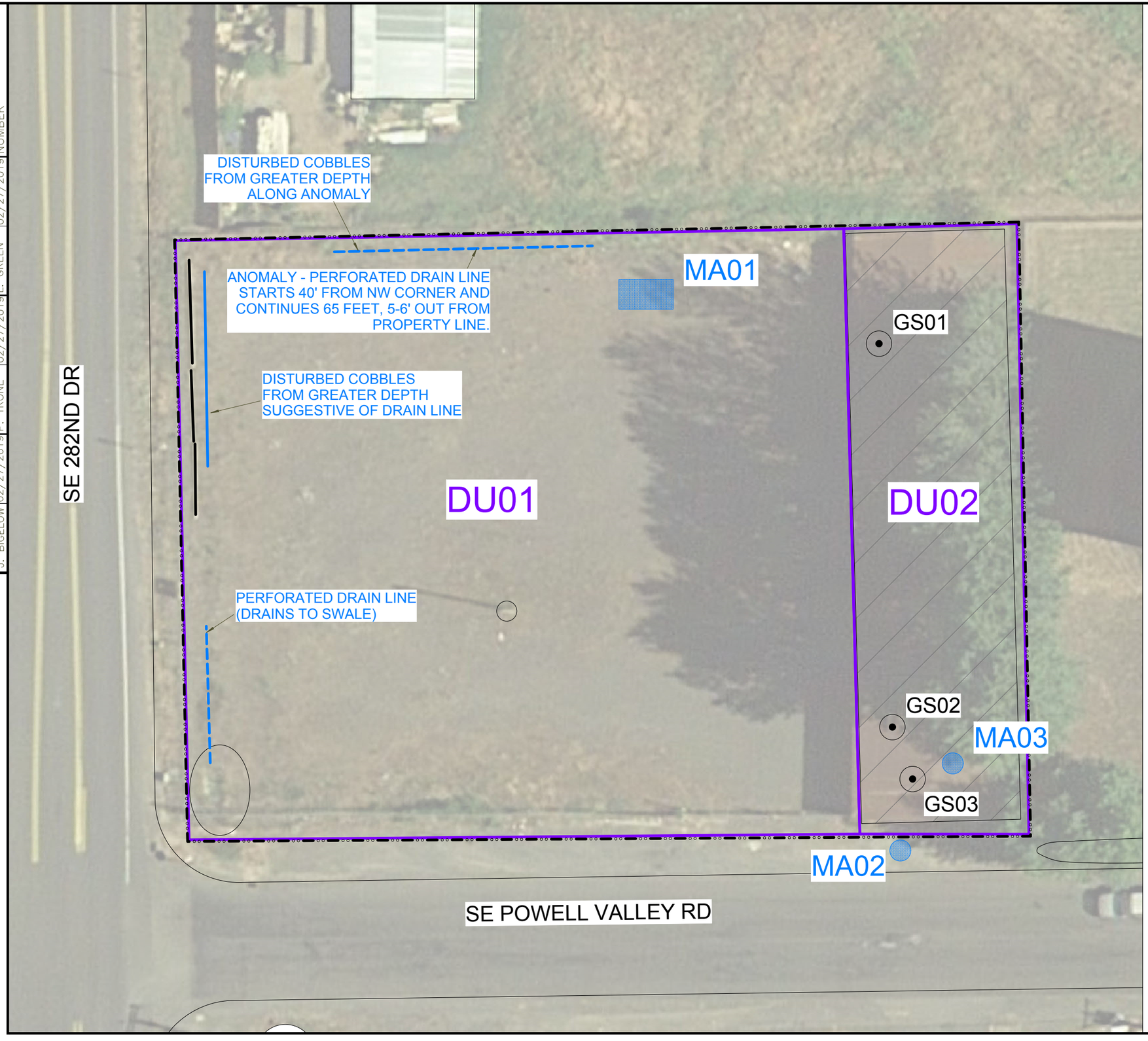
CREEKSIDE ENVIRONMENTAL CONSULTING, LLC
40 SE 24TH AVENUE, SUITE A
PORTLAND, OREGON 97214
(503) 692-8118

FIGURE 2

SITE PLAN

BERGH PROPERTY
1S4E19BB 6500
GRESHAM, OREGON

DRAWN BY	CHECKED BY	APPROVED BY	DRAWING NUMBER
J. BIGELOW 02/27/2019	P. TRONE 02/27/2019	L. GREEN 02/27/2019	351-18042(v01)



LEGEND:

- SUBJECT BUILDINGS
- SUBJECT PROPERTY BOUNDARIES
- BUILDING LOCATIONS
- MAGENTIC ANOMALY
- INCREMENTAL SAMPLING BOUNDARY
- DISCRETE SOIL SAMPLE

NOTES:

1. BASE MAP DEVELOPED FROM AN AERIAL PHOTOGRAPH MAP DATED 2017 AND ENW FIELD NOTES.
2. ALL BUILDING, STREET, AND FEATURE LOCATIONS ARE APPROXIMATE.
3. SYMBOLS REPRESENT LOCATION AND DO NOT ALWAYS REPRESENT EXACT SHAPE, SIZE, OR ORIENTATION.

APPROXIMATE SCALE

0 25 50 FEET

N

CREEKSIDE ENVIRONMENTAL CONSULTING, LLC
40 SE 24TH AVENUE, SUITE A
PORTLAND, OREGON 97214
(503) 692-8118

FIGURE 3

SAMPLE LOCATION DIAGRAM

BERGH PROPERTY
1S4E19BB 6500
GRESHAM, OREGON

Appendix A

Site Photographs

View of GeoPotential, Inc. conducting a geophysical survey for buried features of potential environmental concern. View to the west.

The geophysical survey included area enclosed by the three-sided structure at the subject site.

View west of the interior of the three-sided structure at the time of the geophysical survey.

Buried features indicated by geophysical instruments were marked in white paint.

CREEKSIDE ENVIRONMENTAL CONSULTING, LLC	Bergh Property T1S R4E S99BB, Tax Lot 6500 Gresham, Oregon	**Site Photographs**	Project No. L-2018.2 / 351-18042-02 Appendix **A**

View of utilities identified along SE Powell Valley Road.

View north along SE 282nd Street showing a storm sewer utility running next to the subject site.

Magnetic anomalies marked in white paint were later exhumed to determine their source. No buried USTs were identified.

View of yard area during soil sampling on February 8, 2019.

CREEKSIDE ENVIRONMENTAL CONSULTING, LLC	Bergh Property T1S R4E S99BB, Tax Lot 6500 Gresham, Oregon	**Site Photographs**	Project No. L-2018.2 / 351-18042-02 Appendix **A**

View of stained soil inside the building where discrete soil sample was collected for analysis.

View of boulder-size rocks encountered during sampling at the subject site.

A view of the stained soils encountered during sampling in the shed.

CREEKSIDE ENVIRONMENTAL CONSULTING, LLC	Bergh Property T1S R4E S99BB, Tax Lot 6500 Gresham, Oregon	**Site Photographs**	Project No. L-2018.2 / 351-18042-02 Appendix **A**

Appendix B

Laboratory Analytical Reports

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Arina Podnozova, B.S.
Eric Young, B.S.

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Seattle, WA 98119-2029
(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

February 22, 2019

Lynn Green, Project Manager
Evren Northwest, Inc.
PO Box 14488
Portland, OR 97293

Dear Mr Green:

Included are the results from the testing of material submitted on February 11, 2019 from the 351-18042-03, F&BI 902148 project. There are 38 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Neil Woller, Paul Trone
ENW0222R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on February 11, 2019 by Friedman & Bruya, Inc. from the Evren Northwest 351-18042-03, F&BI 902148 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Evren Northwest
902148 -01	DU01-190208-IS-0.5
902148 -02	DU01-190208-IS-0.5-REP01
902148 -03	DU01-190208-IS-0.5-REP02
902148 -04	DU02-190208-IS-0.5
902148 -05	GS01/0.5
902148 -06	GS02/0.5
902148 -07	GS03/0.5

Samples DU02-190208-IS-0.5, GS01/0.5, GS02/0.5, and GS03/0.5 were extracted from a 4 ounce jar. The data were flagged accordingly.

An 8270D internal standard failed the acceptance criteria for samples DU02-190208-IS-0.5, GS01/0.5, GS02/0.5, and GS03/0.5. The samples were diluted and reanalyzed with acceptable results. Both data sets were reported.

All other quality control requirements were acceptable.

Date of Report: 02/22/19
Date Received: 02/11/19
Project: 351-18042-03, F&BI 902148
Date Extracted: 02/13/19
Date Analyzed: 02/13/19

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR GASOLINE, DIESEL AND HEAVY OIL BY NWTPH-HCID

Results Reported on a Dry Weight Basis
Results Reported as Not Detected (ND) or Detected (D)

THE DATA PROVIDED BELOW WAS PERFORMED PER THE GUIDELINES ESTABLISHED BY THE WASHINGTON DEPARTMENT OF ECOLOGY AND WERE NOT DESIGNED TO PROVIDE INFORMATION WITH REGARDS TO THE ACTUAL IDENTIFICATION OF ANY MATERIAL PRESENT

Sample ID Laboratory ID	Gasoline	Diesel	Heavy Oil	Surrogate (% Recovery) (Limit 53-144)
DU01-190208-IS-0.5 902148-01	ND	ND	ND	96
DU02-190208-IS-0.5 902148-04	ND	ND	D	99
GS01/0.5 902148-05	ND	ND	D	91
GS02/0.5 902148-06	ND	ND	D	97
GS03/0.5 902148-07	ND	ND	D	72
Method Blank 09-363 MB	ND	ND	ND	97

ND - Material not detected at or above 20 mg/kg gas, 50 mg/kg diesel and 250 mg/kg heavy oil.

Date of Report: 02/22/19
Date Received: 02/11/19
Project: 351-18042-03, F&BI 902148
Date Extracted: 02/15/19 and 02/18/19
Date Analyzed: 02/15/19 and 02/18/19

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND RESIDUAL RANGE USING METHOD NWTPH-Dx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Residual Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 53-144)
DU02-190208-IS-0.5 902148-04	16 x	99	84
GS01/0.5 902148-05 1/10	3,000 x	46,000	81
GS02/0.5 902148-06 1/10	5,300 x	19,000	77
GS03/0.5 902148-07	720 x	2,100	89
Method Blank 09-367 MB2	<50	<250	96
Method Blank 09-375 MB	<5	<25	81

Analysis For Total Metals By EPA Method 6020B

Client ID:	DU01-190208-IS-0.5	Client:	Evren Northwest
Date Received:	02/11/19	Project:	351-18042-03, F&BI 902148
Date Extracted:	02/14/19	Lab ID:	902148-01
Date Analyzed:	02/14/19	Data File:	902148-01.117
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	1.83
Barium	84.5
Cadmium	<1
Chromium	12.6
Lead	26.6
Mercury	<1
Selenium	<5
Silver	<1

Analysis For Total Metals By EPA Method 6020B

Client ID:	DU02-190208-IS-0.5	Client:	Evren Northwest
Date Received:	02/11/19	Project:	351-18042-03, F&BI 902148
Date Extracted:	02/14/19	Lab ID:	902148-04
Date Analyzed:	02/14/19	Data File:	902148-04.122
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	1.50
Barium	133
Cadmium	<1
Chromium	9.07
Lead	15.4
Mercury	<1
Selenium	<5
Silver	<1

Analysis For Total Metals By EPA Method 6020B

Client ID:	GS01/0.5	Client:	Evren Northwest
Date Received:	02/11/19	Project:	351-18042-03, F&BI 902148
Date Extracted:	02/13/19	Lab ID:	902148-05
Date Analyzed:	02/14/19	Data File:	902148-05.036
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	6.38
Barium	115
Cadmium	<1
Chromium	25.8
Lead	35.7
Mercury	<1
Selenium	<5
Silver	<1

Analysis For Total Metals By EPA Method 6020B

Client ID:	GS02/0.5	Client:	Evren Northwest
Date Received:	02/11/19	Project:	351-18042-03, F&BI 902148
Date Extracted:	02/13/19	Lab ID:	902148-06
Date Analyzed:	02/14/19	Data File:	902148-06.037
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	3.91
Barium	192
Cadmium	1.33
Chromium	29.0
Lead	53.3
Mercury	<1
Selenium	<5
Silver	<1

Analysis For Total Metals By EPA Method 6020B

Client ID:	GS03/0.5	Client:	Evren Northwest
Date Received:	02/11/19	Project:	351-18042-03, F&BI 902148
Date Extracted:	02/13/19	Lab ID:	902148-07
Date Analyzed:	02/14/19	Data File:	902148-07.038
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	4.17
Barium	124
Cadmium	1.80
Chromium	16.9
Lead	56.6
Mercury	<1
Selenium	<5
Silver	<1

Analysis For Total Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Evren Northwest
Date Received:	NA	Project:	351-18042-03, F&BI 902148
Date Extracted:	02/13/19	Lab ID:	I9-97 mb2
Date Analyzed:	02/15/19	Data File:	I9-97 mb2.031
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	<1
Barium	<1
Cadmium	<1
Chromium	<1
Lead	<1
Mercury	<1
Selenium	<5
Silver	<1

Analysis For Total Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Evren Northwest
Date Received:	NA	Project:	351-18042-03, F&BI 902148
Date Extracted:	02/14/19	Lab ID:	I9-101 mb
Date Analyzed:	02/14/19	Data File:	I9-101 mb.107
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	<1
Barium	<1
Cadmium	<1
Chromium	<1
Lead	<1
Mercury	<1
Selenium	<5
Silver	<1

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	DU02-190208-IS-0.5	Client:	Evren Northwest
Date Received:	02/11/19	Project:	351-18042-03, F&BI 902148
Date Extracted:	02/15/19	Lab ID:	902148-04 1/5
Date Analyzed:	02/18/19	Data File:	021804.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	89	31	163
Benzo(a)anthracene-d12	108	24	168

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.01
Acenaphthylene	<0.01
Acenaphthene	<0.01
Fluorene	<0.01
Phenanthrene	<0.01
Anthracene	<0.01
Fluoranthene	<0.01
Pyrene	0.016
Benz(a)anthracene	<0.01
Chrysene	<0.01
Benzo(a)pyrene	<0.01 J
Benzo(b)fluoranthene	<0.01 J
Benzo(k)fluoranthene	<0.01 J
Indeno(1,2,3-cd)pyrene	<0.01 J
Dibenz(a,h)anthracene	<0.01 J
Benzo(g,h,i)perylene	<0.01 J

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	DU02-190208-IS-0.5	Client:	Evren Northwest
Date Received:	02/11/19	Project:	351-18042-03, F&BI 902148
Date Extracted:	02/15/19	Lab ID:	902148-04 1/50
Date Analyzed:	02/15/19	Data File:	021527.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	91 d	31	163
Benzo(a)anthracene-d12	113 d	24	168

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.1
Acenaphthylene	<0.1
Acenaphthene	<0.1
Fluorene	<0.1
Phenanthrene	<0.1
Anthracene	<0.1
Fluoranthene	<0.1
Pyrene	<0.1
Benz(a)anthracene	<0.1
Chrysene	<0.1
Benzo(a)pyrene	<0.1
Benzo(b)fluoranthene	<0.1
Benzo(k)fluoranthene	<0.1
Indeno(1,2,3-cd)pyrene	<0.1
Dibenz(a,h)anthracene	<0.1
Benzo(g,h,i)perylene	<0.1

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	GS01/0.5	Client:	Evren Northwest
Date Received:	02/11/19	Project:	351-18042-03, F&BI 902148
Date Extracted:	02/15/19	Lab ID:	902148-05 1/50
Date Analyzed:	02/15/19	Data File:	021528.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	77 d	31	163
Benzo(a)anthracene-d12	92 d	24	168

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.1
Acenaphthylene	<0.1
Acenaphthene	<0.1
Fluorene	<0.1
Phenanthrene	<0.1
Anthracene	<0.1
Fluoranthene	<0.1
Pyrene	<0.1
Benz(a)anthracene	<0.1
Chrysene	<0.1
Benzo(a)pyrene	<0.1 J
Benzo(b)fluoranthene	<0.1 J
Benzo(k)fluoranthene	<0.1 J
Indeno(1,2,3-cd)pyrene	<0.1 J
Dibenz(a,h)anthracene	<0.1 J
Benzo(g,h,i)perylene	<0.1 J

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	GS01/0.5	Client:	Evren Northwest
Date Received:	02/11/19	Project:	351-18042-03, F&BI 902148
Date Extracted:	02/15/19	Lab ID:	902148-05 1/500
Date Analyzed:	02/19/19	Data File:	021911.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	193 d	31	163
Benzo(a)anthracene-d12	152 d	24	168

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<1
Acenaphthylene	<1
Acenaphthene	<1
Fluorene	<1
Phenanthrene	<1
Anthracene	<1
Fluoranthene	<1
Pyrene	<1
Benz(a)anthracene	<1
Chrysene	<1
Benzo(a)pyrene	<1
Benzo(b)fluoranthene	<1
Benzo(k)fluoranthene	<1
Indeno(1,2,3-cd)pyrene	<1
Dibenz(a,h)anthracene	<1
Benzo(g,h,i)perylene	<1

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	GS02/0.5	Client:	Evren Northwest
Date Received:	02/11/19	Project:	351-18042-03, F&BI 902148
Date Extracted:	02/15/19	Lab ID:	902148-06 1/50
Date Analyzed:	02/15/19	Data File:	021529.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	82 d	31	163
Benzo(a)anthracene-d12	72 d	24	168

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.1
Acenaphthylene	<0.1
Acenaphthene	<0.1
Fluorene	<0.1
Phenanthrene	<0.1
Anthracene	<0.1
Fluoranthene	<0.1
Pyrene	<0.1
Benz(a)anthracene	<0.1
Chrysene	<0.1
Benzo(a)pyrene	<0.1 J
Benzo(b)fluoranthene	<0.1 J
Benzo(k)fluoranthene	<0.1 J
Indeno(1,2,3-cd)pyrene	<0.1 J
Dibenz(a,h)anthracene	<0.1 J
Benzo(g,h,i)perylene	<0.1 J

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	GS02/0.5	Client:	Evren Northwest
Date Received:	02/11/19	Project:	351-18042-03, F&BI 902148
Date Extracted:	02/15/19	Lab ID:	902148-06 1/500
Date Analyzed:	02/19/19	Data File:	021912.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	219 d	31	163
Benzo(a)anthracene-d12	285 d	24	168

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<1
Acenaphthylene	<1
Acenaphthene	<1
Fluorene	<1
Phenanthrene	<1
Anthracene	<1
Fluoranthene	<1
Pyrene	<1
Benz(a)anthracene	<1
Chrysene	<1
Benzo(a)pyrene	<1
Benzo(b)fluoranthene	<1
Benzo(k)fluoranthene	<1
Indeno(1,2,3-cd)pyrene	<1
Dibenz(a,h)anthracene	<1
Benzo(g,h,i)perylene	<1

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	GS03/0.5	Client:	Evren Northwest
Date Received:	02/11/19	Project:	351-18042-03, F&BI 902148
Date Extracted:	02/15/19	Lab ID:	902148-07 1/5
Date Analyzed:	02/18/19	Data File:	021805.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	88	31	163
Benzo(a)anthracene-d12	111 J	24	168

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.01
Acenaphthylene	<0.01
Acenaphthene	<0.01
Fluorene	<0.01
Phenanthrene	0.024
Anthracene	<0.01
Fluoranthene	0.040
Pyrene	0.34 J
Benz(a)anthracene	0.017 J
Chrysene	0.041 J
Benzo(a)pyrene	0.030 J
Benzo(b)fluoranthene	0.060 J
Benzo(k)fluoranthene	0.014 J
Indeno(1,2,3-cd)pyrene	0.058 J
Dibenz(a,h)anthracene	<0.01 J
Benzo(g,h,i)perylene	0.061 J

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	GS03/0.5	Client:	Evren Northwest
Date Received:	02/11/19	Project:	351-18042-03, F&BI 902148
Date Extracted:	02/15/19	Lab ID:	902148-07 1/50
Date Analyzed:	02/15/19	Data File:	021530.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	87 d	31	163
Benzo(a)anthracene-d12	100 d	24	168

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.1
Acenaphthylene	<0.1
Acenaphthene	<0.1
Fluorene	<0.1
Phenanthrene	<0.1
Anthracene	<0.1
Fluoranthene	<0.1
Pyrene	0.12
Benz(a)anthracene	<0.1
Chrysene	<0.1
Benzo(a)pyrene	<0.1
Benzo(b)fluoranthene	<0.1
Benzo(k)fluoranthene	<0.1
Indeno(1,2,3-cd)pyrene	<0.1
Dibenz(a,h)anthracene	<0.1
Benzo(g,h,i)perylene	<0.1

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	Method Blank	Client:	Evren Northwest
Date Received:	Not Applicable	Project:	351-18042-03, F&BI 902148
Date Extracted:	02/15/19	Lab ID:	09-373 mb 1/5
Date Analyzed:	02/15/19	Data File:	021524.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	92	31	163
Benzo(a)anthracene-d12	98	24	168

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.01
Acenaphthylene	<0.01
Acenaphthene	<0.01
Fluorene	<0.01
Phenanthrene	<0.01
Anthracene	<0.01
Fluoranthene	<0.01
Pyrene	<0.01
Benz(a)anthracene	<0.01
Chrysene	<0.01
Benzo(a)pyrene	<0.01
Benzo(b)fluoranthene	<0.01
Benzo(k)fluoranthene	<0.01
Indeno(1,2,3-cd)pyrene	<0.01
Dibenz(a,h)anthracene	<0.01
Benzo(g,h,i)perylene	<0.01

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	DU02-190208-IS-0.5 pc	Client:	Evren Northwest
Date Received:	02/11/19	Project:	351-18042-03, F&BI 902148
Date Extracted:	02/15/19	Lab ID:	902148-04
Date Analyzed:	02/15/19	Data File:	021511.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	50	150
Toluene-d8	104	50	150
4-Bromofluorobenzene	105	50	150

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.05
Acetone	<0.5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	<0.1
Hexane	<0.25	o-Xylene	<0.05
Methylene chloride	<0.5	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.05	Bromoform	<0.05
1,1-Dichloroethane	<0.05	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.05	1,3,5-Trimethylbenzene	<0.05
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<0.5	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.05	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.05	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	<0.03	sec-Butylbenzene	<0.05
Trichloroethene	<0.02	p-Isopropyltoluene	<0.05
1,2-Dichloropropane	<0.05	1,3-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,4-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<0.5	1,2-Dibromo-3-chloropropane	<0.5
cis-1,3-Dichloropropene	<0.05	1,2,4-Trichlorobenzene	<0.25
Toluene	<0.05	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	<0.05
1,1,2-Trichloroethane	<0.05	1,2,3-Trichlorobenzene	<0.25
2-Hexanone	<0.5		

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	GS01/0.5 pc	Client:	Evren Northwest
Date Received:	02/11/19	Project:	351-18042-03, F&BI 902148
Date Extracted:	02/15/19	Lab ID:	902148-05
Date Analyzed:	02/15/19	Data File:	021512.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	50	150
Toluene-d8	104	50	150
4-Bromofluorobenzene	104	50	150

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.05
Acetone	<0.5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	<0.1
Hexane	<0.25	o-Xylene	<0.05
Methylene chloride	<0.5	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.05	Bromoform	<0.05
1,1-Dichloroethane	<0.05	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.05	1,3,5-Trimethylbenzene	<0.05
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<0.5	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.05	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.05	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	<0.03	sec-Butylbenzene	<0.05
Trichloroethene	<0.02	p-Isopropyltoluene	<0.05
1,2-Dichloropropane	<0.05	1,3-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,4-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<0.5	1,2-Dibromo-3-chloropropane	<0.5
cis-1,3-Dichloropropene	<0.05	1,2,4-Trichlorobenzene	<0.25
Toluene	<0.05	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	<0.05
1,1,2-Trichloroethane	<0.05	1,2,3-Trichlorobenzene	<0.25
2-Hexanone	<0.5		

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	GS02/0.5 pc	Client:	Evren Northwest
Date Received:	02/11/19	Project:	351-18042-03, F&BI 902148
Date Extracted:	02/15/19	Lab ID:	902148-06
Date Analyzed:	02/15/19	Data File:	021513.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	50	150
Toluene-d8	102	50	150
4-Bromofluorobenzene	103	50	150

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.05
Acetone	<0.5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	<0.1
Hexane	<0.25	o-Xylene	<0.05
Methylene chloride	<0.5	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.05	Bromoform	<0.05
1,1-Dichloroethane	<0.05	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.05	1,3,5-Trimethylbenzene	<0.05
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<0.5	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.05	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.05	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	<0.03	sec-Butylbenzene	<0.05
Trichloroethene	<0.02	p-Isopropyltoluene	<0.05
1,2-Dichloropropane	<0.05	1,3-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,4-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<0.5	1,2-Dibromo-3-chloropropane	<0.5
cis-1,3-Dichloropropene	<0.05	1,2,4-Trichlorobenzene	<0.25
Toluene	<0.05	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	<0.05
1,1,2-Trichloroethane	<0.05	1,2,3-Trichlorobenzene	<0.25
2-Hexanone	<0.5		

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	GS03/0.5 pc	Client:	Evren Northwest
Date Received:	02/11/19	Project:	351-18042-03, F&BI 902148
Date Extracted:	02/15/19	Lab ID:	902148-07
Date Analyzed:	02/15/19	Data File:	021514.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	50	150
Toluene-d8	101	50	150
4-Bromofluorobenzene	103	50	150

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.05
Acetone	<0.5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	<0.1
Hexane	<0.25	o-Xylene	<0.05
Methylene chloride	<0.5	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.05	Bromoform	<0.05
1,1-Dichloroethane	<0.05	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.05	1,3,5-Trimethylbenzene	<0.05
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<0.5	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.05	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.05	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	<0.03	sec-Butylbenzene	<0.05
Trichloroethene	<0.02	p-Isopropyltoluene	<0.05
1,2-Dichloropropane	<0.05	1,3-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,4-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<0.5	1,2-Dibromo-3-chloropropane	<0.5
cis-1,3-Dichloropropene	<0.05	1,2,4-Trichlorobenzene	<0.25
Toluene	<0.05	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	<0.05
1,1,2-Trichloroethane	<0.05	1,2,3-Trichlorobenzene	<0.25
2-Hexanone	<0.5		

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	Evren Northwest
Date Received:	Not Applicable	Project:	351-18042-03, F&BI 902148
Date Extracted:	02/15/19	Lab ID:	09-0282 mb
Date Analyzed:	02/15/19	Data File:	021510.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	50	150
Toluene-d8	105	50	150
4-Bromofluorobenzene	105	50	150

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.05
Acetone	<0.5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	<0.1
Hexane	<0.25	o-Xylene	<0.05
Methylene chloride	<0.5	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.05	Bromoform	<0.05
1,1-Dichloroethane	<0.05	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.05	1,3,5-Trimethylbenzene	<0.05
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<0.5	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.05	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.05	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	<0.03	sec-Butylbenzene	<0.05
Trichloroethene	<0.02	p-Isopropyltoluene	<0.05
1,2-Dichloropropane	<0.05	1,3-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,4-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<0.5	1,2-Dibromo-3-chloropropane	<0.5
cis-1,3-Dichloropropene	<0.05	1,2,4-Trichlorobenzene	<0.25
Toluene	<0.05	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	<0.05
1,1,2-Trichloroethane	<0.05	1,2,3-Trichlorobenzene	<0.25
2-Hexanone	<0.5		

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	DU02-190208-IS-0.5	Client:	Evren Northwest
Date Received:	02/11/19	Project:	351-18042-03, F&BI 902148
Date Extracted:	02/18/19	Lab ID:	902148-04 1/6
Date Analyzed:	02/20/19	Data File:	022055.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	71	29	154

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.02
Aroclor 1232	<0.02
Aroclor 1016	<0.02
Aroclor 1242	<0.02
Aroclor 1248	<0.02
Aroclor 1254	<0.02
Aroclor 1260	<0.02
Aroclor 1262	<0.02
Aroclor 1268	<0.02

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	GS01/0.5	Client:	Evren Northwest
Date Received:	02/11/19	Project:	351-18042-03, F&BI 902148
Date Extracted:	02/18/19	Lab ID:	902148-05 1/6
Date Analyzed:	02/21/19	Data File:	022058.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	54	29	154

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.02
Aroclor 1232	<0.02
Aroclor 1016	<0.02
Aroclor 1242	<0.02
Aroclor 1248	<0.02
Aroclor 1254	<0.02
Aroclor 1260	<0.02
Aroclor 1262	<0.02
Aroclor 1268	<0.02

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	GS02/0.5	Client:	Evren Northwest
Date Received:	02/11/19	Project:	351-18042-03, F&BI 902148
Date Extracted:	02/18/19	Lab ID:	902148-06 1/6
Date Analyzed:	02/21/19	Data File:	022059.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	50	29	154

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.02
Aroclor 1232	<0.02
Aroclor 1016	<0.02
Aroclor 1242	<0.02
Aroclor 1248	<0.02
Aroclor 1254	<0.02
Aroclor 1260	<0.02
Aroclor 1262	<0.02
Aroclor 1268	<0.02

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	GS03/0.5	Client:	Evren Northwest
Date Received:	02/11/19	Project:	351-18042-03, F&BI 902148
Date Extracted:	02/18/19	Lab ID:	902148-07 1/6
Date Analyzed:	02/21/19	Data File:	022060.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	70	29	154

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.02
Aroclor 1232	<0.02
Aroclor 1016	<0.02
Aroclor 1242	<0.02
Aroclor 1248	<0.02
Aroclor 1254	<0.02
Aroclor 1260	<0.02
Aroclor 1262	<0.02
Aroclor 1268	<0.02

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	Method Blank	Client:	Evren Northwest
Date Received:	Not Applicable	Project:	351-18042-03, F&BI 902148
Date Extracted:	02/18/19	Lab ID:	09-376 mb 1/6
Date Analyzed:	02/20/19	Data File:	022054.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	83	29	154

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.02
Aroclor 1232	<0.02
Aroclor 1016	<0.02
Aroclor 1242	<0.02
Aroclor 1248	<0.02
Aroclor 1254	<0.02
Aroclor 1260	<0.02
Aroclor 1262	<0.02
Aroclor 1268	<0.02

Date of Report: 02/22/19
Date Received: 02/11/19
Project: 351-18042-03, F&BI 902148

QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: 902183-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	9,400	130 b	93 b	64-133	33 b

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	108	58-147

Date of Report: 02/22/19
Date Received: 02/11/19
Project: 351-18042-03, F&BI 902148

QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: 902148-04 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	500	67	76	90	64-133	17

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	500	105	58-147

Date of Report: 02/22/19
Date Received: 02/11/19
Project: 351-18042-03, F&BI 902148

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TOTAL METALS USING EPA METHOD 6020B

Laboratory Code: 902172-17 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	mg/kg (ppm)	10	2.08	103	106	75-125	3
Barium	mg/kg (ppm)	50	41.7	109	115	75-125	5
Cadmium	mg/kg (ppm)	10	<1	106	109	75-125	3
Chromium	mg/kg (ppm)	50	15.0	111	112	75-125	1
Lead	mg/kg (ppm)	50	1.66	103	103	75-125	0
Mercury	mg/kg (ppm	5	<1	104	113	75-125	8
Selenium	mg/kg (ppm)	5	<5	100	100	75-125	0
Silver	mg/kg (ppm)	10	<1	100	102	75-125	2

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	mg/kg (ppm)	10	104	80-120
Barium	mg/kg (ppm)	50	107	80-120
Cadmium	mg/kg (ppm)	10	106	80-120
Chromium	mg/kg (ppm)	50	115	80-120
Lead	mg/kg (ppm)	50	109	80-120
Mercury	mg/kg (ppm)	5	111	80-120
Selenium	mg/kg (ppm)	5	105	80-120
Silver	mg/kg (ppm)	10	104	80-120

Date of Report: 02/22/19
Date Received: 02/11/19
Project: 351-18042-03, F&BI 902148

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TOTAL METALS USING EPA METHOD 6020B

Laboratory Code: 902113-03 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	mg/kg (ppm)	10	1.04	101	100	75-125	1
Barium	mg/kg (ppm)	50	40.5	106	99	75-125	7
Cadmium	mg/kg (ppm)	10	<1	105	103	75-125	2
Chromium	mg/kg (ppm)	50	11.2	110	104	75-125	6
Lead	mg/kg (ppm)	50	2.64	104	102	75-125	2
Mercury	mg/kg (ppm	5	<1	116	123	75-125	6
Selenium	mg/kg (ppm)	5	<1	104	101	75-125	3
Silver	mg/kg (ppm)	10	<1	102	103	75-125	1

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	mg/kg (ppm)	10	105	80-120
Barium	mg/kg (ppm)	50	109	80-120
Cadmium	mg/kg (ppm)	10	107	80-120
Chromium	mg/kg (ppm)	50	113	80-120
Lead	mg/kg (ppm)	50	112	80-120
Mercury	mg/kg (ppm)	5	107	80-120
Selenium	mg/kg (ppm)	5	108	80-120
Silver	mg/kg (ppm)	10	106	80-120

Date of Report: 02/22/19
Date Received: 02/11/19
Project: 351-18042-03, F&BI 902148

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR PAHS BY EPA METHOD 8270D SIM

Laboratory Code: 902148-07 1/5 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Acceptance Criteria
Naphthalene	mg/kg (ppm)	0.17	<0.01	84	44-129
Acenaphthylene	mg/kg (ppm)	0.17	<0.01	98	52-121
Acenaphthene	mg/kg (ppm)	0.17	<0.01	90	51-123
Fluorene	mg/kg (ppm)	0.17	<0.01	102	37-137
Phenanthrene	mg/kg (ppm)	0.17	0.021	83	34-141
Anthracene	mg/kg (ppm)	0.17	0.023	83	32-124
Fluoranthene	mg/kg (ppm)	0.17	0.036	98 b	16-160
Pyrene	mg/kg (ppm)	0.17	0.30 J	401 b J	10-180
Benz(a)anthracene	mg/kg (ppm)	0.17	0.015 J	106 J	23-144
Chrysene	mg/kg (ppm)	0.17	0.036 J	101 b J	32-149
Benzo(b)fluoranthene	mg/kg (ppm)	0.17	0.054 J	131 b J	23-176
Benzo(k)fluoranthene	mg/kg (ppm)	0.17	0.053 J	116 b J	42-139
Benzo(a)pyrene	mg/kg (ppm)	0.17	0.056 J	131 b J	21-163
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.17	0.051 J	146 b J	23-170
Dibenz(a,h)anthracene	mg/kg (ppm)	0.17	<0.01 J	115 J	31-146
Benzo(g,h,i)perylene	mg/kg (ppm)	0.17	0.055 J	136 b J	37-133

Laboratory Code: Laboratory Control Sample 1/5

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Naphthalene	mg/kg (ppm)	0.17	89	88	58-121	1
Acenaphthylene	mg/kg (ppm)	0.17	97	96	54-121	1
Acenaphthene	mg/kg (ppm)	0.17	97	96	54-123	1
Fluorene	mg/kg (ppm)	0.17	99	98	56-127	1
Phenanthrene	mg/kg (ppm)	0.17	87	87	55-122	0
Anthracene	mg/kg (ppm)	0.17	88	87	50-120	1
Fluoranthene	mg/kg (ppm)	0.17	93	93	54-129	0
Pyrene	mg/kg (ppm)	0.17	88	88	53-127	0
Benz(a)anthracene	mg/kg (ppm)	0.17	91	88	51-115	3
Chrysene	mg/kg (ppm)	0.17	91	91	55-129	0
Benzo(b)fluoranthene	mg/kg (ppm)	0.17	99	103	56-123	4
Benzo(k)fluoranthene	mg/kg (ppm)	0.17	101	98	54-131	3
Benzo(a)pyrene	mg/kg (ppm)	0.17	90	89	51-118	1
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.17	102	97	49-148	5
Dibenz(a,h)anthracene	mg/kg (ppm)	0.17	106	101	50-141	5
Benzo(g,h,i)perylene	mg/kg (ppm)	0.17	98	95	52-131	3

Date of Report: 02/22/19
Date Received: 02/11/19
Project: 351-18042-03, F&BI 902148

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR VOLATILES BY EPA METHOD 8260C

Laboratory Code: 902082-05 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Dichlorodifluoromethane	mg/kg (ppm)	2.5	<0.5	25	24	10-56	4
Chloromethane	mg/kg (ppm)	2.5	<0.5	52	50	10-90	4
Vinyl chloride	mg/kg (ppm)	2.5	<0.05	56	54	10-91	4
Bromomethane	mg/kg (ppm)	2.5	<0.5	60	59	10-110	2
Chloroethane	mg/kg (ppm)	2.5	<0.5	63	61	10-101	3
Trichlorofluoromethane	mg/kg (ppm)	2.5	<0.5	62	61	10-95	2
Acetone	mg/kg (ppm)	12.5	<0.5	86	81	11-141	6
1,1-Dichloroethene	mg/kg (ppm)	2.5	<0.05	69	67	22-107	3
Hexane	mg/kg (ppm)	2.5	<0.25	64	64	10-95	0
Methylene chloride	mg/kg (ppm)	2.5	<0.5	82	79	14-128	4
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2.5	<0.05	81	78	17-134	4
trans-1,2-Dichloroethene	mg/kg (ppm)	2.5	<0.05	74	73	13-112	1
1,1-Dichloroethane	mg/kg (ppm)	2.5	<0.05	82	79	23-115	4
2,2-Dichloropropane	mg/kg (ppm)	2.5	<0.05	79	78	18-117	1
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	<0.05	81	78	25-120	4
Chloroform	mg/kg (ppm)	2.5	<0.05	83	82	29-117	1
2-Butanone (MEK)	mg/kg (ppm)	12.5	<0.5	100	99	20-133	1
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	<0.05	92	90	22-124	2
1,1,1-Trichloroethane	mg/kg (ppm)	2.5	<0.05	79	78	27-112	1
1,1-Dichloropropene	mg/kg (ppm)	2.5	<0.05	88	87	26-107	1
Carbon tetrachloride	mg/kg (ppm)	2.5	<0.05	84	84	28-126	0
Benzene	mg/kg (ppm)	2.5	<0.03	86	86	26-114	0
Trichloroethene	mg/kg (ppm)	2.5	<0.02	88	88	30-112	0
1,2-Dichloropropane	mg/kg (ppm)	2.5	<0.05	92	92	31-119	0
Bromodichloromethane	mg/kg (ppm)	2.5	<0.05	97	95	31-131	2
Dibromomethane	mg/kg (ppm)	2.5	<0.05	95	94	27-124	1
4-Methyl-2-pentanone	mg/kg (ppm)	12.5	<0.5	101	102	16-147	1
cis-1,3-Dichloropropene	mg/kg (ppm)	2.5	<0.05	105	105	28-137	0
Toluene	mg/kg (ppm)	2.5	<0.05	89	88	34-112	1
trans-1,3-Dichloropropene	mg/kg (ppm)	2.5	<0.05	108	105	30-136	3
1,1,2-Trichloroethane	mg/kg (ppm)	2.5	<0.05	100	97	32-126	3
2-Hexanone	mg/kg (ppm)	12.5	<0.5	97	99	17-147	2
1,3-Dichloropropane	mg/kg (ppm)	2.5	<0.05	100	99	29-125	1
Tetrachloroethene	mg/kg (ppm)	2.5	<0.025	93	93	25-114	0
Dibromochloromethane	mg/kg (ppm)	2.5	<0.05	102	99	32-143	3
1,2-Dibromoethane (EDB)	mg/kg (ppm)	2.5	<0.05	100	101	32-126	1
Chlorobenzene	mg/kg (ppm)	2.5	<0.05	90	90	37-113	0
Ethylbenzene	mg/kg (ppm)	2.5	<0.05	88	88	34-115	0
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	2.5	<0.05	94	92	35-126	2
m,p-Xylene	mg/kg (ppm)	5	<0.1	89	89	25-125	0
o-Xylene	mg/kg (ppm)	2.5	<0.05	87	86	27-126	1
Styrene	mg/kg (ppm)	2.5	<0.05	92	93	39-121	1
Isopropylbenzene	mg/kg (ppm)	2.5	<0.05	88	87	34-123	1
Bromoform	mg/kg (ppm)	2.5	<0.05	104	102	18-155	2
n-Propylbenzene	mg/kg (ppm)	2.5	<0.05	91	90	31-120	1
Bromobenzene	mg/kg (ppm)	2.5	<0.05	99	97	40-115	2
1,3,5-Trimethylbenzene	mg/kg (ppm)	2.5	<0.05	94	92	24-130	2
1,1,2,2-Tetrachloroethane	mg/kg (ppm)	2.5	<0.05	104	101	27-148	3
1,2,3-Trichloropropane	mg/kg (ppm)	2.5	<0.05	97	96	33-123	1
2-Chlorotoluene	mg/kg (ppm)	2.5	<0.05	90	89	39-110	1
4-Chlorotoluene	mg/kg (ppm)	2.5	<0.05	94	93	39-111	1
tert-Butylbenzene	mg/kg (ppm)	2.5	<0.05	100	99	36-116	1
1,2,4-Trimethylbenzene	mg/kg (ppm)	2.5	<0.05	95	94	35-116	1
sec-Butylbenzene	mg/kg (ppm)	2.5	<0.05	96	94	33-118	2
p-Isopropyltoluene	mg/kg (ppm)	2.5	<0.05	95	93	32-119	2
1,3-Dichlorobenzene	mg/kg (ppm)	2.5	<0.05	91	90	38-111	1
1,4-Dichlorobenzene	mg/kg (ppm)	2.5	<0.05	90	90	39-109	0
1,2-Dichlorobenzene	mg/kg (ppm)	2.5	<0.05	89	88	40-111	1
1,2-Dibromo-3-chloropropane	mg/kg (ppm)	2.5	<0.5	97	93	47-127	4
1,2,4-Trichlorobenzene	mg/kg (ppm)	2.5	<0.25	86	85	31-121	1
Hexachlorobutadiene	mg/kg (ppm)	2.5	<0.25	87	86	24-128	1
Naphthalene	mg/kg (ppm)	2.5	<0.05	87	84	24-139	4
1,2,3-Trichlorobenzene	mg/kg (ppm)	2.5	<0.25	84	81	35-117	4

Date of Report: 02/22/19
Date Received: 02/11/19
Project: 351-18042-03, F&BI 902148

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR VOLATILES BY EPA METHOD 8260C

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Dichlorodifluoromethane	mg/kg (ppm)	2.5	44	10-76
Chloromethane	mg/kg (ppm)	2.5	65	34-98
Vinyl chloride	mg/kg (ppm)	2.5	73	42-107
Bromomethane	mg/kg (ppm)	2.5	77	46-113
Chloroethane	mg/kg (ppm)	2.5	79	47-115
Trichlorofluoromethane	mg/kg (ppm)	2.5	81	53-112
Acetone	mg/kg (ppm)	12.5	90	39-147
1,1-Dichloroethene	mg/kg (ppm)	2.5	85	65-110
Hexane	mg/kg (ppm)	2.5	88	55-107
Methylene chloride	mg/kg (ppm)	2.5	101	50-127
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2.5	88	72-122
trans-1,2-Dichloroethene	mg/kg (ppm)	2.5	88	71-113
1,1-Dichloroethane	mg/kg (ppm)	2.5	93	74-109
2,2-Dichloropropane	mg/kg (ppm)	2.5	94	64-151
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	93	73-110
Chloroform	mg/kg (ppm)	2.5	93	76-110
2-Butanone (MEK)	mg/kg (ppm)	12.5	105	60-121
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	101	73-111
1,1,1-Trichloroethane	mg/kg (ppm)	2.5	92	72-116
1,1-Dichloropropene	mg/kg (ppm)	2.5	101	72-112
Carbon tetrachloride	mg/kg (ppm)	2.5	100	67-123
Benzene	mg/kg (ppm)	2.5	97	72-106
Trichloroethene	mg/kg (ppm)	2.5	100	72-107
1,2-Dichloropropane	mg/kg (ppm)	2.5	104	74-115
Bromodichloromethane	mg/kg (ppm)	2.5	110	75-126
Dibromomethane	mg/kg (ppm)	2.5	107	76-116
4-Methyl-2-pentanone	mg/kg (ppm)	12.5	111	80-128
cis-1,3-Dichloropropene	mg/kg (ppm)	2.5	120	71-138
Toluene	mg/kg (ppm)	2.5	101	74-111
trans-1,3-Dichloropropene	mg/kg (ppm)	2.5	119	77-135
1,1,2-Trichloroethane	mg/kg (ppm)	2.5	110	77-116
2-Hexanone	mg/kg (ppm)	12.5	100	70-129
1,3-Dichloropropane	mg/kg (ppm)	2.5	109	75-115
Tetrachloroethene	mg/kg (ppm)	2.5	105	73-111
Dibromochloromethane	mg/kg (ppm)	2.5	117	64-152
1,2-Dibromoethane (EDB)	mg/kg (ppm)	2.5	110	77-117
Chlorobenzene	mg/kg (ppm)	2.5	100	76-109
Ethylbenzene	mg/kg (ppm)	2.5	99	75-112
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	2.5	107	76-125
m,p-Xylene	mg/kg (ppm)	5	100	77-115
o-Xylene	mg/kg (ppm)	2.5	97	76-115
Styrene	mg/kg (ppm)	2.5	102	76-119
Isopropylbenzene	mg/kg (ppm)	2.5	99	76-120
Bromoform	mg/kg (ppm)	2.5	121	50-174
n-Propylbenzene	mg/kg (ppm)	2.5	104	77-115
Bromobenzene	mg/kg (ppm)	2.5	109	76-112
1,3,5-Trimethylbenzene	mg/kg (ppm)	2.5	108	77-121
1,1,2,2-Tetrachloroethane	mg/kg (ppm)	2.5	116	74-121
1,2,3-Trichloropropane	mg/kg (ppm)	2.5	108	74-116
2-Chlorotoluene	mg/kg (ppm)	2.5	103	75-113
4-Chlorotoluene	mg/kg (ppm)	2.5	106	77-115
tert-Butylbenzene	mg/kg (ppm)	2.5	118	77-123
1,2,4-Trimethylbenzene	mg/kg (ppm)	2.5	109	77-119
sec-Butylbenzene	mg/kg (ppm)	2.5	109	78-120
p-Isopropyltoluene	mg/kg (ppm)	2.5	108	77-120
1,3-Dichlorobenzene	mg/kg (ppm)	2.5	100	76-112
1,4-Dichlorobenzene	mg/kg (ppm)	2.5	99	74-109
1,2-Dichlorobenzene	mg/kg (ppm)	2.5	100	75-114
1,2-Dibromo-3-chloropropane	mg/kg (ppm)	2.5	112	68-122
1,2,4-Trichlorobenzene	mg/kg (ppm)	2.5	97	75-122
Hexachlorobutadiene	mg/kg (ppm)	2.5	103	74-130
Naphthalene	mg/kg (ppm)	2.5	97	73-122
1,2,3-Trichlorobenzene	mg/kg (ppm)	2.5	95	75-117

Date of Report: 02/22/19
Date Received: 02/11/19
Project: 351-18042-03, F&BI 902148

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR POLYCHLORINATED BIPHENYLS AS AROCLOR 1016/1260 BY EPA METHOD 8082A

Laboratory Code: 902148-04 1/6 (Matrix Spike) 1/6

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Control Limits	RPD (Limit 20)
Aroclor 1016	mg/kg (ppm)	0.5	<0.02	74	78	38-122	5
Aroclor 1260	mg/kg (ppm)	0.5	<0.02	83	89	39-131	7

Laboratory Code: Laboratory Control Sample 1/6

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Aroclor 1016	mg/kg (ppm)	0.5	82	55-130
Aroclor 1260	mg/kg (ppm)	0.5	98	58-133

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

902148

SAMPLE CHAIN OF CUSTODY

ME 02 ~~01~~ 19 EWB

02 - 11 - 19 Page # 1 of 1 GW/GCH/BI I

Report To LYNN GREEN

Company EVREN NORTHWEST

Address 40 SE 24th UNIT A

City, State, ZIP PORTLAND, OR 97214

Phone 503-452-5561 Email

SAMPLERS (signature) Barb Lary

PROJECT NAME 351-18042-03

PO #

REMARKS

INVOICE TO

TURNAROUND TIME ISM
- ☐ Standard Turnaround
- ☐ RUSH
- Rush charges authorized by:

SAMPLE DISPOSAL
- ☐ Dispose after 30 days
- ☐ Archive Samples
- ☐ Other

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	TPH-HCID	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260C	SVOCs by 8270D	PAHs 8270D SIM	RCRA 8 Metals	HOLD	PCBs		Notes
DU01-190208-1S-0.5	01	2/08/19	1245	SOIL	1	X							X				◆-pe LG
DU01-190208-1S-0.5-REP01	02		1245											X			2/14/19 ME
DU01-190208-1S-0.5-REP02	03		1245											X			
DU02-190208-1S-0.5	04		1315			X	◆			◆		◆	X		◆		
GS01/0.5	05		1320			X	◆			◆		◆	X		◆		
GS02/0.5	06		1325			X	◆			◆		◆	X		◆		
GS03/0.5	07		1330			X	◆			◆		◆	X		◆		
													Samples received at 4 °C				

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Barb Lary	BARB LARY	ENW	2/08/19	1900
Received by:		Nhan Phan	FEBI	2/11/19	1430
Relinquished by:					
Received by:					

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