#### Remedial Investigation/Feasibility Study

Report Version: Final for Agency Review

Site Name:Midas MufflerSite Address:7055 – 15th Avenue Northwest<br/>Seattle, Washington 98117Tax Parcel ID:1498303056ERTS numberTBDLatitude/Longitude:47.680988, -122.377189

PLSS:

SE 1/4 S 2, T 25, R 3E

Charles R Lie, LHG, Project Manager

Nicolas R. Hoffman, L.G. Senior Project Geologist

Terra Associates, Inc. 12220 – 113th Avenue Northeast, Suite 130 Kirkland, Washington 98034

Terra Project No. T-8336-5

Signature:



6-3-2022

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#### ACRONYMS AND ABBREVIATIONS ARAR Applicable or Relevant and Appropriate Requirements

ANAN	Applicable of Relevant and Appropriate Requirements
BTEX	Benzene, Ethylbenzene, Toluene, and Xylenes
COC	Contaminant/Chemical of Concern
CSID	Cleanup Site Identification Number
CSM	Conceptual Site Model
CUL	Clean-Up Levels
Ecology	Washington State Department of Ecology
FSID	Facility Site Identification Number
Mg/kg	Milligram per Kilogram, parts per million equivalence
MTCA	Model Toxics Control Act
NFA	No Further Action
ORH	Oil Range Hydrocarbons
PCS	Petroleum Contaminated Soil
PID	Photo Ionization Detector
PLSS	Public Land Survey System
RCW	Revised Code of Washington
REC	Recognized Environmental Condition
TEE	Terrestrial Ecological Evaluation
TPH	Total Petroleum Hydrocarbons
ug/l	Micrograms per Liter, parts per billion equivalence
VCP	Voluntary Cleanup Program
WAC	Washington State Administrative Code

#### **1.0 INTRODUCTION**

Terra Associates, Inc. (TAI), is pleased to present this *Remedial Investigation and Feasibility Study Report* (RI/FS Report) for the Midas Muffler property located at 7055 15th Avenue Northwest in Seattle, Washington. The location of the subject property is shown on Figures 1 and 2. The existing site conditions are shown on Figure 3. This report is intended to document recent remedial actions performed, summarize remaining contaminant impacts on the site, and provide an evaluation of remedial alternatives to address the residual soil impacts.

The subject parcel was historically developed with residential structures since as early as 1906. Subsequently, the site was redeveloped with a Midas Muffler auto repair shop in 1976. This RI/FS report summarizes recent environmental activities conducted to address impacts to site soil from the historic site use as a lube/auto repair shop. TAI conducted several phases of Phase II site investigations beginning in the fall of 2020 through February of this year. The investigations were conducted as an Independent Remedial Action in accordance with MTCA requirements. Elevated oil range hydrocarbons (ORH) above applicable MTCA Method A cleanup levels were identified beneath the former shop area of the existing building. No impacts to site groundwater above cleanup levels were identified.

To address the elevated levels of oil range hydrocarbons in site soil, a remedial excavation occurred in February of 2022. All site soil impacted with ORH was removed except for an approximately 100 cubic yard wedge along the east margin of the shop portion of the building. The wedge was left in place to provide support for column footings present along the east side of the building. A total of 596.35 tons of ORH impacted soil was removed from the site and routed to appropriate waste facilities.

This RI/FS Report was prepared in general accordance with MTCA (WAC 173-340-350). As discussed in this report, based on our field observations and analytical testing of representative samples, it is our opinion that the site is suitable for a No Further Action Determination. This is discussed in more detail in the following sections of this report.

#### **<u>1.1</u>** General Site Information

The purpose of this report is to document the activities in February 2022 regarding removal of ORH impacted soil related to historic releases onsite. The existing building on the parcel is currently being remodeled for a new tenant.

Consultant:	Terra Associates, Inc. 12220 – 113th Avenue Northeast, Suite 130 Kirkland, Washington 98034
	Charles R Lie, LHG, Project Manager Nicolas R. Hoffman, L.G. Senior Project Geologist
	(425) 821-7777
	<u>clie@terra-associates.com</u> <u>nhoffman@terra-associates.com</u>

Owner/Operator:	MBA NW 73 <sup>rd</sup> , LLC 7420– Southeast 24th Street, Suite 4 Mercer Island, Washington 98040
	Mr. Bruce Anderson
	(206) 397-3579
	bruce@mbanderson.net

ERTS number	TBD
Location:	7055 – 15th Avenue Northwest Seattle, Washington 98117 King County Tax Parcel 751850-0690
	SE 1/4 S2, T 25, R 3E
	This location is shown on Figures 1 and 2 attached to this report.
Zoning:	Current Zoning- C-Commercial

The C designation indicates that the subject parcel is within a zoned for commercial use.

Current Parcel Use: The building on the parcel is currently being remodeled for a future tenant. A vacant commercial building and associated parking currently occupy the site.

#### 1.2 Site History

Prior to the current site development which took place in 1976, the parcel was an assemblage of seven individual tax lots. The assemblage was described as lots 7 through 12 of Division 12 of the Salmon Bay Addition. Each of the parcels were originally developed with single-family residences. Archived tax records indicate that two residences were constructed on lots in 1906 and 1917 respectively. The heat source for the 1906 era residence is listed as oil heat. The records did not indicate if the heating oil fuel was stored in above ground or below ground storage tanks.

From at least 1980, until it recently closed in 2021, an auto repair shop operated out of the existing commercial building onsite. When we visited the site for our Phase I ESA site observations in 2018 and 2020, there was one active below ground hoist present in the shop area. There were four patches in the shop floor slab that indicated four more below ground hoist's bays have been present in the past. There were no records available documenting the status or removal of the below ground hoists. A diagnostic pit was also present in the southern portion of the shop area. The pit had approximately six inches of accumulated oily water in it at the time of our Phase I ESA site visits.

In 2021 the property was purchased by a new owner and the building was vacated in preparations for the current remodel of the building.

#### 1.3 Site Use

The site is within an area that has been developed predominantly with residential buildings for the last 100 years. There is no indication that any commercial land uses occurred on the subject parcels other than noted above in Section 1.2. The parcel directly north of 73rd Avenue to the north of the site was historically occupied by a gasoline station originally constructed in 1948. Available records indicate the UST's associated with the gasoline station were removed in 1996. The gasoline station parcel is in a cross-gradient position relative to the subject site. The subject parcel is within the city limits of Seattle and is currently being remodeled for a new retail tenant. The site and surroundings are shown on Figures 1 and 2 attached to this report.

#### 2.0 FIELD INVESTIGATIONS

#### 2.1 Previous Environmental Investigations

Terra Associates, Inc., Phase I Environmental Site Assessment, Midas Muffler, 7055-15th Avenue Northwest, Seattle, Washington, dated April 27, 2020.

The report identified two REC's associated with the subject site.

- The active and historic use of below ground hydraulic lifts on the site.
- The suspected presence of former underground storage tanks (USTs) for heating oil associated with the two prior houses onsite.

Terra Associates, Inc., Draft Limited Phase II Environmental Site Assessment, Midas Muffler, 7055-15th Avenue Northwest, Seattle, Washington, dated November 2, 2020.

This report documents the initial phase of site investigation to verify if the REC's documented in the above noted Phase I ESA had impacted the site. A total of eight soil borings were advanced using a Direct-Push Technology (DPT) rig, operated by Cascade Environmental, to allow for observation and collection of soil samples for lab analysis. The auto repair shop was still active during this phase of work limiting access to portions of the building. The borings were placed as close as possible to the active hoist and patches in the floor slab. The report concludes that elevated levels of oil range hydrocarbons above cleanup levels were encountered in Borings B-5, B-6, and B-8 at depths ranging from 0-10 feet. The report further concludes that none of the secondary analysis required by Table 830-1 exceeded their respective cleanup values.

### Terra Associates Inc., Draft Phase II Environmental Site Assessment, Midas Muffler, 7055-15th Avenue Northwest, Seattle Washington, dated April 26, 2021, revised May 13, 2021.

This report documents additional site investigation to further define the vertical and lateral extent of ORH impacted soil and assess whether site groundwater had been impacted. A total of six borings were advanced using a hollow-stem auger rig operated by Boretec 1. Five of the borings were located inside of the shop area, and one on the exterior of the building adjacent to the southeast corner of the building. Three of the borings were completed as permanent groundwater monitoring wells. ORH were detected in soil samples collected from four of the six borings. The concentrations of ORH in soils were above cleanup levels in two of the six borings, B-102 and MW-101. None of the secondary analysis required by Table 830-1 exceeded their respective cleanup values.

Site groundwater was present in the monitoring wells at depths ranging from 45-50 feet below existing site grades. Initial static water level measurements from the wells indicated that site groundwater flows to the west. A monitoring well was initially installed in Test Boring MW-1 when wet soil conditions were encountered approximately 30 feet below the top of the floor slab during drilling. The following day the well was dry. MW-1 was then decommissioned and replaced with MW-101, a deeper well, approximately five feet to the southwest. Groundwater samples were collected from all three wells for lab analysis. The samples were analyzed for hydrocarbons in the gasoline through oil range, volatiles, and metals. ORH was detected below cleanup levels in the initial water sample collected from MW-3. No concentrations of the compounds analyzed exceeding MTCA Method A cleanup levels were found in the three groundwater samples.

Terra Associates Inc., Phase II Environmental Site Assessment, Midas Muffler, 7055-15th Avenue Northwest, Seattle Washington, dated November 24, 2021.

This report summarizes the prior findings of site assessments along with results of samples collected from two new additional borings advanced along the west margin of the site. The southern of the two borings was completed as monitoring well MW-201. The two new borings were advanced using a limited access sonic drill rig operated by Anderson Environmental. No elevated levels of ORH were found in soil samples analyzed from the borings.

All four wells onsite were sampled for this phase of assessment. The samples were analyzed for hydrocarbons in the gasoline through oil range, volatiles, and metals. Except for MW-201, none of the analytes were detected in any of the four groundwater samples,. Low levels of benzene and sec-Butylbenzene were detected in the sample collected from MW-201. The concentrations were well below applicable Method A cleanup levels. The report concluded that based on the soils encountered in the borings, the apparent limited lateral extent, and the lack of impacts to groundwater, the excavation and removal of PCS appeared to be feasible. The report recommended the two interior wells be lawfully decommissioned prior to demolishing the floor slab.

All of the prior reports discussed above are included in Appendix A-Supporting Documentation.

#### 2.1.1 Remedial Excavation

In February of 2022, TAI oversaw a remedial excavation conducted by Wyser Construction to remove all impacted ORH from the site. During the remedial excavations, the soils were screened using standard field techniques consisting of visible staining, odor, sheen testing and PID headspace readings. All soil displaying field indications of ORH was removed from the site except for a small approximately 100-cubic yard wedge of soil along the east margin of the building. A sidewall sample collected from this area (8336-11-2) contained 3,000 mg/kg ORH. It was not possible to remove the wedge without affecting the structural support of column footings located along the east side of the building. Analytical results of confirmation soil sampling indicate no impacted soil above applicable MTCA Method A cleanup levels remained in the excavation to the north, west, south, and vertically below a depth of 10-11 feet below the top of floor slab.

Only a short area of the eastern side wall below two column footings had final confirmation tests above the cleanup level. EPH/VPH testing was conducted on the characterization sample with the highest ORH concentration to determine a Method B cleanup protective of human health through direct contact. A concentration of 12,218.39 mg/kg was calculated using Ecology's MTCATPH11.1 excel workbook. A copy of the workbook sheet is provided in Appendix A - Supporting Documentation. A total of 596.35 tons of soil impacted with ORH was removed from the site and routed to Waste Management and Republic Services for disposal.

A total of four below ground hydraulic hoists were encountered during excavation and removed from the site. An approximately 40-gallon hydraulic fluid reservoir was encountered adjacent to one of the hoists. The bottom of the reservoir displayed several small holes and pit marks. Additionally, three CMU block diagnostic pits were encountered and removed from the excavation. The pits extended to approximately six feet below the top of the existing floor slab.

#### 2.1.2 Soil Vapor Screening

On Aprill 11, 2022 TAI observed the advancement of two temporary vapor wells adjacent to the east side of the building to allow for collection of soil vapor samples. The purpose of the samples was to assess for possible vapor migration impacts to the existing building from the wedge of soil left in place impacted by ORH. In the course of our field sampling, we followed guidelines from Ecology Publication No. 09-09-047 *Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action*, dated October 2009, revised March 2022, and the OSWER Technical Guidance for Assessing and Mitigating The Vapor Intrusion Pathway from Subsurface Vapor Sources to Indoor Air, Publication 9200.0-154, June 2015.

The wells were installed using a track mounted Geoprobe rig operated by Cascade Environmental of Woodinville, Washington. The wells were a total of six feet in depth and had a six-inch stainless steel implant screen placed at the base of the hole bedded in clean sand. A hydrated bentonite seal isolated the screens from the ground surface. The bentonite was hydrated with distilled water. A 0.25-inch dedicated tubing connected the screens to surface attachments for sampling. Each well was given approximately two hours to equilibrate prior to sampling. Sampling of each well consisted of attaching the laboratory provided sample manifold at the surface and then purging approximately three volumes of air from the sample train and well tubing. Shut-in tests were performed at each well prior to sampling to ensure no leakage was occurring. Purging was accomplished by utilizing a small rotary pump at a rate of approximately 150 ml per minute. Once the wells were purged, soil gas samples were collected in Summa cannisters attached to the sample manifold. The Summa cannisters were transported under chain of custody to the lab of Friedman & Bruya in Seattle. The samples were analyzed for APH and naphthalene's. No exceedances of generic Method B screening levels for soil gas were identified in the samples.

#### 2.2 Site Characterization

The location of the area of concern and all exploration locations are shown on Figure 4. The prior site investigations discussed in Section 2.1 above document and define the vertical and lateral extent of ORH impacts to site soils. Follow-up lab analysis was performed on the initial characterization of the soil samples once a release was verified. The follow-up analysis followed the requirements spelled out in Table 830-1. Follow-up compounds consisted of TPG-G, volatiles, PCB's, cPAHs, and metals. None of the compounds analyzed as part of this study have exceeded their respective MTCA Method A cleanup values except for Oil Range Hydrocarbons (ORH) in soil.

Groundwater samples were analyzed for hydrocarbons in the gasoline through oil range, volatiles, and metals. No groundwater seepage was encountered in the excavation. No impacts to site groundwater above MTCA Method A cleanup were encountered in monitoring wells constructed during the site assessments. No other releases were found during the remedial excavation for the project.

No contaminates of concern (COCs) were detected above applicable generic Method B screening levels in the 2 soil gas samples collected adjacent to the area of the wedge of soil left in place impacted by ORH.

#### 2.2.1 Sampling and Monitoring

Sampling and monitoring are discussed in Appendix B. Locally accepted environmental techniques were followed. Field sampling occurred within the general guidelines of Ecology Publication No. 10-09-057.

#### 2.2.2 Site Geology

We reviewed the *Geologic Map of Seattle- a Progress Report* by Kathy Goetz Troost, Derek B. Booth, Aaron P. Wisher, and Scott A Shimel, dated 2005. The map indicates that the site is underlain by Vashon till (Qvt). The till is comprised of a dense to very dense mix of silt, sand, and gravel.

These soils are consistent with soils logged in the sixteen borings advanced by TAI as part of the prior Phase II ESA work. Copies of all boring logs documented in our Phase II work are attached to the investigative reports attached in Appendix A Supporting Documentation. Soils encountered in the remedial excavation were consistent with the maps and the explorations.

#### 2.2.3 Site Hydrogeology

No ground water seepage was encountered in the remedial excavation. The deepest portion of the remedial excavation was roughly twelve feet below the top of the existing floor slab in the shop area of the building. Static water levels have consistently ranged between 44.5-49 feet below the ground surface. Based on available topographic information, review of reports prepared by others for nearby sites, and our field observations of the vicinity, it appears that the direction of onsite shallow groundwater flow beneath the subject site is generally to the west. Static water level measurements collected from onsite monitoring wells are presented in Table 1.

#### 2.2.4 Other Site Information

The remedial excavation did not disturb any designated critical areas such as wetlands, steep slopes, or archeological zones.

#### 2.3 Sampling/Analytical Results

#### 2.3.1 Quality Analyses

All analytical testing for the initial site investigations was performed by On Site Laboratories in Redmond, Washington. All analytical testing for the remedial excavation phase of the project was performed by Freidman & Bruya, Inc. The lab reports are appended in Appendix C. Based on our review of the lab reports, all testing was done within the standard holding time. The lab's standard QA/QC was met for all testing on the project.

#### 2.3.2 Results-Soil

All soil analytical testing is summarized on Tables 2 through 8 appended to this report and on Figures 4 and 5. The current Method A cleanup level for ORH in soil is 2,000 mg/kg. All final soil testing done to this date has been below the Method A cleanup value for the constituents of concern. The only exception to this is sample 8336-11-2 collected from the east sidewall of the excavation. A small wedge of soil impacted with ORH was left in place along the east margin of the excavation to maintain support for the column footings located along the east side of the building.

#### 2.3.3 Results-Groundwater

All groundwater analytical testing is summarized on Tables 9 through 11. No MTCA Method A exceedances have been identified in any of the site groundwater samples collected from the site wells to date. The current Method A cleanup level for ORH in groundwater is 500 ug/l. The initial groundwater sample collected in March of 2021 from MW-3 contained 340 ug/l ORH. Lab analysis of groundwater collected from MW-3 in October of 2021 was deemed non-detect for ORH at the laboratory PQL of 220 ug/l.

#### 2.3.4 Results-Soil Vapor

All soil vapor analytical testing is summarized on Table 12. No exceedances of generic Method B screening levels were identified in the two soil vapor samples collected adjacent to the wedge of ORH impacted soil left in place along the eastern margin of the existing building.

#### 3.0 CONCEPTUAL SITE MODEL

The mode of release of oil range hydrocarbons to site soil is historic surface spills and leaking below ground hydraulic lifts within the interior of the former auto repair shop. The release impacted a localized area of near surface soils.

The contaminants of concern consisted of:

- Lube Oil (Oil Range Hydrocarbons)
- Naphthalene

The exposure pathway has been broken through the remedial action outlined in this report. There was a risk of direct contact for workers that would have been grading and installing utilities inside the shop portion of the building interior. No remaining pathways are known or believed to be present on this site.

For offsite disposal, two separate characterization samples were also analyzed for TPH-G, PCB's, PAH's, and metals. An additional sample was analyzed for EPH/VPH.

#### 4.0 PROPOSED CLEANUP STANDARDS

#### 4.1 Contaminant-Specific Standards

Due to the limited nature of the cleanup, no indicator compounds were chosen for this remedial action.

#### 4.2 Soil Cleanup Standards

For this project, standard Method A Cleanup standards were chosen for the soils. The standard levels for the contaminants of concern are:

- TPH Oil Range is 2,000 mg/kg.
- Total naphthalene is 5.0 mg/kg.

#### 4.3 Groundwater Cleanup Standards

No groundwater was encountered in the remedial excavation. Site groundwater has not come in contact with the impacted soils and therefore, no standards have been selected beyond MTCA Method A cleanup values.

#### 4.4 Soil Vapor Screening Level

For this project, the generic Method B Screening levels for ORH and naphthalene's was chosen for soil vapor. The generic levels are:

- TPH Oil Range is 4,700 ug/m3
- Total naphthalene's is 2.5 ug/m3

#### 4.5 Terrestrial Ecological Evaluation

Based on WAC 173-340-7491 (1)(b), no further evaluation is necessary. All soil contaminated with hazardous substances is, or will be, covered by buildings, paved roads, pavement, or other physical barriers that will prevent plants or wildlife from being exposed to the soil contamination. This meets the exposure pathway criteria for no further evaluation. The TEE form is attached as Appendix E.

#### 4.6 Cleanup Standards for Other Media

The final testing showed that all ORH was removed from the site except for a small approximately 100 cubic yard lens along the east margin of the existing building on site. Laboratory analysis of soil vapor samples collected from the lens, demonstrate that the vapor migration pathway has been broken.

#### 5.0 SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

#### 5.1 Summary

This project involved the removal of roughly 596.35 tons of PCS from a localized area related to historic surface spills and leaking below ground hoists related to a former auto repair shop. PCS was encountered beneath the former auto repair area of the existing building on site. We have concluded that the release occurred from spills to the former diagnostic pits and leaking below ground hydraulic hoists.

All soil displaying any field indicator of hydrocarbon impacts was removed from the site regardless of hydrocarbon concentration in relation to applicable MTCA cleanup levels. 596.35 tons of Class 3 soils were removed from the localized area of PCS and were disposed of at Waste Management in Seattle, Washington. The documentation of this offsite waste management is included in Appendix A.

#### 5.2 Conclusions

Based on the testing documented in this report and our site observations, it is our opinion that the site qualifies for a No Further Action Determination with a deed restriction to disclose the local pocket of residual ORH beneath the eastern foundation of the building. A disproportional cost analysis is attached to this report in Appendix E.

#### 6.0 **REFERENCES**

Ecology, revised 2013. Model Toxics Control Act Regulation and Statute. Washington State Department of Ecology, Olympia, Washington. 324 pages. Publication No. 94-06. http://www.ecy.wa.gov/biblio/9406.html

Ecology, revised 2016. Guidance for Remediation of Petroleum Contaminated Sites. Washington State Department of Ecology, Olympia, Washington. 197 pages. Publication No. 10-09-057. https://fortress.wa.gov/ecy/publications/Summary Pages/1009057.html

Terra Associates, Inc., Draft Limited Phase II Environmental Site Assessment, Midas Muffler, 7055-15th Avenue Northwest, Seattle, Washington, dated November 2, 2020.

Terra Associates Inc., Draft Phase II Environmental Site Assessment, Midas Muffler, 7055-15th Avenue Northwest, Seattle Washington, dated April 26, 2021, revised May 13, 2021.

Terra Associates Inc., Phase II Environmental Site Assessment, Midas Muffler, 7055-15th Avenue Northwest, Seattle Washington, dated November 24, 2021.

Terra Associates Inc., Summary Memo-Shallow Soil Vapor Sampling, dated June 1, 2022.











NOT TO SCALE



B-	2     	
MW-3		
EXPLOR	ATION LOCATI	ON PLAN
	MIDAS MUFFLER TTLE, WASHING	



NOTE:

THIS SITE PLAN IS SCHEMATIC. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE. IT IS INTENDED FOR REFERENCE ONLY AND SHOULD NOT BE USED FOR DESIGN OR CONSTRUCTION PURPOSES.

REFERENCE: SITE PLAN PROVIDED BY CLIENT.



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APPROXIMATE LOCATION OF CONFORMATION SAMPLES

APPROXIMATE LOCATION OF SOIL SAMPLES WITH MTCA METHOD EXCEEDANCES



Depth	TPH-Gasoline Range	TPH-Diesel Range	TPH-Oil Range	Sample Type
0.5 .5	NT	50U	250U	Confirmation Base
.5	NT	50U	250U	Confirmation Sidewall
	NT	50U	250U	Confirmation Sidewall
	NT	5,900x	8,700	Characterization (removed)
	NT	5,800x	5,900	Characterization (removed)
0.5	NT	50U	250U	Confirmation Base
0.5	NT	50U	250U	Confirmation Base
	NT	840	780	Confirmation Sidewall
	NT	50U	250U	Confirmation Sidewall
	NT	50U	250U	Confirmation Sidewall
0.5	NT	50U	250U	Confirmation Base
	NT	1,300x	1,700	Confirmation Sidewall
0	NT	5,500x	12,000	Confirmation Base (removed)
1	NT	50U	250U	Confirmation Base
	NT	50U	250U	Confirmation Sidewall
1	NT	50U	250U	Confirmation Base
	NT	50U	250U	Confirmation Sidewall
0.5	NT	50U	250U	Confirmation Base
	NT	50U	250U	Confirmation Sidewall
1	NT	130x	370	Confirmation Base
	NT	50U	250U	Confirmation Sidewall
	NT	50U	250U	Confirmation Sidewall

REMEDIAL SAMPLE LO MIDAS MUFFL SEATTLE, WASHII		MIDAS MUFFLER	2
	Proj.No.T-8336-5	Date: JUNE 2022	Figure 5



NOTE:

THE SUBSURFACE CONDITIONS SHOWN ARE BASED ON INTERPOLATION BETWEEN WIDELY SPACED TEST BORINGS AND SHOULD BE CONSIDERED APPROXIMATE. ACTUAL SUBSURFACE CONDITIONS MAY VARY FROM THOSE SHOWN.





NOTE:

THE SUBSURFACE CONDITIONS SHOWN ARE BASED ON INTERPOLATION BETWEEN WIDELY SPACED TEST BORINGS AND SHOULD BE CONSIDERED APPROXIMATE. ACTUAL SUBSURFACE CONDITIONS MAY VARY FROM THOSE SHOWN.

SCALE: VERTICAL 1" = 1' HORIZONTAL 1" = 1'



70'		
60'		
50'		
40'		
30'		
20'		
10'		
00'		
90'		
	CROSS SECTION B-B MIDAS MUFFLER SEATTLE, WASHINGTON	
	Proi.No.T-8336-5 Date: JUNE 2022	Figure 7



Table 1
Static Groundwater Level Summary

Monitoring	Top of	Top of 3/29/2021 4/7/2		4/7/2021		4/7/2021 10-6-2021	
Well	Casing	Depth	Elevation	Depth	Elevation	Depth	Elevation
MW-101	251.00	47.33	203.67	47.29	203.71	48.79	202.21
MW-2	250.54	46.98	203.56	46.84	203.70	48.24	202.30
MW-3	250.06	45.94	204.12	45.69	204.37	47.57	202.49
MW-201	253.95					51.73	201.61

Notes: All measurements are in feet.

## Table 2Analytical Testing Summary-SoilsHydrocarbons Remedial Excavation

Sample	Depth	TPH-Gasoline	<b>TPH-Diesel</b>	TPH-Oil	Sample Type	
Location		Range	Range	Range		
8336-7-1	10.5	NT	50U	250U	<b>Confirmation Base</b>	
8336-7-2	7.5	NT	50U	250U	Confirmation Sidewall	
8336-7-3	8	NT	50U	250U	Confirmation Sidewall	
8336-7-4	8	NT	5,900x	8,700	Characterization (removed)	
8336-7-5	8	NT	5,800x	5,900	Characterization (removed)	
8336-7-6	10.5	NT	50U	250U	Confirmation Base	
8336-9-1	10.5	NT	50U	250U	Confirmation Base	
8336-9-2	8	NT	840	780	Confirmation Sidewall	
8336-10-1	8	NT	50U	250U	Confirmation Sidewall	
8336-10-2	8	NT	50U	250U	Confirmation Sidewall	
8336-11-1	10.5	NT	50U	250U	Confirmation Base	
8336-11-2	8	NT	1,300x	1,700	Confirmation Sidewall	
8336-11-3	10	NT	5,500x	12,000	Confirmation Base (removed)	
8336-11-4	11	NT	50U	250U	Confirmation Base	
8336-11-5	8	NT	50U	250U	Confirmation Sidewall	
8336-11-6	11	NT	50U	250U	Confirmation Base	
14-1	8	NT	50U	250U	Confirmation Sidewall	
14-2	10.5	NT	50U	250U	Confirmation Base	
14-3	8	NT	50U	250U	Confirmation Sidewall	
15-1	11	NT	130x	370	Confirmation Base	
15-2	8	NT	50U	250U	Confirmation Sidewall	
15-3	8	NT	50U	250U	Confirmation Sidewall	
B-2	15	NT	28U	350	Characterization	
B-3	7	NT	26U	55	Characterization	
B-4	11	NT	27U	54U	Characterization	
B-5	7	NT	1300	9200	Characterization (removed)	

Sample	Depth	TPH-Gasoline	<b>TPH-Diesel</b>	TPH-Oil	Sample Type
Location		Range	Range	Range	
B-6	6	NT	160	1200	Characterization
	7.5	NT	1300	7100	Characterization (removed)
	9	NT	3700	9000	Characterization (removed)
B-7	7	NT	28U	56U	Characterization
B-8	2.5	9.9U	8500	24,000	Characterization (removed)
	7.5	NT	28U	55U	Characterization
B-101	2.5	22U	55U	110U	Characterization
	7.5	22U	55U	110U	Characterization
B-102	10	23U	1800	14,000	Characterization (removed)
	15	23U	100	840	Characterization
	20	NT	59	300	Characterization
MW-1	10	21U	220	940	Characterization
	15	NT	27U	55U	Characterization
MW-101	10	22U	980	7,000	Characterization (removed)
	15	22U	150	1,000	Characterization
	20	NT	89	610	Characterization
MW-2	10	23U	230	1400	Characterization
	15	21U	53U	<i>110U</i>	Characterization
MW-3	5	NT	27U	54U	Characterization
	10	NT	28U	54U	Characterization
MW-201	5	22U	54U	100U	Characterization
	50	21U	52U	100U	Characterization
MW-201	5	21U	53U	110U	Characterization
	10	22U	56U	110U	Characterization
	15	22U	54U	110U	Characterization
	20	21U	54U	110U	Characterization
MTCA Method A		30 (100)		000	

Notes: All depths are in feet below existing top of floor slab

All units are mg/kg based on dry weight

U modifier indicates that the compound was not present at the numerical practical quantitation limit (PQL).

Shaded cells indicate analyte value exceeds current MTCA Method A cleanup value. PQL varies based on soil moisture content.

	Soils - Metals										
Test Boring	Depth	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver		
B-8	2.5	11U	NT	0.54U	37	18	0.27U	NT	NT		
B-102	10	12U	37	0.58U	19	5.8U	0.29U	12U	1.2U		
	MTCA Method 20 16,000 2 2,000 (19) 250 2.0 400 400										

#### Table 3 Analytical Test Summary Soils - Metals

**Notes:** Depths are in feet below existing grade.

All units are mg/kg.

U modifier signifies the compound was not present at the stated numerical PQL. Values for chromium are for total chromium. Hexavalent chromium are values in parenthesis.

#### Table 4 Analytical Testing Summary Soil - Volatile Organics

Test Boring	Depth	Acetone	Methylene Chloride	2-Butanone (MEK)	Ethyl Benzene	Xylenes	Isopropyl benzene (cumene)	PCE
B-8	2.5	0.24E	0.061H	0.043	0.00092U	0.0118U	0.00092U	0.0074
B-10	10	0.029	0.0047U	0.0047U	0.0045	0.0118	0.0024	0.041
MTCA Met (B)	thod A	(7,200)	0.02	400	6.0	9.0	8,000	0.05

#### **Notes:** All units mg/kg.

U indicates the compound was not present at the stated numerical PQL.

Refer to lab report for all of the compounds analyzed for volatile compounds.

H indicates the results are likely due to lab contamination as discussed in the lab report.

E indicates the results exceed the quantitation limits and are an estimate.

Cleanup levels are shown for reference purposes only. No site cleanup levels have been established.

### Table 5Analytical Testing Summary<br/>Soil PCBs

Test Boring	Depth	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260
B-8	2.5	0.054U	0.054U	0.054U	0.054U	0.054U	0.27U	0.27U
B-102	10	0.058U						
	Method A (B)				1.0			

Notes: All units mg/kg.

U indicates the compound was not present at the stated PQL.

Cleanup levels are shown for reference purposes only. No site cleanup levels have been established.

### Table 6Analytical Testing SummarySoil CPAHs

<b>B-8</b>	at	2.5

Compound	Test Result	TEF	Adjusted Value
benzo(a)pyrene	0.14U	1	0.07
benzo(a)anthracene	0.14U	0.1	0.007
benzo(b)fluoranthene	0.14U	0.1	0.007
benzo(k)fluoranthene	0.14U	0.1	0.007
chrysene	0.14U	0.01	0.0007
Dibenz(a,h)anthracene	0.14U	0.1	0.007
indeno(1,2,3-cd)pyrene	0.14U	0.1	0.007
TOTAL CPAH		N/A	0.1
MTCA			0.1

#### **B-102 at 10**

Compound	<b>Test Result</b>	TEF	Adjusted Value
benzo(a)pyrene	0.015U	1	0.075
benzo(a)anthracene	0.015U	0.1	0.0075
benzo(b)fluoranthene	0.015U	0.1	0.0075
benzo(k)fluoranthene	0.015U	0.1	0.0075
chrysene	0.015U	0.01	0.00075
Dibenz(a,h)anthracene	0.015U	0.1	0.0075
indeno(1,2,3-cd)pyrene	0.015U	0.1	0.0075
TOTAL CPAH		N/A	0.11
MTCA			0.1

Notes: All units are mg/kg based on dry weight.

U indicates the compound was not present at the stated PQL.

TEF values are from Chapter 173-340 WAC-Table 708-2.

TEF corrected values are based on 50 percent of the PQL.

### Table 7Analytical Testing Summary<br/>Soils-PAHs

Test Boring	Depth	Naphthalene	2-Methyl naphthalene	1-methyl Naphthalene	Fluorene	Fluoranthene	Phenanthrene	Pyrene
B-8	2.5	0.14U	0.14U	0.14U	0.14U	0.14U	0.14U	0.14U
B-102	10	0.0077U	0.0077U	0.0077U	0.015U	0.016	0.051	0.03
MTCA M		5.0		3,200	3,200		2,400	

Notes: All units mg/kg.

Refer to lab report for full results. Only compounds with detections are listed above.

Cleanup levels shown are for reference purposed only. Site-specific cleanup levels have not been determined.

### Table 8 Analytical Test Summary Soil - EPH/VPH

Sample Number	8336-7-4
Sample Date	2-7-2022
Hydrocarbon Fraction	
C5-C6 Aliphatics	1.26
C6-C8 Aliphatics	0.76
C8-C10 Aliphatics	10.35
C10-C12 Aliphatics	5.15
C8-C10 Aromatics	10.35
C10-C12 Aromatics	5.15
C12-C16 Aliphatics	136
C16-C21 Aliphatics	1,640
C21-C34 Aliphatics	12,400
C12-C16 Aromatics	16.2
C16-C21 Aromatics	717
C21-C34 Aromatics	1,540

### Notes: All unites are mg/kg

U modifier indicates that the analyte was not present at the numerical value of the practical quantitation limit (PQL)

### Table 9Analytical Test SummaryGroundwater - Hydrocarbons

Test Boring	Date	TPH-	ТРН	ТРН
		Gasoline	Diesel Range	Oil Range
		Range		
MW-1	3/30/21	100U	220U	220U
	10/12/21	100U	210U	210U
MW-2	3/30/21	100U	220U	220U
	10/12/21	100U	210U	210U
MW-3	3/30/21	100U	220U	340
	10/12/21	100U	220U	220U
MW-201	10/12/21	100U	220U	220U
MTCA N	Iethod A	800	500	

# Table 10Analytical Test SummaryGroundwater - Volatile OrganicCompounds

					mpounds					
Well Monitoring	Date	Benzene	Ethylbenzene	Toluene	Xylenes	sec-Butylbenzene	Perchloroethylene	Methylene Chloride	2-Butanone (MEK)	Acetone
MW-101	3/30/21	0.2U	0.2U	1.0U	0.6U	0.2U	0.2U	1.0U	7.0U	7.1U
MW-2	3/30/21	0.2U	0.2U	1.0U	0.6U	0.2U	0.2U	1.0U	7.0U	7.1U
MW-3	3/30/21	0.2U	0.2U	1.0U	0.6U	0.2U	0.2U	1.0U	7.0U	7.1U
MW-201	10/12/21	0.39	0.2U	1.0U	0.6U	0.22	0.2U	1.0U	5.0U	5.0U
MTCA Method A		5.0	700	1,000	300	800	5.0	5.0	(4,800)	(7,200)

**Notes:** All units are mg/kg..

U modifier signifies the compound was not present at the stated numerical practical quantitation limit.

Only common volatiles and volatiles found in soil samples are summarized above. Refer to lab report for additional compounds.

Values in parenthesis are Method B.

NP indicates there is no MTCA or EPA cleanup level or drinking water MCL for Isopropyl Benzene.

#### Table 11 **Analytical Test Summary Groundwater – Metals**

Well Monitoring	Date	Total cadmium	Dissolved Cadmium	Total Chromium	Dissolved Chromium	Total Lead	Dissolved Lead	Total Nickel	Dissolved Nickel	Total Zinc	Dissolved Zinc
MW-101	3/29/21	4.4 U	4.0U	46	10U	3.0	1.0U	46	20U	28U	25U
MW-2	3/29/21	4.4 U	4.0U	15	10U	1.1U	1.0U	22U	20U	28U	25U
MW-3	3/29/21	4.4 U	4.0U	15	10U	3.7	1.0U	55	20U	33	25U
MW-201	10/12/2 1	4.4 U	4.0U	46	10U	2.4	1.0U	40	20U	46	25U
MTCA Method A			5.0	5	50	1	5	32	20	48	00

**Notes:** All units are mg/kg.

U modifier signifies the compound was not present at the stated numerical practical quantitation limit. The value for nickel is for soluble salts of nickel.

Table 12Groundwater - Sampling Parameters

Well Monitoring	Date	Temperature	Dissolved Oxygen	Conductivity	Hq	ORP	Turbidity	Ferrous Iron	Purge Rate	Purge Volume
MW- 101	3/29/2021	16.02	0.33	1027	7.07	-300.1	22	0.0	0.05	9
	10/12/2021	14.84	0.24	373	6.55	78.2	NM	NM	0.17	7
MW-2	3/29/2021	15.30	0.38	808	8.48	-116.3	12	0.0	0.05	6
	10/12/2021	15.21	0.32	312	6.41	84.8	NM	NM	0.17	7
MW-3	3/29/2021	14.81	0.45	1425	8.80	-343.7	18	0.0	0.05	6
	10/12/2021	15.18	0.13	496	6.49	17	NM	NM	0.17	7
MW- 201	10/12/2021	14.8	0.15	457	6.73	-482	NM	NM	0.17	6

Notes: Temperature is in degrees Celsius.

Conductivity is in µS/cm.

Dissolved Oxygen is in mg/l.

pH is in standard units.

ORP is in millivolts.

Turbidity is in NTUs.

Ferrous Iron in in PPM based on Hatch field test.

Purge Rate is in gallon per minute.

Purge volume is in gallons.

No sheen was observed on any purge water.

NM indicates that the parameter was not measured.

### Table 13Analytical Test SummarySoil Vapor – APH and Naphthalenes

Test Boring	Date	Naphthalene	APH EC5-8 aliphatics	APH EC9-12 aliphatics	APH EC9-10 aromatics	
SVP-1	4/11/2022	1.6U	1,200	300	150U	
SVP-2	4/11/2022	2.1U	3,800	470	250U	
MTCA Gene	ric Method B	46	4,700			

Notes: All units are in micrograms per cubic meter.

U modifier indicates that the compound was not present at the numerical method detection limit (MDL).

#### APPENDIX A

#### SUPPORTING DOCUMENTATION
# LIMITED PHASE II ENVIRONMENTAL SITE ASSESSMENT

Midas Muffler 7055 – 15th Avenue NW Seattle, Washington King County Tax Parcel 751850-0690

# DRAFT

Project No. T-8336-2

# Terra Associates, Inc.

**Prepared for:** 

Jubilee 95, LLC Mukilteo, Washington

November 2, 2020



# **TERRA ASSOCIATES, Inc.**

Consultants in Geotechnical Engineering, Geology and Environmental Earth Sciences

November 2, 2020 Project No. T-8336-2 Mr. Tim Grout Jubilee 95, LLC 6652 Waterton Circle Mukilteo, Washington 98275 Subject: Limited Phase II Environmental Site Assessment Midas Muffler 7055 – 15th Avenue NW Seattle, Washington King County Tax Parcel 751850-0690 Dear Mr. Grout: We have completed a Limited Phase II Environmental Site Assessment for King County Tax Parcel 751850-0690 located at 7055 – 15th Avenue NW in Seattle, Washington. Our prior Phase I ESA study prepared for a potential purchaser in 2018 found 2 recognized environmental conditions (RECs) associated with the site. As discussed in the attached report, site specific sampling has focused on the RECs. The attached report describes our study in detail. We trust the information presented is sufficient for your current needs. If you have any questions or require additional information, please call.

Sincerely yours, TERRA ASSOCIATES, INC. DRAFT

Charles R. Lie, L.E.G., L.H.G. Project Manager

# Limited Phase II Environmental Site Assessment Midas Muffler 7055 – 15th Avenue NW Seattle, Washington King County Tax Parcel 751850-0690

## SUMMARY

This report summarizes recent environmental sampling and analytical testing on soils, sub slab soil vapors, and groundwater at King County Tax Parcel 751850-0690 located in the SODO area of Seattle, Washington. We have submitted a Phase I ESA, dated August 17, 2020 to you for this project.

The site consists of 1 tax parcel totaling 0.3 acres. The subject site is currently developed with a Midas Muffler auto repair shop. Prior to the existing building, two single-family residences were on-site.

Our Phase I Assessment revealed evidence of two recognized environmental conditions (RECs) in connection with the parcel. These RECs consist of:

- 1. The suspected former presence of residential heating oil USTs.
- 2. The use of the site as an auto shop including subsurface hydraulic lifts.

To evaluate the RECs, Terra Associates, Inc. has done site sampling of near-surface soils. As discussed in this report, one constituent of concern, total petroleum hydrocarbons in the diesel to oil range were found to exceed current MTCA Method A cleanup values for unrestricted land use.

The following sections of this memo present more information.

# **SCOPE OF WORK**

Our scope of work for the initial site assessment consisted of the following:

- One-call utility notification required by state law and private locating service prior to drilling test holes.
- Drilling eight soil test borings.
- Sampling soils from all borings. All soil samples were field screened for hydrocarbons.
- Transfer of samples from the site to the analytical laboratory of Onsite Environmental for soil and groundwater samples.
- Preparation of this report.

# FINDINGS

## Site Conditions

The site is located in the Ballard Neighborhood of Seattle, Washington. Most of the surrounding area is and has been single-family residential. 15th Avenue NW is an arterial developed with retail and single-story commercial buildings. Figures 1 and 2 show the site location. Figure 3 is an oblique aerial photo that shows the site conditions.

The exploration locations for this report are shown on Figure 4.

The site slopes gently down towards the south and corresponds with adjacent streets and other properties.

The soils found in the borings consist of dense till soils.

No groundwater was encountered in the borings completed for this project.

# ANALYTICAL TESTING SUMMARY/DISCUSSION

The lab results are summarized on Tables 1 through 6 attached to this memo. The full laboratory test reports are attached in Appendix B.

The results of the analysis show that there are elevated oil range hydrocarbons that exceed the cleanup values in Borings B-5, B-6, and B-8. None of the secondary analysis required by Table 830-1 exceeded their respective cleanup values.

# LIMITATIONS

We prepared our conclusions and recommendations are our professional opinions derived in accordance with generally accepted professional engineering practices. We make no other warranty, either expressed, or implied. This report is the copyrighted property of Terra Associates, Inc. and is intended for specific application to the Ballard Midas Muffler in Seattle, Washington. This report is for the exclusive use of Jubilee 95, LLC and their authorized representatives.

The test results summarized in this report represent the sample locations shown on the attached figures and the sample date that the samples were taken. None of the data should be extrapolated to other locations on the site or off-site.

Attachments: Tables 1 through 6 – Analytical Testing Summary

Figure 1 – Vicinity Map Figure 2 – Topographic Vicinity Map Figure 3 – Oblique Aerial Photo Figure 4 – Exploration Location Sketch Appendix A – Subsurface Exploration Appendix B – Analytical Test Reports Soils

# Table 1Analytical Test ResultsSoils-Hydrocarbons

Boring	Depth	TPH-	ТРН	ТРН
		Gasoline	Diesel Range	Oil Range
		Range		
B-2	15	NT	28U	350
B-3	7	NT	26U	55
B-4	11	NT	27U	54U
B-5	7	NT	1300	9200
B-6	6	NT	160	1200
	7.5	NT	1300	7100
	9	NT	3700	9000
B-7	7	NT	28U	56U
B-8	2.5	9.9U	8500	24,000
	7.5	NT	28U	55U
MTCA N	Aethod A	30	2,0	000

**Notes:** Depths are in feet below existing grade.

All units are mg/kg.

U modifier signifies that the compound was not present at the stated numerical practical quantitation limit.

Shaded cells exceed the MTCA Method A Cleanup Level.

# Table 2 Analytical Test Results Soils-Metals

Boring	Depth	Arsenic	Cadmium	Chromium	Lead	Mercury
B-8	2.5	11U	0.54U	37	18	0.27U
MTCA M	Iethod A	20	2	2,000 (19)	250	2.0

Notes: Depths are in feet below existing grade.

All units are mg/kg.

U modifier signifies that the compound was not present at the stated numerical practical quantitation limit.

Values for chromium are for total chromium and in parenthesis, for hexavalent chromium.

# Table 3Analytical Testing Summary<br/>Soil-Volatile Organics

Boring	Depth	Acetone	Methylene Chloride	2- Butanone (MEK)	Benzene	TCE	PCE
B-8	2.5	0.24E	0.061H	0.043	0.00092U	0.00092U	0.0074
MTCA	Method A (B)	(7,200)	0.02	400	0.03	0.05	0.05

**Notes:** All units mg/kg.

U indicates that the compound was not present at the stated numerical PQL. Refer to lab report for all of the compounds analyzed for volatile compounds.

H indicates that the results are likely due to lab contamination as discussed in the lab report.

E indicates that the results exceed the quantitation limits and are an estimate.

# Table 4Analytical Testing Summary<br/>Soil PCBs

Boring	Depth	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260
B-8	2.5	0.054U	0.054U	0.054U	0.054U	0.054U	0.27U	0.27U
MTCA	Method A (B)				1.0			

**Notes:** All units mg/kg.

U indicates that the compound was not present at the stated numerical PQL.

## Table 5 **Analytical Testing Summary** Soil CPAHs

### **B-8** at 2.5

Compound	Test Result	TEF	Adjusted Value
benzo(a)pyrene	0.14U	1	0.07
benzo(a)anthracene	0.14U	0.1	0.007
benzo(b)fluoranthene	0.14U	0.1	0.007
benzo(k)fluoranthene	0.14U	0.1	0.007
chrysene	0.14U	0.01	0.0007
Dibenz(a,h)anthracene	0.14U	0.1	0.007
indeno(1,2,3-cd)pyrene	0.14U	0.1	0.007
TOTAL CPAH	0.14U	N/A	0.1
MTCA			0.1

Notes: All units are mg/kg based on dry weight.

U indicates that the compound was not present at the stated PQL TEF values are from Chapter 173-340 WAC-Table 708-2.

TEF corrected values are based on 50 percent of the PQL.

### Table 6 **Analytical Testing Summary PAHs-Soils**

Boring	Depth	Naphthalene	2-Methyl naphthalene	1-methyl Naphthalene	Ace naphthalene	Anthracene	Acenaphthene	Fluorene	Fluoranthene	Phenanthrene	Pyrene	Benzo(g,h,i)perylene
B-8	2.5	0.00	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
MTCA			5.0			2,400	4,800	3,200	3,200		2,400	
Method A	(B)											

**Notes:** All units mg/kg.









### APPENDIX A SUBSURFACE EXPLORATION

# Midas Muffler Seattle, Washington

All drilling tools were cleaned prior to starting explorations and in between explorations to reduce the potential for cross contamination.

A drill rig owned and operated by Cascade Drilling was used on August 21, 2020 to advance the borings. The drill rig uses direct push technology (DPT) to advance the borings. Samples were taken at selected locations from the DPT core tubing.

Boring B-1 was terminated due to refusal drilling. It appears that a large cobble or a boulder was present that prevented this boring from being advanced. The sampler became hot due to refusal drilling conditions and no sample was chosen for analysis from Boring B-1.

A representative of our firm continuously monitored the drilling and kept a detailed log of each exploration. Samples recovered during the site explorations were logged by our representative and placed into laboratory-prepared glassware. All samples were refrigerated pending delivery to Onsite Environmental Inc. in Redmond, Washington. We followed chain of custody protocols for all samples.

Samples were screened in the field using the headspace and sheen methods. For the headspace screening, a sub sample of the soil is placed in a plastic bag and allowed to reach ambient temperatures. The probe from a handheld Photo Ionization Device is then inserted to measure the air in the headspace of the bag. The sheen test consists of placing a subsample into a pan with clean water to see if sheen develops.

	LO	G OF DPT NO. DPT-1							Figure No.	
	Proj	ect: Ballard Midas	Project N	<b>o:</b> <u>T-8336-2</u>	_ Date	e Dril	lled:	Septer	nber 18, 2020	
	Clie	nt: Jubilee 95, LLC	Driller: Cascade Dri	lling				Logged	By: <u>EE</u>	
	Loca	ation: Seattle, Washington Depth	to Groundwater <u>: N/A</u>		Appr	ox. E	Elev:	N/A	1	
Depth (ft)	Sample Interval	Soil Description		idor/ heen	R 30 6	ecov	ery %		PID (PPM)	Observ. Well
0-		(3 inches CONCRETE)								
		Gray-brown silty SAND.								
				lone					0	
	_									
		Devine termineted at 2.5 feet on each la en hau	Idea							
		Boring terminated at 2.5 feet on cobble or bou								
	-									
5-										



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LC	DG OF DPT NO. DPT-2				Figure No.			
Pro	oject: Ballard Midas	Project No: <u>T-8336-2</u>	Date Drille	ed: <u>Sep</u> t	tember 18, 2020	I		
Cli	ent: Jubilee 95, LLC	Driller: Cascade Drilling		Logged By: EE				
Loo	cation: Seattle, Washington Dep	th to Groundwater:N/A	Approx. El	ev: N/A				
Depth (ft) Sample Interval	Soil Description	Odor/ Sheen	Recove	ry % 120	PID (PPM)	Observ. Well		
0	(2 inches ASPHALT CONCRETE)							
	Gray-brown silty SAND with gravel, moist.	None			0.26			
- - - - - 10		None			2.7			
-		None			7.7			
15		None						
	Boring terminated at 17 feet due to refusal No seepage observed.	drilling.						
20								



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	LC	G OF DPT NO. DPT-3						Figure No.		
	Proj	iect: Ballard Midas		Project No: <u>T-8336-2</u>	D	ate Dr	illed:	Septer	nber 18, 2020	<u> </u>
	Clie	nt:Jubilee 95, LLC	Driller: <u>Ca</u>	iscade Drilling		Logged By: EE				
		ation: Seattle, Washington Depth to	o Groundv	vater <u>: N/A</u>	_ Ap	prox.	Elev:	N/A		
Depth (ft)	Sample Interval	Soil Description		Odor/ Sheen	30	Reco		% 20	PID (PPM)	Observ. Well
0—		(2 inches ASPHALT)								
		(2 Incres ASPHALT) Gray-brown silty SAND with gravel, moist. Boring terminated at 8.5 feet due to refusal drill No seepage observed.	ling.						5	
10 —										
							100			



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	LC	G OF DPT NO. DPT-4					Figure No.	
	Proj	ect: Ballard Midas	Project No: 1	- <u>8336-2</u> I	Date Di	rilled: S	September 18, 2020	
	Clie	nt: Jubilee 95, LLC	Driller: Cascade Drilling	l		Lo	ogged By <u>: EE</u>	
	Loc	ation: <u>Seattle</u> , Washington Dept	h to Groundwater: N/A	A	pprox.	Elev: N	/A	
Depth (ft)	Sample Interval	Soil Description	Odor Shee	n	Reco 0 60	PID (PPM)	Observ. Well	
0-		(2 inches CONCRETE)						
-		Gray-brown silty SAND with gravel, moist.	Till) None	2			7.2	
5			None	2			14.9	
10		Boring terminated at 12.5 feet due to refusa	Strong C	Ddor			186	
- 15 –	-	No seepage observed.						



	LO	G OF DPT NO. DPT-5						Figure No.	
	Proj	ect: Ballard Midas	Project No: <u>T-8336-2</u>	Da	ate D	rilled	<u>Septe</u>	<u>mber 18, 2020</u>	l
	Clie	nt:Jubilee 95, LLC	Driller: Cascade Drilling		Logged By: EE				
		ation: <u>Seattle</u> , Washington Depth t	o Groundwater <u>: N/A</u>	Ар	prox	. Elev	: N/A	T	
Depth (ft)	Sample Interval	Soil Description	Odor/ Sheen	30	Reco	PID (PPM)	Observ. Well		
0-		(3 inches CONCRETE over 12-inch VOID)							
5-	-	Brown-gray silty SAND with gravel, moist.	None Moderate Odor					10.1	
10		Boring terminated at 9.5 feet due to refusal dril No seepage observed.	ling.						



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	LC	G OF DPT NO. DPT-6						Figure No.	
	Proj	ect: Ballard Midas	Project No: <u>T-8336-2</u>	Date	e Dri	lled:	Septer	nber 18, 2020	I
	Clie	nt:Jubilee 95, LLC	Driller: Cascade Drilling				Logged	By <u>: EE</u>	
	Loc	ation: Seattle, Washington D	epth to Groundwater: N/A	_ Appr	ox. E	Elev:	N/A		
Depth (ft)	Sample Interval	Soil Description	Odor/ Sheen	R 30 6	lecov	ery % 12		PID (PPM)	Observ. Well
0-	_	(4 inches CONCRETE) (VOID) Gray-brown silty SAND with gravel.							
			None						
5-			None					61	
10 -			None					59	
	-	Boring terminated at 12 feet due to refus No seepage observed.	al drilling.						



LC	OG OF DPT NO. DPT-7				Figure No.			
Pro	ject: Ballard Midas	Project No: <u>T-8336-2</u>	Date	_ Date Drilled: September 18, 2020				
Clie	ent: Jubilee 95, LLC	Driller: Cascade Drilling		Logg	jed By <u>: EE</u>			
Loc	ation: Seattle, Washington Dept	h to Groundwater <u>: N/A</u>	Appro	Approx. Elev:_N/A				
Depth (ft) Sample Interval	Soil Description	Odor/ Sheen	Re 30 60	ecovery % 0 120	PID (PPM)	Observ. Well		
	(3 inches CONCRETE) (VOID)         Gray-brown silty SAND with gravel, moist.         Boring terminated at 9 feet due to refusal dr No seepage observed.	Illing.			62			



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L	OG OF DPT NO. DPT-8				Figure No.	
P	roject: Ballard Midas	Project No: <u>T-8336-2</u>	Date Drill	ed: <u>Sept</u>	ember 18, 2020	I
C	lient: Jubilee 95, LLC	Driller: Cascade Drilling		Logge	ed By: <u>EE</u>	
L	ocation: Seattle, Washington Dep	th to Groundwater: N/A	Approx. El	ev: <u>N/A</u>		
Depth (ft)	Soil Description	Odor/ Sheen	Recove	ry % 120	PID (PPM)	Observ. Well
	(3 inches CONCRETE) (3 inches CONCRETE) Boring terminated at 10 feet due to refusal No seepage observed.	drilling.			85	
15 —						



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# **APPENDIX B**

# ANALYTICAL TEST REPORTS-SOIL



October 12, 2020

Chuck Lie Terra Associates, Inc. 12220 113th Avenue NE, Suite 130 Kirkland, WA 98034

Re: Analytical Data for Project 8336-2 Laboratory Reference No. 2009-199B

Dear Chuck:

Enclosed are the analytical results and associated quality control data for samples submitted on September 21, 2020.

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

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

Sincerely,

David Baumeister Project Manager

Enclosures



Date of Report: October 12, 2020 Samples Submitted: September 21, 2020 Laboratory Reference: 2009-199B Project: 8336-2

#### **Case Narrative**

Samples were collected on September 18, 2020 and received by the laboratory on September 21, 2020. They were maintained at the laboratory at a temperature of  $2^{\circ}$ C to  $6^{\circ}$ C.

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

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

#### NWTPH-Gx/Volatiles EPA 8260D Analysis

Method 5035A VOA vials were not provided for sample B8 0'-5'U. The sample was therefore extracted from a 4ounce jar for analysis. Some loss of volatiles may have occurred.

#### Volatiles EPA 8260D Analysis

The value reported for Acetone in sample B8 0'-5'U exceeds the calibration range and is therefore an estimate. The sample was re-analyzed at a dilution with non-detect results for Acetone.

Please note that any other QA/QC issues associated with these extractions and analyses will be indicated with a footnote reference and discussed in detail on the Data Qualifier page.



# DIESEL AND HEAVY OIL RANGE ORGANICS NWTPH-Dx

Matrix: Soil Units: mg/Kg (ppm)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	B6 5'-10'U					
Laboratory ID:	09-199-36					
Diesel Range Organics	160	28	NWTPH-Dx	10-2-20	10-2-20	N
Lube Oil	1200	57	NWTPH-Dx	10-2-20	10-2-20	
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	93	50-150				
Client ID:	B6 5'-10'L					
Laboratory ID:	09-199-38					
Diesel Range Organics	3700	270	NWTPH-Dx	10-2-20	10-5-20	Ν
Lube Oil	9000	550	NWTPH-Dx	10-2-20	10-5-20	
Surrogate:	Percent Recovery	Control Limits				

o-Terphenyl --- 50-150



Date of Report: October 12, 2020 Samples Submitted: September 21, 2020 Laboratory Reference: 2009-199B Project: 8336-2

#### DIESEL AND HEAVY OIL RANGE ORGANICS NWTPH-Dx QUALITY CONTROL

Matrix: Soil Units: mg/Kg (ppm)

			Date	Date	
Result	PQL	Method	Prepared	Analyzed	Flags
MB1002S1					
ND	25	NWTPH-Dx	10-2-20	10-2-20	
ND	50	NWTPH-Dx	10-2-20	10-2-20	
Percent Recovery	Control Limits				
79	50-150				
	MB1002S1 ND ND Percent Recovery	MB1002S1 ND 25 ND 50 Percent Recovery Control Limits	MB1002S1 ND 25 NWTPH-Dx ND 50 NWTPH-Dx Percent Recovery Control Limits	Result         PQL         Method         Prepared           MB1002S1         -<	Result         PQL         Method         Prepared         Analyzed           MB1002S1

					Source	Perc	cent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Result	Reco	very	Limits	RPD	Limit	Flags
DUPLICATE											
Laboratory ID:	10-00	)2-01									
	ORIG	DUP									
Diesel Range	ND	ND	NA	NA		N	A	NA	NA	NA	
Lube Oil Range	ND	ND	NA	NA		N	A	NA	NA	NA	
Surrogate:											
o-Terphenyl						77	92	50-150			



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#### GASOLINE RANGE ORGANICS **NWTPH-Gx**

Matrix: Soil Units: mg/kg (ppm)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	B8 0'-5'U					
Laboratory ID:	09-199-48					
Gasoline	ND	9.9	NWTPH-Gx	10-2-20	10-2-20	
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	100	58-129				



#### GASOLINE RANGE ORGANICS NWTPH-Gx QUALITY CONTROL

Matrix: Soil Units: mg/kg (ppm)

							Date	Date	)	
Analyte		Result	PQL	Me	ethod	l	Prepared	Analyz	ed	Flags
METHOD BLANK										
Laboratory ID:		MB1002S1								
Gasoline		ND	5.0	NW	FPH-Gx		10-2-20	10-2-2	20	
Surrogate:	Pei	rcent Recover	Control Lim	its						
Fluorobenzene		101	58-129							
				Source	Perce	ent	Recovery		RPD	
Analyte	Res	sult	Spike Level	Result	Recov	very	Limits	RPD	Limit	Flags
DUPLICATE										
Laboratory ID:	10-01	17-04								
	ORIG	DUP								
Gasoline	ND	ND	NA NA		NA		NA	NA	30	
Surrogate:										
Fluorobenzene					107	104	58-129			



### VOLATILE ORGANICS EPA 8260D page 1 of 2

Matrix: Soil Units: mg/kg

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	B8 0'-5'U					
Laboratory ID:	09-199-48					
Dichlorodifluoromethane	ND	0.00092	EPA 8260D	10-2-20	10-2-20	
Chloromethane	ND	0.0046	EPA 8260D	10-2-20	10-2-20	
Vinyl Chloride	ND	0.00092	EPA 8260D	10-2-20	10-2-20	
Bromomethane	ND	0.00092	EPA 8260D	10-2-20	10-2-20	
Chloroethane	ND	0.0046	EPA 8260D	10-2-20	10-2-20	
Trichlorofluoromethane	ND	0.00092	EPA 8260D	10-2-20	10-2-20	
1,1-Dichloroethene	ND	0.00092	EPA 8260D	10-2-20	10-2-20	
Acetone	0.24	0.0092	EPA 8260D	10-2-20	10-2-20	Е
lodomethane	ND	0.0046	EPA 8260D	10-2-20	10-2-20	
Carbon Disulfide	ND	0.00092	EPA 8260D	10-2-20	10-2-20	
Methylene Chloride	0.061	0.0046	EPA 8260D	10-2-20	10-2-20	Н
(trans) 1,2-Dichloroethene	ND	0.00092	EPA 8260D	10-2-20	10-2-20	
Methyl t-Butyl Ether	ND	0.00092	EPA 8260D	10-2-20	10-2-20	
1,1-Dichloroethane	ND	0.00092	EPA 8260D	10-2-20	10-2-20	
Vinyl Acetate	ND	0.0046	EPA 8260D	10-2-20	10-2-20	
2,2-Dichloropropane	ND	0.00092	EPA 8260D	10-2-20	10-2-20	
(cis) 1,2-Dichloroethene	ND	0.00092	EPA 8260D	10-2-20	10-2-20	
2-Butanone	0.043	0.0046	EPA 8260D	10-2-20	10-2-20	
Bromochloromethane	ND	0.00092	EPA 8260D	10-2-20	10-2-20	
Chloroform	ND	0.00092	EPA 8260D	10-2-20	10-2-20	
1,1,1-Trichloroethane	ND	0.00092	EPA 8260D	10-2-20	10-2-20	
Carbon Tetrachloride	ND	0.00092	EPA 8260D	10-2-20	10-2-20	
1,1-Dichloropropene	ND	0.00092	EPA 8260D	10-2-20	10-2-20	
Benzene	ND	0.00092	EPA 8260D	10-2-20	10-2-20	
1,2-Dichloroethane	ND	0.00092	EPA 8260D	10-2-20	10-2-20	
Trichloroethene	ND	0.00092	EPA 8260D	10-2-20	10-2-20	
1,2-Dichloropropane	ND	0.00092	EPA 8260D	10-2-20	10-2-20	
Dibromomethane	ND	0.00092	EPA 8260D	10-2-20	10-2-20	
Bromodichloromethane	ND	0.00092	EPA 8260D	10-2-20	10-2-20	
2-Chloroethyl Vinyl Ether	ND	0.0046	EPA 8260D	10-2-20	10-2-20	
(cis) 1,3-Dichloropropene	ND	0.00092	EPA 8260D	10-2-20	10-2-20	
Methyl Isobutyl Ketone	ND	0.0046	EPA 8260D	10-2-20	10-2-20	
Toluene	ND	0.0046	EPA 8260D	10-2-20	10-2-20	
(trans) 1,3-Dichloropropene	ND	0.00092	EPA 8260D	10-2-20	10-2-20	



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				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	B8 0'-5'U					
Laboratory ID:	09-199-48					
1,1,2-Trichloroethane	ND	0.00092	EPA 8260D	10-2-20	10-2-20	
Tetrachloroethene	0.0074	0.00092	EPA 8260D	10-2-20	10-2-20	
1,3-Dichloropropane	ND	0.00092	EPA 8260D	10-2-20	10-2-20	
2-Hexanone	ND	0.0046	EPA 8260D	10-2-20	10-2-20	
Dibromochloromethane	ND	0.00092	EPA 8260D	10-2-20	10-2-20	
1,2-Dibromoethane	ND	0.00092	EPA 8260D	10-2-20	10-2-20	
Chlorobenzene	ND	0.00092	EPA 8260D	10-2-20	10-2-20	
1,1,1,2-Tetrachloroethane	ND	0.00092	EPA 8260D	10-2-20	10-2-20	
Ethylbenzene	ND	0.00092	EPA 8260D	10-2-20	10-2-20	
m,p-Xylene	ND	0.0018	EPA 8260D	10-2-20	10-2-20	
o-Xylene	ND	0.00092	EPA 8260D	10-2-20	10-2-20	
Styrene	ND	0.00092	EPA 8260D	10-2-20	10-2-20	
Bromoform	ND	0.0046	EPA 8260D	10-2-20	10-2-20	
Isopropylbenzene	ND	0.00092	EPA 8260D	10-2-20	10-2-20	
Bromobenzene	ND	0.048	EPA 8260D	10-2-20	10-2-20	
1,1,2,2-Tetrachloroethane	ND	0.048	EPA 8260D	10-2-20	10-2-20	
1,2,3-Trichloropropane	ND	0.048	EPA 8260D	10-2-20	10-2-20	
n-Propylbenzene	ND	0.048	EPA 8260D	10-2-20	10-2-20	
2-Chlorotoluene	ND	0.048	EPA 8260D	10-2-20	10-2-20	
4-Chlorotoluene	ND	0.048	EPA 8260D	10-2-20	10-2-20	
1,3,5-Trimethylbenzene	ND	0.048	EPA 8260D	10-2-20	10-2-20	
tert-Butylbenzene	ND	0.048	EPA 8260D	10-2-20	10-2-20	
1,2,4-Trimethylbenzene	ND	0.048	EPA 8260D	10-2-20	10-2-20	
sec-Butylbenzene	ND	0.048	EPA 8260D	10-2-20	10-2-20	
1,3-Dichlorobenzene	ND	0.048	EPA 8260D	10-2-20	10-2-20	
p-lsopropyltoluene	ND	0.048	EPA 8260D	10-2-20	10-2-20	
1,4-Dichlorobenzene	ND	0.048	EPA 8260D	10-2-20	10-2-20	
1,2-Dichlorobenzene	ND	0.048	EPA 8260D	10-2-20	10-2-20	
n-Butylbenzene	ND	0.048	EPA 8260D	10-2-20	10-2-20	
1,2-Dibromo-3-chloropropane	ND	0.24	EPA 8260D	10-2-20	10-2-20	
1,2,4-Trichlorobenzene	ND	0.048	EPA 8260D	10-2-20	10-2-20	
Hexachlorobutadiene	ND	0.24	EPA 8260D	10-2-20	10-2-20	
Naphthalene	ND	0.24	EPA 8260D	10-2-20	10-2-20	
1,2,3-Trichlorobenzene	ND	0.048	EPA 8260D	10-2-20	10-2-20	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	107	74-131				
Toluene-d8	83	78-128				

#### VOLATILE ORGANICS EPA 8260D page 2 of 2



4-Bromofluorobenzene

71-130

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#### VOLATILE ORGANICS EPA 8260D QUALITY CONTROL page 1 of 2

Matrix: Soil Units: mg/kg

Units. mg/kg		_		Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1002S2					
Dichlorodifluoromethane	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
Chloromethane	ND	0.0050	EPA 8260D	10-2-20	10-2-20	
Vinyl Chloride	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
Bromomethane	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
Chloroethane	ND	0.0050	EPA 8260D	10-2-20	10-2-20	
Trichlorofluoromethane	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
1,1-Dichloroethene	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
Acetone	ND	0.010	EPA 8260D	10-2-20	10-2-20	E
lodomethane	ND	0.0050	EPA 8260D	10-2-20	10-2-20	
Carbon Disulfide	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
Methylene Chloride	ND	0.0050	EPA 8260D	10-2-20	10-2-20	Н
(trans) 1,2-Dichloroethene	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
Methyl t-Butyl Ether	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
1,1-Dichloroethane	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
Vinyl Acetate	ND	0.0050	EPA 8260D	10-2-20	10-2-20	
2,2-Dichloropropane	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
(cis) 1,2-Dichloroethene	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
2-Butanone	ND	0.0050	EPA 8260D	10-2-20	10-2-20	
Bromochloromethane	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
Chloroform	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
1,1,1-Trichloroethane	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
Carbon Tetrachloride	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
1,1-Dichloropropene	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
Benzene	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
1,2-Dichloroethane	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
Trichloroethene	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
1,2-Dichloropropane	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
Dibromomethane	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
Bromodichloromethane	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
2-Chloroethyl Vinyl Ether	ND	0.0050	EPA 8260D	10-2-20	10-2-20	
(cis) 1,3-Dichloropropene	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
Methyl Isobutyl Ketone	ND	0.0050	EPA 8260D	10-2-20	10-2-20	
Toluene	ND	0.0050	EPA 8260D	10-2-20	10-2-20	
(trans) 1,3-Dichloropropene	ND	0.0010	EPA 8260D	10-2-20	10-2-20	



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Date of Report: October 12, 2020 Samples Submitted: September 21, 2020 Laboratory Reference: 2009-199B Project: 8336-2

#### VOLATILE ORGANICS EPA 8260D QUALITY CONTROL page 2 of 2

• • • •				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1002S2					
1,1,2-Trichloroethane	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
Tetrachloroethene	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
1,3-Dichloropropane	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
2-Hexanone	ND	0.0050	EPA 8260D	10-2-20	10-2-20	
Dibromochloromethane	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
1,2-Dibromoethane	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
Chlorobenzene	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
1,1,1,2-Tetrachloroethane	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
Ethylbenzene	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
m,p-Xylene	ND	0.0020	EPA 8260D	10-2-20	10-2-20	
o-Xylene	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
Styrene	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
Bromoform	ND	0.0050	EPA 8260D	10-2-20	10-2-20	
Isopropylbenzene	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
Bromobenzene	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
1,1,2,2-Tetrachloroethane	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
1,2,3-Trichloropropane	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
n-Propylbenzene	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
2-Chlorotoluene	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
4-Chlorotoluene	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
1,3,5-Trimethylbenzene	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
tert-Butylbenzene	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
1,2,4-Trimethylbenzene	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
sec-Butylbenzene	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
1,3-Dichlorobenzene	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
p-lsopropyltoluene	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
1,4-Dichlorobenzene	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
1,2-Dichlorobenzene	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
n-Butylbenzene	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
1,2-Dibromo-3-chloropropane	ND	0.0050	EPA 8260D	10-2-20	10-2-20	
1,2,4-Trichlorobenzene	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
Hexachlorobutadiene	ND	0.0050	EPA 8260D	10-2-20	10-2-20	
Naphthalene	ND	0.0050	EPA 8260D	10-2-20	10-2-20	
1,2,3-Trichlorobenzene	ND	0.0030	EPA 8200D EPA 8260D	10-2-20	10-2-20	
				10-2-20	10-2-20	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	104	74-131				
Toluene-d8	100	78-128				
4-Bromofluorobenzene	95	71-130				



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#### VOLATILE ORGANICS EPA 8260D QUALITY CONTROL

Matrix: Soil Units: mg/kg

						Per	cent	Recovery		RPD	
Analyte	Res	sult	Spike	Level		Reco	overy	Limits	RPD	Limit	Flags
SPIKE BLANKS											
Laboratory ID:	SB10	02S2									
	SB	SBD	SB	SBD		SB	SBD				
1,1-Dichloroethene	0.0469	0.0469	0.0500	0.0500		94	94	55-126	0	17	
Benzene	0.0474	0.0487	0.0500	0.0500		95	97	65-121	3	16	
Trichloroethene	0.0487	0.0476	0.0500	0.0500		97	95	74-126	2	16	
Toluene	0.0470	0.0476	0.0500	0.0500	Е	94	95	71-121	1	16	
Chlorobenzene	0.0467	0.0462	0.0500	0.0500		93	92	72-123	1	16	
Surrogate:											
Dibromofluoromethane					Н	96	100	74-131			
Toluene-d8						103	100	78-128			
4-Bromofluorobenzene						102	106	71-130			



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#### PAHs EPA 8270E/SIM

Matrix: Soil Units: mg/Kg

Analyte	Result	PQL				
Client ID:		FQL	Method	Prepared	Analyzed	Flags
Client ID:	B8 0'-5'U					
Laboratory ID:	09-199-48					
Naphthalene	ND	0.14	EPA 8270E/SIM	10-2-20	10-2-20	
2-Methylnaphthalene	ND	0.14	EPA 8270E/SIM	10-2-20	10-2-20	
1-Methylnaphthalene	ND	0.14	EPA 8270E/SIM	10-2-20	10-2-20	
Acenaphthylene	ND	0.14	EPA 8270E/SIM	10-2-20	10-2-20	
Acenaphthene	ND	0.14	EPA 8270E/SIM	10-2-20	10-2-20	
Fluorene	ND	0.14	EPA 8270E/SIM	10-2-20	10-2-20	
Phenanthrene	ND	0.14	EPA 8270E/SIM	10-2-20	10-2-20	
Anthracene	ND	0.14	EPA 8270E/SIM	10-2-20	10-2-20	
Fluoranthene	ND	0.14	EPA 8270E/SIM	10-2-20	10-2-20	
Pyrene	ND	0.14	EPA 8270E/SIM	10-2-20	10-2-20	
Benzo[a]anthracene	ND	0.14	EPA 8270E/SIM	10-2-20	10-2-20	
Chrysene	ND	0.14	EPA 8270E/SIM	10-2-20	10-2-20	
Benzo[b]fluoranthene	ND	0.14	EPA 8270E/SIM	10-2-20	10-2-20	
Benzo(j,k)fluoranthene	ND	0.14	EPA 8270E/SIM	10-2-20	10-2-20	
Benzo[a]pyrene	ND	0.14	EPA 8270E/SIM	10-2-20	10-2-20	
Indeno(1,2,3-c,d)pyrene	ND	0.14	EPA 8270E/SIM	10-2-20	10-2-20	
Dibenz[a,h]anthracene	ND	0.14	EPA 8270E/SIM	10-2-20	10-2-20	
Benzo[g,h,i]perylene	ND	0.14	EPA 8270E/SIM	10-2-20	10-2-20	
Surrogate:	Percent Recovery	Control Limits				
2-Fluorobiphenyl	48	46 - 113				
Pyrene-d10	58	45 - 114				
Terphenyl-d14	79	49 - 121				



#### PAHs EPA 8270E/SIM QUALITY CONTROL

Matrix: Soil Units: mg/Kg

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1002S1					
Naphthalene	ND	0.0033	EPA 8270E/SIM	10-2-20	10-2-20	
2-Methylnaphthalene	ND	0.0033	EPA 8270E/SIM	10-2-20	10-2-20	
1-Methylnaphthalene	ND	0.0033	EPA 8270E/SIM	10-2-20	10-2-20	
Acenaphthylene	ND	0.0033	EPA 8270E/SIM	10-2-20	10-2-20	
Acenaphthene	ND	0.0033	EPA 8270E/SIM	10-2-20	10-2-20	
Fluorene	ND	0.0033	EPA 8270E/SIM	10-2-20	10-2-20	
Phenanthrene	ND	0.0033	EPA 8270E/SIM	10-2-20	10-2-20	
Anthracene	ND	0.0033	EPA 8270E/SIM	10-2-20	10-2-20	
Fluoranthene	ND	0.0033	EPA 8270E/SIM	10-2-20	10-2-20	
Pyrene	ND	0.0033	EPA 8270E/SIM	10-2-20	10-2-20	
Benzo[a]anthracene	ND	0.0033	EPA 8270E/SIM	10-2-20	10-2-20	
Chrysene	ND	0.0033	EPA 8270E/SIM	10-2-20	10-2-20	
Benzo[b]fluoranthene	ND	0.0033	EPA 8270E/SIM	10-2-20	10-2-20	
Benzo(j,k)fluoranthene	ND	0.0033	EPA 8270E/SIM	10-2-20	10-2-20	
Benzo[a]pyrene	ND	0.0033	EPA 8270E/SIM	10-2-20	10-2-20	
Indeno(1,2,3-c,d)pyrene	ND	0.0033	EPA 8270E/SIM	10-2-20	10-2-20	
Dibenz[a,h]anthracene	ND	0.0033	EPA 8270E/SIM	10-2-20	10-2-20	
Benzo[g,h,i]perylene	ND	0.0033	EPA 8270E/SIM	10-2-20	10-2-20	
Surrogate:	Percent Recovery	Control Limits				
2-Fluorobiphenyl	75	46 - 113				
Pyrene-d10	88	45 - 114				
Terphenyl-d14	86	49 - 121				



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#### PAHs EPA 8270E/SIM QUALITY CONTROL

Matrix: Soil Units: mg/Kg

					Per	cent	Recovery		RPD	
Analyte	Re	sult	Spike	Level	Reco	overy	Limits	RPD	Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB10	02S1								
	SB	SBD	SB	SBD	SB	SBD				
Naphthalene	0.0758	0.0672	0.0833	0.0833	91	81	60 - 116	12	16	
Acenaphthylene	0.0689	0.0679	0.0833	0.0833	83	82	60 - 125	1	15	
Acenaphthene	0.0737	0.0688	0.0833	0.0833	88	83	60 - 121	7	15	
Fluorene	0.0711	0.0650	0.0833	0.0833	85	78	65 - 126	9	15	
Phenanthrene	0.0665	0.0668	0.0833	0.0833	80	80	65 - 120	0	15	
Anthracene	0.0779	0.0731	0.0833	0.0833	94	88	67 - 125	6	15	
Fluoranthene	0.0758	0.0793	0.0833	0.0833	91	95	66 - 125	5	15	
Pyrene	0.0780	0.0795	0.0833	0.0833	94	95	62 - 125	2	15	
Benzo[a]anthracene	0.0716	0.0705	0.0833	0.0833	86	85	72 - 129	2	15	
Chrysene	0.0764	0.0770	0.0833	0.0833	92	92	66 - 123	1	15	
Benzo[b]fluoranthene	0.0698	0.0780	0.0833	0.0833	84	94	68 - 128	11	15	
Benzo(j,k)fluoranthene	0.0793	0.0793	0.0833	0.0833	95	95	63 - 128	0	16	
Benzo[a]pyrene	0.0799	0.0791	0.0833	0.0833	96	95	66 - 130	1	15	
Indeno(1,2,3-c,d)pyrene	0.0700	0.0763	0.0833	0.0833	84	92	63 - 135	9	15	
Dibenz[a,h]anthracene	0.0691	0.0779	0.0833	0.0833	83	94	65 - 130	12	15	
Benzo[g,h,i]perylene	0.0663	0.0733	0.0833	0.0833	80	88	66 - 127	10	15	
Surrogate:										
2-Fluorobiphenyl					72	75	46 - 113			
Pyrene-d10					88	93	45 - 114			
Terphenyl-d14					86	90	49 - 121			

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

Matrix: Soil Units: mg/Kg (ppm)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	B8 0'-5'U					
Laboratory ID:	09-199-48					
Arsenic	ND	11	EPA 6010D	10-8-20	10-8-20	
Cadmium	ND	0.54	EPA 6010D	10-8-20	10-8-20	
Chromium	37	0.54	EPA 6010D	10-8-20	10-8-20	
Lead	18	5.4	EPA 6010D	10-8-20	10-8-20	
Mercury	ND	0.27	EPA 7471B	10-8-20	10-8-20	



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

Matrix: Soil Units: mg/Kg (ppm)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1008SM2					
Arsenic	ND	10	EPA 6010D	10-8-20	10-8-20	
Cadmium	ND	0.50	EPA 6010D	10-8-20	10-8-20	
Chromium	ND	0.50	EPA 6010D	10-8-20	10-8-20	
Lead	ND	5.0	EPA 6010D	10-8-20	10-8-20	
Laboratory ID:	MB1008S1					
Mercury	ND	0.25	EPA 7471B	10-8-20	10-8-20	

					Source	Pe	rcent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Result	Rec	overy	Limits	RPD	Limit	Flags
DUPLICATE											
Laboratory ID:	10-08	33-01									
	ORIG	DUP									
Arsenic	ND	ND	NA	NA		I	NA	NA	NA	20	
Cadmium	ND	ND	NA	NA		I	NA	NA	NA	20	
Chromium	22.6	22.3	NA	NA		I	NA	NA	2	20	
Lead	ND	ND	NA	NA		I	NA	NA	NA	20	
Laboratory ID:	10-08	33-01									
Mercury	ND	ND	NA	NA		I	NA	NA	NA	20	
MATRIX SPIKES											
Laboratory ID:	10-08	33-01									
	MS	MSD	MS	MSD		MS	MSD				
Arsenic	96.4	95.7	100	100	ND	96	96	75-125	1	20	
Cadmium	48.0	47.8	50.0	50.0	ND	96	96	75-125	1	20	
Chromium	123	114	100	100	22.6	100	91	75-125	7	20	
Lead	237	237	250	250	ND	95	95	75-125	0	20	
Laboratory ID:	10-08	33-01									
Mercury	0.540	0.527	0.500	0.500	0.00740	107	104	80-120	2	20	



OnSite Environmental, Inc. 14648 NE 95<sup>th</sup> Street, Redmond, WA 98052 (425) 883-3881

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: October 12, 2020 Samples Submitted: September 21, 2020 Laboratory Reference: 2009-199B Project: 8336-2

### % MOISTURE

			Date
Client ID	Lab ID	% Moisture	Analyzed
B6 5'-10'U	09-199-36	12	10-2-20
B6 5'-10'L	09-199-38	8	10-2-20
B8 0'-5'U	09-199-48	8	9-24-20



OnSite Environmental, Inc. 14648 NE 95<sup>th</sup> Street, Redmond, WA 98052 (425) 883-3881

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.



#### **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 methods 8260 & 8270, 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.

Ζ-

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



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<b>Environmental Inc.</b>		Cha	ain o	<b>f</b> (	Cu	IS	10	dy										Pa	age _	)	of	)	
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Project Manager: Chuck Life				ntainers		LEX				olatiles	(Waters	270D/S PAHs)		e Pestici	lorus Pe	id Herbi	etals	etals		grease) 1664A			
Project Manager: Cruck Life Sampled by: Evan H. Eckles		(other)		er of Cont	NWTPH-HCID	NWTPH-Gx/BT	H-Gx	NWTPH-Dx (	Volatiles 8260C		EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs) DALLO 0070D/CIM flow: 10100	8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides	Chlorinated Acid Herbicides	Total RCRA Metals	Total MTCA Metals	TCLP Metals	oil and g	775	d'inte	
ab ID Sample Identification	Date Sampled	Time Sampled	Matrix	Number	NWTP	NWTP	NWTPH-Gx	NWTP	Volatile	Haloge	EDBE	Semive (with lo	PCBs 8082A	Organo	Organo	Chlorir	Total R	Total N	TCLP1	HEM (oil and	Ha	% Moisture	
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Lab ID Sample Identification	Date Sampled	Time Sampled	Matrix	Number of	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 82	PUBS 8062A Organochlorine Pesticides 8081B	Organophosphorus Pesticides 82700/StM	Chlorinated Acid Herbicides	Total RCRA Metals	Fotal MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A	HC		% Moisture
11 B2 10-15L	9-1-8	T		1				X		_									-		X		X
12 B2 14-17U		10:40	1	1																			
13 B2 14-17 M		10,40		1																	X		
14 B2 14-17 L		10:40		1																	x		
15 B3 0-5U		11:15		)				Τ													×		
16 B3 0-5 M		11:15		1																	×		1
17 B3 0-5L		11:15		1																	×		
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Phone: (425) 883-3881 • www.onsite-env.com Company: TAFL Project Number: B3320-2 Project Name: Project Manager: Chuck Life Sampled by: EVAN H.Echles	Same	ys [ dard (7 Days) (other) Time	] 1 Day ] 3 Days	Number of Containe rs	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx ( 🗌 Acid / SG Clean-up)	Volatiles 8260C	EDB EPA 8011 (Waters 0.000)	mivolatiles 8270D/SIM	(with Iow-level PAHs) PAHs 8270D/SIM (Iow-level)	PCBs 8082A		Organophosphorus Pesticides 8270D/SI M	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oiland grease) 16 64A	4	HOLD	% Moisture
Lab IDSample Identification21B40-5	Sampled 9-14	Sampled	Matrix	Z	Z	Z	z	ž	ž		ŭ ŭ	N) A	ă. (		0	ö	4	P	10	I		2	X
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23 BH 0-5L		12:00		1				T		-												2	
24 BH 5-9.5U		12:15		)				1														X	
25 BH 5-9.5 M		12:15		1				T													,	K	
26 BH 5-9.5 L		12:15		1																		X	
27 BH 9.5-12.5U		12:25		١																		X	
26 BH 9.5-125 M		12:25		1				4															
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Sampled by: Evon H.E.Kles				Conta	Q	BTEX			SOC Volat	W 1 1	s 827	vel PAI	T	rine Pe	sphoru	Acid	Metal	Metal	un la	d grea	9		
Evon H. Eckles		(other)		Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-GX MMTPH-DV (T Acid / SG Clean-un)	хл-ц	Volatiles 8260C Halonenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	olatile	ow-lev 82700	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270 D/SM	Chlorinated Acid Herbicides 8 151A	fotal RCRA Metals	Fotal MTCA Metals	<b>FCLP Metals</b>	HEM (oil and grease) 1664A	GTOH		isture
Lab ID Sample Identification	Date Sampled	Time Sampled	Matrix	Numb	NWTF	NWTF	NWT		Volati	EDB	Semiv	(with low-level PAHs) PAHs8270D/SIM (low-level)	PCBs	Organ	Orgar	Chlori	Total	Total	TCLP	HEM	X		% Moisture
31 B5 i-5 m	9-12	13:00	5	1				X													X		X
32 B5 1-5 L	1	13:00	)	)				1													X		
33 B5 5-9.5U		13:15	Í	1																	X		
34 B5 5-9.5 m		13:15		I				5															4
34 B5 5°-9.5°M 35 B5 5°-9.5°L		13-15		Ì				T											1		X		
36 BLO 5'-10'U		14:20	1	1				8					-						-		×		0
37 BL 5-10 m		14:20		)				10		Ť													
30 BU 5-10'L		14:20		1				60		T											X	-	Ø
39 Ble 10-12U		12:30		1				11	İ												X		T
40 BLe 10-12 m	V	14:30	V	1				V							T	1					X		1
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## OnSite Environmental Inc.

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Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052	Tun (i	rnaround Requ n working day	iest s)		La	bora	ator	y N	umb	er:	09	9 -	1.	99								
Phone: (425) 883-3881 • www.onsite-env.com Company: TAI Project Number: B336-2 Project Name: Project Manager: Chuck Lie Sampled by: Evan H. Ecklos	Sam	ys [ dard (7 Days) (other) Time	] 1 Day ] 3 Days	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX MWTPH-Gx	NWTPH-Dx ( Acid / SG Clean-up)		Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with Iow-level PAHs)	PAHs 8270D/SiM (low-level)	PCBs 8082A Organochlorine Peeticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	fotal MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A	(TOM		% Moisture
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50 BB 0-5'L	V	15:40	V	1			1	4												X		V
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OnSite Environmental Inc.

## **Chain of Custody**

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Lab ID		Sample Identification	Date Sampled	Time Sampled	Matrix	Numbe	NWTPH-HCID	NWTPH	NWTPH-Gx	NWTPH	Volatiles	Haloger	EDB EP	Semivo (with lov	PC.Rs 82/UU/	Organo	Organo	Chlorina	Total R(	Total M	TCLP Metals	HEM (o		¥	X % Moisture
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## PHASE II ENVIRONMENTAL SITE ASSESSMENT

Midas Muffler 7055 – 15th Avenue NW Seattle, Washington King County Tax Parcel 751850-0690

Project No. T-8336-3



## Terra Associates, Inc.

**Prepared for:** 

Jubilee 95, LLC Mukilteo, Washington

April 26, 2021 Revised May 13, 2021



## **TERRA ASSOCIATES, Inc.**

Consultants in Geotechnical Engineering, Geology and Environmental Earth Sciences

> April 26, 2021 revised May 13, 2021 Project No. T-8336-3

Mr. Tim Grout Jubilee 95, LLC 6652 Waterton Circle Mukilteo, Washington 98275

Subject: Phase II Environmental Site Assessment Midas Muffler 7055 – 15th Avenue NW Seattle, Washington King County Tax Parcel 751850-0690



Dear Mr. Grout:

We have completed a Phase II Environmental Site Assessment (ESA) for King County Tax Parcel 751850-0690, located at 7055 – 15th Avenue NW in Seattle, Washington. This draft report is a revision of our report dated April 26, 2021, to correct an error in Table 8. Our prior Phase I Environmental Site Assessment study prepared for a potential purchaser in 2018 found two Recognized Environmental Conditions (RECs) associated with the site. As discussed in the attached report, site-specific sampling was focused on the RECs.

The attached report describes our study in detail. We trust the information presented is sufficient for your current needs. If you have any questions or require additional information, please call.

Sincerely yours, **TERRA ASSOCIATES, INC.** 

Charles R. Lie, L.E.G., L.H.G. Project Manager



## Phase II Environmental Site Assessment Midas Muffler 7055 – 15th Avenue NW Seattle, Washington King County Tax Parcel 751850-0690 WAD988494720

### SUMMARY

This report summarizes recent environmental sampling and analytical testing on soils and groundwater at King County Tax Parcel 751850-0690, located in the Ballard area of Seattle, Washington. We have submitted a Phase I Environmental Site Assessment (ESA), dated April 27, 2020, to a prospective buyer for this project. We have followed up and completed work directly for you.

The site consists of 1 tax parcel totaling 0.3 acres. Currently the subject site is developed with a Midas Muffler auto repair shop. Prior to the existing building, two single-family residences were onsite.

Our Phase I ESA revealed evidence of two Recognized Environmental Conditions (RECs) in connection with the parcel. These consist of:

- 1. The suspected former presence of residential heating oil USTs.
- 2. The use of the site as an auto shop including subsurface hydraulic lifts.

To evaluate the RECs, Terra Associates, Inc. has completed two episodes of site sampling testing of near-surface soils, followed by supplemental sol sampling and the construction of three monitoring wells onsite. As discussed in this report, the constituent of concern was the total petroleum hydrocarbons in the diesel-to-oil range found to exceed current MTCA Method A cleanup values for unrestricted land use.

The following sections of this memo present more information.

## **SCOPE OF WORK**

Our scope of work for the initial site assessment consisted of the following:

- One-call utility notification required by state law, as well as contacting the private locating service prior to drilling test holes.
- Drilling 11 soil test borings to depths of 20 to 40 feet below site grades.
- Drilling 3 test borings to depths of about 60 feet to allow permanent monitoring wells to be established and allow direct sampling of groundwater.
- Sampling soils from all test borings. All soil samples were field screened for hydrocarbons.
- Transfer of soil and groundwater samples from the site to Onsite Environmental, Inc.'s analytical laboratory.
- Preparation of this report.

## FINDINGS

### Site Conditions

The site is located in the Ballard neighborhood of Seattle, Washington. Most of the surrounding area is and has been single-family residential. 15th Avenue NW is an artery developed with retail and single-story commercial buildings. Figures 1 and 2 show the site location and Figure 3 is an oblique aerial photo showing site conditions.

The exploration locations for this report are shown on Figure 4.

The site slopes gently down toward the south and corresponds with adjacent streets and other properties. The soils found in the borings consist of dense till soils. The deeper test borings with monitoring wells encountered advance outwash.

No groundwater was encountered in the test borings completed for this project.

## ANALYTICAL TESTING SUMMARY/DISCUSSION

The lab results are summarized on Tables 1 through 10 attached to this memo. The full laboratory test reports are attached in Appendix B.

The results of the analysis show there are elevated oil-range hydrocarbons exceeding the cleanup values in Test Borings B-5, B-6, and B-8. None of the secondary analysis required by Table 830-1 exceeded their respective cleanup values.

### LIMITATIONS

Our conclusions and recommendations are our professional opinion and were reached in accordance with generally accepted professional engineering practices. We make no other warranty, either expressed, or implied. This report is the copyrighted property of Terra Associates, Inc. and is intended for the specific application to the Ballard Midas Muffler project in Seattle, Washington. This report is for the exclusive use of Jubilee 95, LLC and their authorized representatives.

The test results summarized in this report represent the sample locations shown on the attached figures and the sample date the samples were taken. None of the data should be extrapolated to other locations either on or offsite.

Attachments:Tables 1 through 11 – Analytical Testing Summary<br/>Figure 1 – Vicinity Map<br/>Figure 2 – Topographic Vicinity Map<br/>Figure 3 – Oblique Aerial Photo<br/>Figure 4 – Exploration Location Sketch<br/>Appendix A – Subsurface Exploration<br/>Appendix B – Analytical Test Report - Soils<br/>Appendix C – Analytical Test Report - Groundwater

### APPENDIX A SUBSURFACE EXPLORATION

## Midas Muffler Seattle, Washington

All drilling tools were cleaned prior to starting explorations and in between explorations to reduce the potential for cross-contamination.

For the initial drilling on August 21,2020, a drill rig owned and operated by Cascade Drilling was used to advance the test borings. The drill rig uses Direct Push Technology (DPT) to advance the test borings. Samples were taken at selected locations from the DPT core tubing.

Test Boring B-1 was terminated due to refusal drilling. It appears a large cobble or a boulder was present that prevented the test boring from being advanced. The sampler became hot due to refusal drilling conditions and no sample was taken for analysis from Test Boring B-1.

Subsequent drilling was completed using limited access drill rigs owned and operated by Boretec. The Boretec drill rigs were equipped with hollow stem agers. Samples were taken at selected intervals using standard split spoon samplers driven by a 140-pound hammer falling 30 inches. Test Boring MW-1 was intended to be a monitoring well. At a depth of 40 feet, wet soil conditions were noted in Boring MW-1 that indicated groundwater was reached. The next day, no groundwater was present in the test boring. Monitoring well MW-101 was then built approximately 5 feet west of Test Boring MW-1. This well extended to 60 feet below site grades.

The wells were built using standard resource protection well procedures in accordance with state well regulations, Chapter 173-160 WAC. The wells consist of a 10-foot long screen with 0.01 inch factory screen segments. The casing and screens consist of 2-inch diameter PVC materials and the wells were completed with flush-mount monument covers.

A representative from our firm continuously monitored the drilling and kept a detailed log of each exploration. Samples recovered during the site explorations were logged by our representative and placed into laboratory-prepared glassware. All samples were refrigerated pending delivery to Onsite Environmental, Inc. in Redmond, Washington. We followed chain of custody protocols for all samples.

Samples were screened in the field using the headspace and sheen methods. For the headspace screening, a sub-sample of the soil is placed in a plastic bag and allowed to reach ambient temperatures. The probe from a handheld Photo Ionization Device is then inserted to measure the air in the headspace of the bag. The sheen test consists of placing a sub-sample into a pan with clean water to see if sheen develops.

Prior to sampling the wells for groundwater, they were developed by surging the screen segment and bailing about three casing volumes. The wells were left for about five days prior to sampling. Sampling was completed with a downhole submersible pump using low-flow purge techniques. Standard groundwater parameters were monitored during purging. Samples were taken after a minimum of three casing volumes was removed and groundwater parameters, including turbidity, had stabilized.

A reconnaissance-level survey was performed to obtain relative elevations of the top of the casing in the monitoring wells. The slab elevation at the exterior of the building's southeastern corner was assumed to be Elev. 100. This reconnaissance-level survey will need to be replaced with a survey by a licensed surveyor prior to agency review.

	LO	G OF DPT NO. DPT-1							Figure No.	
	Proj	ect: Ballard Midas	Project N	<b>o:</b> <u>T-8336-2</u>	_ Date	e Dril	lled:	Septer	nber 18, 2020	
	Clie	nt: Jubilee 95, LLC	Driller: Cascade Dri	lling				Logged	By: <u>EE</u>	
	Loca	ation: Seattle, Washington Depth	to Groundwater <u>: N/A</u>		Appr	ox. E	Elev:	N/A	1	
Depth (ft)	Sample Interval	Soil Description		idor/ heen	R 30 6	ecov	ery %		PID (PPM)	Observ. Well
0-		(3 inches CONCRETE)								
		Gray-brown silty SAND.								
				lone					0	
	_									
		Devine termineted at 2.5 feet on each la en hau	Idea							
		Boring terminated at 2.5 feet on cobble or bou								
	-									
5-										



LC	DG OF DPT NO. DPT-2				Figure No.	
Pro	oject: Ballard Midas	Project No: <u>T-8336-2</u>	Date Drille	ed: <u>Sep</u> t	tember 18, 2020	I
Cli	ent: Jubilee 95, LLC	Driller: Cascade Drilling		_ Logg	ed By <u>: EE</u>	
Loo	cation: Seattle, Washington Dep	th to Groundwater:N/A	Approx. El	ev: N/A		
Depth (ft) Sample Interval	Soil Description	Odor/ Sheen	Recove	ry % 120	PID (PPM)	Observ. Well
0	(2 inches ASPHALT CONCRETE)					
	Gray-brown silty SAND with gravel, moist.	None			0.26	
- - - - - 10		None			2.7	
-		None			7.7	
15		None				
	Boring terminated at 17 feet due to refusal No seepage observed.	drilling.				
20						



	LC	G OF DPT NO. DPT-3							Figure No.	
	Proj	iect: Ballard Midas		Project No: <u>T-8336-2</u>	D	ate Dr	illed:	Septer	nber 18, 2020	<u> </u>
	Clie	nt:Jubilee 95, LLC	Driller: <u>Ca</u>	iscade Drilling				Logged	By <u>: EE</u>	
		ation: Seattle, Washington Depth to	o Groundv	vater <u>: N/A</u>	_ Ap	prox.	Elev:	N/A		
Depth (ft)	Sample Interval	Soil Description		Odor/ Sheen	30	Reco		% 20	PID (PPM)	Observ. Well
0—		(2 inches ASPHALT)								
		(2 Incres ASPHALT) Gray-brown silty SAND with gravel, moist. Boring terminated at 8.5 feet due to refusal drill No seepage observed.	ling.						5	
10 —										
							100			



	LC	G OF DPT NO. DPT-4					Figure No.	
	Proj	ect: Ballard Midas	Project No: 1	- <u>8336-2</u> I	Date Di	rilled: S	September 18, 2020	
	Clie	nt: Jubilee 95, LLC	Driller: Cascade Drilling	l		Lo	ogged By <u>: EE</u>	
	Loc	ation: <u>Seattle</u> , Washington Dept	h to Groundwater: N/A	A	pprox.	Elev: N	/A	
Depth (ft)	Sample Interval	Soil Description	Odor Shee	n	Reco 0 60	overy % 120	PID (PPM)	Observ. Well
0-		(2 inches CONCRETE)						
-		Gray-brown silty SAND with gravel, moist.	Till) None	2			7.2	
5			None	2			14.9	
10		Boring terminated at 12.5 feet due to refusa	Strong C	Ddor			186	
- 15 –	-	No seepage observed.						



	LO	G OF DPT NO. DPT-5						Figure No.	
	Proj	ect: Ballard Midas	Project No: <u>T-8336-2</u>	Da	ate D	rilled	<u>Septe</u>	<u>mber 18, 2020</u>	l
	Clie	nt:Jubilee 95, LLC	Driller: Cascade Drilling				Logged	d By: <u>EE</u>	
		ation: <u>Seattle</u> , Washington Depth t	o Groundwater <u>: N/A</u>	Ар	prox	. Elev	: N/A	T	
Depth (ft)	Sample Interval	Soil Description	Odor/ Sheen	30	Reco	overy 1	% 20	PID (PPM)	Observ. Well
0-		(3 inches CONCRETE over 12-inch VOID)							
5-	-	Brown-gray silty SAND with gravel, moist.	None Moderate Odor					10.1	
10		Boring terminated at 9.5 feet due to refusal dril No seepage observed.	ling.						



	LC	G OF DPT NO. DPT-6						Figure No.	
	Proj	ect: Ballard Midas	Project No: <u>T-8336-2</u>	Date	e Dri	lled:	Septer	nber 18, 2020	I
	Clie	nt:Jubilee 95, LLC	Driller: Cascade Drilling				Logged	By <u>: EE</u>	
	Loc	ation: Seattle, Washington D	epth to Groundwater: N/A	_ Appr	ox. E	Elev:	N/A		
Depth (ft)	Sample Interval	Soil Description	Odor/ Sheen	R 30 6	lecov	ery % 12		PID (PPM)	Observ. Well
0-	_	(4 inches CONCRETE) (VOID) Gray-brown silty SAND with gravel.							
			None						
5-			None					61	
10 -			None					59	
	-	Boring terminated at 12 feet due to refus No seepage observed.	al drilling.						



LC	OG OF DPT NO. DPT-7				Figure No.	
Pro	ject: Ballard Midas	Project No: <u>T-8336-2</u>	Date	Drilled: Sep	otember 18, 2020	)
Clie	ent: Jubilee 95, LLC	Driller: Cascade Drilling		Logg	jed By <u>: EE</u>	
Loc	ation: Seattle, Washington Dept	h to Groundwater <u>: N/A</u>	Appro	ox. Elev: N/A		
Depth (ft) Sample Interval	Soil Description	Odor/ Sheen	Re 30 60	ecovery % 0 120	PID (PPM)	Observ. Well
	(3 inches CONCRETE) (VOID)         Gray-brown silty SAND with gravel, moist.         Boring terminated at 9 feet due to refusal dr No seepage observed.	Illing.			62	



L	OG OF DPT NO. DPT-8				Figure No.	
P	roject: Ballard Midas	Project No: <u>T-8336-2</u>	Date Drill	ed: <u>Sept</u>	ember 18, 2020	I
C	lient: Jubilee 95, LLC	Driller: Cascade Drilling		Logge	ed By: <u>EE</u>	
L	ocation: Seattle, Washington Dep	th to Groundwater: N/A	Approx. El	ev: <u>N/A</u>		
Depth (ft)	Soil Description	Odor/ Sheen	Recove	ry % 120	PID (PPM)	Observ. Well
	(3 inches CONCRETE) (3 inches CONCRETE) Boring terminated at 10 feet due to refusal No seepage observed.	drilling.			85	
15 —						



	LC	G OF BORING B-101							Figure No.	
	Proj	ect: Midas Muffler	Project N	lo: <u>T-8</u>	336-3	B Date Dr	illed:	March	4, 2021	
	Clie	nt: Jubilee 95, LLC D	riller: Boretec				L	ogged	By: NRH	
	Loc	ation: Seattle, Washington Depth to	Groundwater: <u>N/A</u>			Approx.	Elev:_2	252 Fee	t	
Depth (ft)	Sample Interval	Soil Description	Odor/ Sheen	30		overy % 120	10	SPT ( Blows	/ft	Observ. Well
0-					00		10	30	50	
	-	4.5 inch concrete slab at surface. Light gray/brown silty SAND with gravel, fine grained, moist. (SM) (till)	No/No/0.0			66			• 52	
5-			No/No/NA	•		25			27/50 for 2	
			No/No/1.0		•	100		•	27/50 for 5	
10 -		Cuttings steaming from heavy drilling action.	No/No/NA						50 for 4	
15 -			No/No/NA		•	100			50 for 4	
20 -		Moist to wet at 20 feet. Boring terminated at 21.5 feet. Hole backfilled	No/No/NA		•	100			50 for 2	
		with bentonite chips and patched at surface with concrete.								



LC	G OF BORING B-102										Fig	ure No.	
Proj	ect: Midas Muffler	Project N	lo: <u>T-</u> 8	833	6-3	Date Dri	lled	: <u>N</u>	/laro	ch 4	, 202	21	
Clie	nt: Jubilee 95, LLC D	riller: Boretec						Lo	ogg	ed E	By:_Ւ	IRH	
Loc	ation: Seattle, Washington Depth to	Groundwater: <u>N/A</u>			/	Approx. I	Elev	7: <u>25</u>	52 F	eet			
ample Interval	Soil Description	Odor/ Sheen	20		-				Blo	ws/	fť		Observ. Well
											50	,	
	b.5 inch concrete slab at surrace. Light gray/brown silty SAND with gravel, fine grained, moist. (SM)	No/No/NA	÷			30		•				10	
		No/No/0.0	•			30	•					5	
		Light/Light/3.9		•		50				•		38	
	Gray silty SAND with gravel, fine to medium grained, moise. (SM) (till)	No/No/0.0				100					·	50 for 3	
	M	oderate/Moderate/(	).9			100					·	50 for 3	
	Boring terminated at 21.5 feet. Hole backfilled with bentonite chips and patched at surface	No/No/0.0				100					•	50 for 3	
	Proj Clie	Client: Jubilee 95, LLC       D         Location: Seattle, Washington       Depth to         Image: Seattle of the	Project:       Midas Muffler       Project M         Client:       Jubilee 95, LLC       Driller:       Borietec         Location:       Seattle, Washington       Depth to Groundwater:N/A         Image: Soil Description       Odor/ Sheen         Image: Soil Description       Odor/ Sheen         Image: Soil Description       Odor/ Sheen         Image: Soil Description       Odor/ Sheen         Image: Soil Description       No/No/NA         Image: Soil Description       No/No/O.0         Image: Soil Description       No/No/O.0         Image: Soil Description<	Project:       Midas Muffler       Project No: T-I         Client:       Jubilee 95, LLC       Driller:       Boretec         Location:       Soil Description       Odor/ Sheen       30         0       6.5 inch concrete slab at surface.       Light gray/brown silty SAND with gravel, fine       No/No/NA         0       6.5 inch concrete slab at surface.       Light gray/brown silty SAND with gravel, fine       No/No/0.0         0       Gray silty SAND with gravel, fine to medium       No/No/0.0       Light/Light/3.9         0       Gray silty SAND with gravel, fine to medium       No/No/0.0       No/No/0.0         0       Moderate/Moderate/0.9       Moderate/Moderate/0.9       No/No/0.0         0       Boring terminated at 21.5 feet. Hole backfilled with bentonite chips and patched at surface       No/No/0.0	Project:       Midas Muffler       Project No: T-833         Client:       Jubilee 95, LLC       Driller:       Boretec         Location:       Seattle, Washington       Depth to Groundwater:N/A         Image: Soil Description       Odor/ Sheen       R 30         Go       6.5 inch concrete slab at surface.       Light gray/brown silty SAND with gravel, fine         Image: Gray silty SAND with gravel, fine to medium       No/No/N0.0       Image: Gray silty SAND with gravel, fine to medium         Gray silty SAND with gravel, fine to medium       No/No/0.0       Image: Gray silty SAND with gravel, fine to medium         Image: Gray silty SAND with gravel, fine to medium       No/No/0.0       Image: Gray silty SAND         Image: Gray silty SAND with gravel, fine to medium       No/No/0.0       Image: Gray silty SAND         Image: Gray silty SAND with gravel, fine to medium       No/No/0.0       Image: Gray silty SAND         Image: Gray silty SAND with gravel, fine to medium       No/No/0.0       Image: Gray silty SAND         Image: Gray silty SAND with gravel, fine to medium       No/No/0.0       Image: Gray silty SAND         Image: Gray silty SAND       Moderate/Moderate/0.9       Image: Gray silty SAND         Image: Gray silty SAND       Moderate/Moderate/0.9       Image: Gray silty SAND         Image: Gray silty sity SAND       Moderate/Moderate/0.9 <td>Project:       Midas Muffler       Project No: T-8336-3         Client:       Jubilee 95, LLC       Driller:       Boretec         Location:       Seattle, Washington       Depth to Groundwater:N/A       Image: Comparison of the compar</td> <td>Project:       Midas Muffler       Project No: T-8336-3       Date Dri         Client:       Jubilee 95, LLC       Driller:       Bornetec         Location:       Seattle, Washington       Depth to Groundwater;NA       Approx.1         Image: the status of the</td> <td>Project:       Midas Muffler       Project No: T-8336-3       Date Drilled         Client:       Jubilee 95, LLC       Driller:       Boretec         Location:       Seattle, Washington       Depth to Groundwater:N/A       Approx. Elev         Image: Soil Description       Odor/ Sheen       Recovery %       30       60       120       1         Image: Soil Description       Odor/ Sheen       No/No/NA       Image: Soil Description       30       60       120       1         Image: Soil Concrete slab at surface.       Light gray/brown silty SAND with gravel, fine grained, moist. (SM)       No/No/0.0       Image: Soil Concrete slab at surface.       Image: Soil Concrete slab at surface.</td> <td>Project:       Midas Muffler       Project No: T-8336-3       Date Drillet:       Integration         Client:       Jubilee 95, LLC       Driller:       Boretec       Location:       Seattle, Washington       Depth to Groundwater:N/A       Approx. Elev: 25         Image: Soli Description       Odor/ Sheen       Recovery %       10         Image: Soli Description       No/No/NA       Image: Soli Description       30       Image: Soli Description         Image: Soli Description       Odor Soli Description       No/No/NO       Image: Soli Description       30       Image: Soli Description         Image: Soli Description       No/No/O.0       Image: Soli Description       Soli Description       30       Image: Soli Description         Image: Soli Description       No/No/O.0       Image: Soli Description</td> <td>Project:       Midas Muffler       Project No: T-8336-3       Date Drilled:       Man         Client:       Jubilee 95, LLC       Driller:       Boretec       Logg         Location:       Seattle, Washington       Depth to Groundwater:N/A       Approx. Elev: 252 F         Image: Solit Description       Odor/ Sheen       Recovery %       Specified         0       30       60       120       10       3         1       6.5 inch concrete slab at surface:       Light gray/brown silty SAND with gravel, fine       No/No/NA       30       1       30       1       30       1       30       1       30       1       1       30       1       1       30       1       1       30       1       1       30       1       1       30       1       1       30       1       1       30       1       <td< td=""><td>Project:       Midas Muffler       Project No: T-8336-3       Date Drillet:       March 4         Client:       Jubilee 95, LLC       Driller:       Boretec       Logged f         Location:       Seattle, Washington       Depth to Groundwater:N/A       Approx. Elev: 252 Feet         Image: Soil Description       Odor/ Sheen       Recovery %       Sprt (n Blows/ 30 60 120       Sprt (n Blows/ 10 30         Image: Soil Description       Odor/ Sheen       No/No/NA       30       10       30         Image: Soil Description       Odor/ Sheen       No/No/NA       30       10       30         Image: Soil Description       Odor/ Sheen       No/No/NA       30       10       30       10         Image: Soil Description       No/No/0.0       Image: Soil Description       No/No/0.0       30       100       100         Image: Gray silly SAND with gravel, fine gravel, fine gravel, fine to medium grained, moise. (SM) (till)       No/No/0.0       100       100       100         Image: Gray silly SAND with gravel, fine to medium grained, moise. (SM) (till)       No/No/0.0       100       100       100       100         Image: Gray silly SAND with gravel, fine to medium grained, moise. (SM) (till)       No/No/0.0       100       100       100       100       100       100</td><td>Project:       Midas Muffler       Project No: T-8336-3       Date Drilled:       March 4, 202         Client:       Jubilee 95, LLC       Driller:       Boretec       Logged By: N         Location:       Seattle, Washington       Depth to Groundwater:N/A       Approx. Elev: 252 Feet         Image: Solid Description       Odor/ Sheen       Recovery %       SPT (N) Blows/it         Image: Solid Description       Odor/ Sheen       Solid Odor       30       Image: Solid Odor         Image: Solid Description       No/No/0.0       100       100       Image: Solid Odor         Image: Solid Description       Moderate/Moderate/0.9       <t< td=""><td>Project:         Midas Muffler         Data Driller:         March 4, 2021           Client:         Jubilee 95, LLC         Driller:         Borelec         Logged By: NRH           Location:         Seattle, Washington         Depth to Groundwater.N/A         Approx. Elev:         252 Feet           Image: Soil Description         Odor/ Sheen         Recovery %         SPT (N) Blows/t         SPT (N) Blows/t           6.5         Inc. concrete slab at surface.         No/No/NA         10         30         50           Image: Gray sity SAND with gravel, fine         No/No/NA         300         1         1         10           Image: Gray sity SAND with gravel, fine to medium         No/No/0.0         1000         1         38         50           Image: Gray sity SAND with gravel, fine to medium         No/No/0.0         1000         1         100         50           Image: Gray sity SAND with gravel, fine to medium         No/No/0.0         1000         1         50         60           Image: Gray sity SAND with gravel, fine to medium         No/No/0.0         1000         1         1         50         60           Image: Gray sity SAND with gravel, fine to medium         No/No/0.0         1000         1         1         50         60         67     </td></t<></td></td<></td>	Project:       Midas Muffler       Project No: T-8336-3         Client:       Jubilee 95, LLC       Driller:       Boretec         Location:       Seattle, Washington       Depth to Groundwater:N/A       Image: Comparison of the compar	Project:       Midas Muffler       Project No: T-8336-3       Date Dri         Client:       Jubilee 95, LLC       Driller:       Bornetec         Location:       Seattle, Washington       Depth to Groundwater;NA       Approx.1         Image: the status of the	Project:       Midas Muffler       Project No: T-8336-3       Date Drilled         Client:       Jubilee 95, LLC       Driller:       Boretec         Location:       Seattle, Washington       Depth to Groundwater:N/A       Approx. Elev         Image: Soil Description       Odor/ Sheen       Recovery %       30       60       120       1         Image: Soil Description       Odor/ Sheen       No/No/NA       Image: Soil Description       30       60       120       1         Image: Soil Concrete slab at surface.       Light gray/brown silty SAND with gravel, fine grained, moist. (SM)       No/No/0.0       Image: Soil Concrete slab at surface.       Image: Soil Concrete slab at surface.	Project:       Midas Muffler       Project No: T-8336-3       Date Drillet:       Integration         Client:       Jubilee 95, LLC       Driller:       Boretec       Location:       Seattle, Washington       Depth to Groundwater:N/A       Approx. Elev: 25         Image: Soli Description       Odor/ Sheen       Recovery %       10         Image: Soli Description       No/No/NA       Image: Soli Description       30       Image: Soli Description         Image: Soli Description       Odor Soli Description       No/No/NO       Image: Soli Description       30       Image: Soli Description         Image: Soli Description       No/No/O.0       Image: Soli Description       Soli Description       30       Image: Soli Description         Image: Soli Description       No/No/O.0       Image: Soli Description	Project:       Midas Muffler       Project No: T-8336-3       Date Drilled:       Man         Client:       Jubilee 95, LLC       Driller:       Boretec       Logg         Location:       Seattle, Washington       Depth to Groundwater:N/A       Approx. Elev: 252 F         Image: Solit Description       Odor/ Sheen       Recovery %       Specified         0       30       60       120       10       3         1       6.5 inch concrete slab at surface:       Light gray/brown silty SAND with gravel, fine       No/No/NA       30       1       30       1       30       1       30       1       30       1       1       30       1       1       30       1       1       30       1       1       30       1       1       30       1       1       30       1       1       30       1 <td< td=""><td>Project:       Midas Muffler       Project No: T-8336-3       Date Drillet:       March 4         Client:       Jubilee 95, LLC       Driller:       Boretec       Logged f         Location:       Seattle, Washington       Depth to Groundwater:N/A       Approx. Elev: 252 Feet         Image: Soil Description       Odor/ Sheen       Recovery %       Sprt (n Blows/ 30 60 120       Sprt (n Blows/ 10 30         Image: Soil Description       Odor/ Sheen       No/No/NA       30       10       30         Image: Soil Description       Odor/ Sheen       No/No/NA       30       10       30         Image: Soil Description       Odor/ Sheen       No/No/NA       30       10       30       10         Image: Soil Description       No/No/0.0       Image: Soil Description       No/No/0.0       30       100       100         Image: Gray silly SAND with gravel, fine gravel, fine gravel, fine to medium grained, moise. (SM) (till)       No/No/0.0       100       100       100         Image: Gray silly SAND with gravel, fine to medium grained, moise. (SM) (till)       No/No/0.0       100       100       100       100         Image: Gray silly SAND with gravel, fine to medium grained, moise. (SM) (till)       No/No/0.0       100       100       100       100       100       100</td><td>Project:       Midas Muffler       Project No: T-8336-3       Date Drilled:       March 4, 202         Client:       Jubilee 95, LLC       Driller:       Boretec       Logged By: N         Location:       Seattle, Washington       Depth to Groundwater:N/A       Approx. Elev: 252 Feet         Image: Solid Description       Odor/ Sheen       Recovery %       SPT (N) Blows/it         Image: Solid Description       Odor/ Sheen       Solid Odor       30       Image: Solid Odor         Image: Solid Description       No/No/0.0       100       100       Image: Solid Odor         Image: Solid Description       Moderate/Moderate/0.9       <t< td=""><td>Project:         Midas Muffler         Data Driller:         March 4, 2021           Client:         Jubilee 95, LLC         Driller:         Borelec         Logged By: NRH           Location:         Seattle, Washington         Depth to Groundwater.N/A         Approx. Elev:         252 Feet           Image: Soil Description         Odor/ Sheen         Recovery %         SPT (N) Blows/t         SPT (N) Blows/t           6.5         Inc. concrete slab at surface.         No/No/NA         10         30         50           Image: Gray sity SAND with gravel, fine         No/No/NA         300         1         1         10           Image: Gray sity SAND with gravel, fine to medium         No/No/0.0         1000         1         38         50           Image: Gray sity SAND with gravel, fine to medium         No/No/0.0         1000         1         100         50           Image: Gray sity SAND with gravel, fine to medium         No/No/0.0         1000         1         50         60           Image: Gray sity SAND with gravel, fine to medium         No/No/0.0         1000         1         1         50         60           Image: Gray sity SAND with gravel, fine to medium         No/No/0.0         1000         1         1         50         60         67     </td></t<></td></td<>	Project:       Midas Muffler       Project No: T-8336-3       Date Drillet:       March 4         Client:       Jubilee 95, LLC       Driller:       Boretec       Logged f         Location:       Seattle, Washington       Depth to Groundwater:N/A       Approx. Elev: 252 Feet         Image: Soil Description       Odor/ Sheen       Recovery %       Sprt (n Blows/ 30 60 120       Sprt (n Blows/ 10 30         Image: Soil Description       Odor/ Sheen       No/No/NA       30       10       30         Image: Soil Description       Odor/ Sheen       No/No/NA       30       10       30         Image: Soil Description       Odor/ Sheen       No/No/NA       30       10       30       10         Image: Soil Description       No/No/0.0       Image: Soil Description       No/No/0.0       30       100       100         Image: Gray silly SAND with gravel, fine gravel, fine gravel, fine to medium grained, moise. (SM) (till)       No/No/0.0       100       100       100         Image: Gray silly SAND with gravel, fine to medium grained, moise. (SM) (till)       No/No/0.0       100       100       100       100         Image: Gray silly SAND with gravel, fine to medium grained, moise. (SM) (till)       No/No/0.0       100       100       100       100       100       100	Project:       Midas Muffler       Project No: T-8336-3       Date Drilled:       March 4, 202         Client:       Jubilee 95, LLC       Driller:       Boretec       Logged By: N         Location:       Seattle, Washington       Depth to Groundwater:N/A       Approx. Elev: 252 Feet         Image: Solid Description       Odor/ Sheen       Recovery %       SPT (N) Blows/it         Image: Solid Description       Odor/ Sheen       Solid Odor       30       Image: Solid Odor         Image: Solid Description       No/No/0.0       100       100       Image: Solid Odor         Image: Solid Description       Moderate/Moderate/0.9 <t< td=""><td>Project:         Midas Muffler         Data Driller:         March 4, 2021           Client:         Jubilee 95, LLC         Driller:         Borelec         Logged By: NRH           Location:         Seattle, Washington         Depth to Groundwater.N/A         Approx. Elev:         252 Feet           Image: Soil Description         Odor/ Sheen         Recovery %         SPT (N) Blows/t         SPT (N) Blows/t           6.5         Inc. concrete slab at surface.         No/No/NA         10         30         50           Image: Gray sity SAND with gravel, fine         No/No/NA         300         1         1         10           Image: Gray sity SAND with gravel, fine to medium         No/No/0.0         1000         1         38         50           Image: Gray sity SAND with gravel, fine to medium         No/No/0.0         1000         1         100         50           Image: Gray sity SAND with gravel, fine to medium         No/No/0.0         1000         1         50         60           Image: Gray sity SAND with gravel, fine to medium         No/No/0.0         1000         1         1         50         60           Image: Gray sity SAND with gravel, fine to medium         No/No/0.0         1000         1         1         50         60         67     </td></t<>	Project:         Midas Muffler         Data Driller:         March 4, 2021           Client:         Jubilee 95, LLC         Driller:         Borelec         Logged By: NRH           Location:         Seattle, Washington         Depth to Groundwater.N/A         Approx. Elev:         252 Feet           Image: Soil Description         Odor/ Sheen         Recovery %         SPT (N) Blows/t         SPT (N) Blows/t           6.5         Inc. concrete slab at surface.         No/No/NA         10         30         50           Image: Gray sity SAND with gravel, fine         No/No/NA         300         1         1         10           Image: Gray sity SAND with gravel, fine to medium         No/No/0.0         1000         1         38         50           Image: Gray sity SAND with gravel, fine to medium         No/No/0.0         1000         1         100         50           Image: Gray sity SAND with gravel, fine to medium         No/No/0.0         1000         1         50         60           Image: Gray sity SAND with gravel, fine to medium         No/No/0.0         1000         1         1         50         60           Image: Gray sity SAND with gravel, fine to medium         No/No/0.0         1000         1         1         50         60         67



	LO	G OF MONITORING WELL N	O. MW-1						Fi	gure No.	
	Proj	ect: Midas Muffler	Project N	<b>o:</b> <u>T-83</u>	36-3	Date Dri	lled:	March	<u>n 4, 2</u> (	021	
	Clie	nt: Jubilee 95, LLC	Driller: Boretec				L	ogge	d By:	NRH	
	Loca	ation: <u>Seattle</u> , Washington Depth t	o Groundwater: <u>N/A</u>			Approx. I	Elev: 2	52 Fe	et		
Depth (ft)	Sample Interval	Soil Description	Odor/ Sheen	R 30 6		very % 120	10	SPT Blow	/s/ft	0	Observ. Well
 0-	0					120		30		50	
-	-	7 inch concrete slab at surface.	No/No/0NA			16			٠	43	\$2, \$2, \$2, \$2, \$2, \$2, \$2, \$2, \$2, \$2,
5-	+++++	Rock in sampler tip at 2.5 feet. Light gray/brown silty SAND with gravel, fine	No/No/0.2			100				50	
		grained, moist. (SM) (till)	No/No/0.0			100			•	41	
10 -		4 inch wet lense at 8.5 feet.	No/No/NA			100				33/50 for 4	
15 -			No/No/0.2			100			•	35/50 for 5	
20 -	- - - -	Moist to wet at 20 feet.	No/No/NA			100				50 for 3	
25 -			No/No/NA			100				50 for 2	
30 -	- - - -		No/No/NA			100				50 for 3	
35 -	- - - -		No/No/NA	•		100				100	
40 -	- - - - - -	Boring terminated at 41.5 feet. 2-inch PVC monitoring well constructed with 0.010 slot	No/No/NA			100				100	



	LO	G OF MONITORING WELL N	O. MW-2							Figur	e No.	
	Proj	ect: Midas Muffler	Project	No: <u>]</u>	-8336	6-3	_ Date Dri	lled:	March	<u>1 4, 2021</u>		
	Clie	nt: Jubilee 95, LLC	Driller: Boretec					L	ogged	d By <u>: NR</u>	<u>tH</u>	
	Loca	ation: Seattle, Washington Depth t	to Groundwater: <u>N//</u>	4			_ Approx. I	Elev: 2	52 Fe	et		
Depth (ft)	Sample Interval	Soil Description	Odor/ Sheen			cove		10	SPT Blow	s/ft		Observ. Well
0-					80 60		120	10	30	50		
	-	6.5-inch concrete slab at surface. Fill: Gray/brown silty SAND with gravel, fine grained, moist to wet. (SM)	No/No/NA	•			16	•			2	
5-			No/No/0.2				16	•			8	
		Gray silty SAND with gravel, fine grained, moist. (SM) (till)	 No/No/0.0		•		100		•		4/50 for 5	
10 -			No/No/NA		•		80				2/50 for 5	
15 -			No/No/0.2		•		100			5	0 for 3	
20 -	-		No/No/NA		•		100				6/50 for 5	
25 -	-		No/No/NA		•		100			5	0 for 3	
30 -	-		No/No/NA		•		100			5	0 for 3	
	]	*Continued on next page										



	LO	OG OF MONITORING WELL NO	D. MW-2				Figure No.	
	Proj	ect: Midas Muffler	Project I	No: <u>T-8336-3</u>	Date Dril	led: March	4, 2021	
	Clie	nt: Jubilee 95, LLCC	Driller: Boretec			Logged	By: NRH	
	Loca	ation: Seattle, Washington Depth to	Groundwater: <u>N/A</u>		Approx. E	ilev:_252 Fee	t	
Depth (ft)	Sample Interval	Soil Description	Odor/ Sheen	Reco	very %	SPT ( Blows		Observ. Well
De	Sar			30 60	120	10 30	50	
35 -	-	Gray silty SAND with gravel, fine to medium grained, moist. (SM) (sandy till)	- No/No/NA		100		50 for 3	
40 -			No/No/NA	•	100		50 for 2	
45 -	-		No/No/NA		100		50 for 3	
50 -	-	Gray SAND with gravel, fine to medium grained, wet. (SP)	No/No/NA		100		50 for 3	
55 -	-		No/No/NA	•	100		50 for 3	
60 -	-			•	100		50 for 6	
		Boring terminated at 61.5 feet. 2-inch PVC monitoring well constructed with 0.010 slot screen from 47 to 57 feet.						



	LO	G OF MONITORING WELL N	O. MW-3				Figure No.	
	Proj	ect: Midas Muffler	Project N	<b>o:</b> <u>T-8336-3</u>	B Date Dri	lled: <u>Ma</u>	rch 4, 2021	
	Clie	nt: Jubilee 95, LLC	Driller: Boretec			Logo	ged By: NRH	
	Loca	ation: Seattle, Washington Depth	o Groundwater: <u>N/A</u>		Approx. I	Elev: 250	Feet	
Depth (ft)	Sample Interval	Soil Description	Odor/ Sheen		overy %	Bl	PT (N) ows/ft	Observ. Well
0-	S S	2 in the set of the second set		30 60	120	10 3	30 50	
5-	-	3 inches of asphalt pavement at surface. Light gray/brown silty SAND with gravel, fine grained, moist. (SM) (till)	No/No/0.0				56	
			10/10/0.0		100		45	
10			No/No/0.0		100		• 50 for 2	
15 -			No/No/0.0		50		50 for 6	
20 -		6-inch wet lense at 20 feet	No/No/0.0		100		50 for 4	
25 -			No/No/0.0		100		50 for 5	
30 -		1 to 2 inch thick medium-grained lenses at 30 feet. *Continued on next page	No/No/0.0		100		100	



	LC	G OF MONITORING WELL NO	. MW-3				Figure No	
	Proj	ect: Midas Muffler	Project N	<b>lo:</b> <u>T-8336-3</u>	Date Dri	illed: <u>Marc</u>	h 4, 2021	
	Clie	nt:Jubilee 95, LLC Dr	iller: Boretec			Logge	ed By: NRH	
	Loc	ation: Seattle, Washington Depth to (	Groundwater: <u>N/A</u>		Approx. I	Elev: 250 F	eet	
Depth (ft)	Sample Interval	Soil Description	Odor/ Sheen		very %	Blov	Γ (N) ws/ft	Observ. Well
35 -		Gray silty SAND with gravel, fine grained, moist. (SM) (till)	No/No/NA	30 60	120		0 50	
40 -	- - - - - - - - - -		No/No/NA	•	100		• 100	
45 -			No/No/NA	•	100		. 100	
50 -	-	Gray gravelly SAND and silty SAND with gravel, medium grained, wet. (SP/SM)	No/No/NA	•	100		100	
55 -	- - - - - - -		No/No/NA	•				
60 -	-	Boring terminated at 60 feet. 2-inch PVC monitoring well constructed with 0.010 slot screen from 47 to 57 feet below top of asphalt pavement.						



	LO	G OF MONITORING WELL N	O. MW-101						Fi	gure No.	
	Proj	ect: Midas Muffler	Project N	<b>o:</b> <u>T-833</u>	36-3	Date Dri	lled: <u>I</u>	<u>/arcł</u>	<u>1 4, 2(</u>	)21	
	Clie	nt: Jubilee 95, LLC	Driller: Boretec				Lo	ogge	d By:_	NRH	
	Loca	ation: Seattle, Washington Depth	to Groundwater: <u>N/A</u>			Approx. E	Elev:_2	52 Fe	et		
Depth (ft)	Sample Interval	Soil Description	Odor/ Sheen	R	ecov	very %		SPT Blow			Observ. Well
ے 0	Sa			30 6	0	120	10	30	5	0	
-		6-inch concrete slab at surface.									
- - 5		Light gray/brown silty SAND with gravel, fine grained, moist. (SM) (till)	Light/No/0.0			100			•	44	
- - 10 -			No/No/0.0			100				50 for 3	
- - 15 -			No/No/0.0			100				50 for 6	
- 20 — -			No/No/0.0			100				50 for 5	
- 25 — -			No/No/0.0			100				50 for 3	
- 30 — -			No/No/0.0			100				50 for 2	
-		*Continued on next page									



	LO	OG OF MONITORING WELL NO	. MW-101				Figure No.	
	Proj	ect: Midas Muffler	Project N	lo: <u>T-8336-3</u>	Date Dr	illed: Marc	ch 4, 2021	
	Clie	nt: Jubilee 95, LLC D	riller: Boretec			Logg	ed By: NRH	
	Loca	ation: Seattle, Washington Depth to	Groundwater: <u>N/A</u>		Approx.	<b>Elev:</b> 252 F	eet	
Depth (ft)	Sample Interval	Soil Description	Odor/ Sheen	Recov 30 60	very % 120	Blo	T (N) ws/ft	Observ. Well
35 -		Gray silty SAND with gravel, fine grained, moist. (SM) (till)	- No/No/NA		100		0 50	
40 -	-		No/No/NA		100		50 for	
45 -	-	Becomes medium grained by 45 feet.	No/No/NA				50 for 2	
50 -		Gray gravelly SAND and silty SAND with gravel, fine to medium grained, wet. (SP/SM)	No/No/NA				50 for 4	
55 -			No/No/NA				50 for 4	
60 -	-	Boring terminated at 61.5 feet. 2-inch PVC monitoring well constructed with 0.010 slot screen from 47 to 57 feet.					•	



## APPENDIX B ANALYTICAL TEST REPORTS - SOIL



September 30, 2020

Chuck Lie Terra Associates, Inc. 12220 113th Avenue NE, Suite 130 Kirkland, WA 98034

Re: Analytical Data for Project 8336-2 Laboratory Reference No. 2009-199

Dear Chuck:

Enclosed are the analytical results and associated quality control data for samples submitted on September 21, 2020.

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: September 30, 2020 Samples Submitted: September 21, 2020 Laboratory Reference: 2009-199 Project: 8336-2

### **Case Narrative**

Samples were collected on September 18, 2020 and received by the laboratory on September 21, 2020. They were maintained at the laboratory at a temperature of  $2^{\circ}$ C to  $6^{\circ}$ 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.



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This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

## DIESEL AND HEAVY OIL RANGE ORGANICS NWTPH-Dx

Matrix: Soil Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	B2 14'-17'U			•		<u>v</u>
_aboratory ID:	09-199-12					
Diesel Range Organics	ND	28	NWTPH-Dx	9-24-20	9-24-20	
ube Oil	350	55	NWTPH-Dx	9-24-20	9-24-20	
Surrogate:	Percent Recovery	Control Limits				
p-Terphenyl	87	50-150				
	0.					
Client ID:	B3 5'-8.5'M					
_aboratory ID:	09-199-19					
Diesel Range Organics	ND	26	NWTPH-Dx	9-24-20	9-24-20	
ube Oil	55	53	NWTPH-Dx	9-24-20	9-24-20	
Surrogate:	Percent Recovery	Control Limits				
p-Terphenyl	78	50-150				
Client ID:	B4 9.5'-12.5'M					
aboratory ID:	09-199-28					
Diesel Range Organics	ND	27	NWTPH-Dx	9-24-20	9-24-20	
ube Oil Range Organics	ND	54	NWTPH-Dx	9-24-20	9-24-20	
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	74	50-150				
Client ID:	B5 5'-9.5'M					
_aboratory ID:	09-199-34					
Diesel Range Organics	1300	140	NWTPH-Dx	9-24-20	9-24-20	Ν
ube Oil	9200	280	NWTPH-Dx	9-24-20	9-24-20	
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	91	50-150				
Client ID:	B6 5'-10'M					
aboratory ID:	09-199-37					
Diesel Range Organics	1300	140	NWTPH-Dx	9-24-20	9-24-20	Ν
ube Oil	7100	290	NWTPH-Dx	9-24-20	9-24-20	
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	,					
	99	50-150				
	99	50-150				
Client ID:	99 <b>B7 5'-9'M</b>	50-150				
Client ID: .aboratory ID:	<i>99</i> <b>B7 5'-9'M</b> 09-199-46					
Client ID: aboratory ID: Diesel Range Organics	99 B7 5'-9'M 09-199-46 ND	28	NWTPH-Dx	9-24-20	9-24-20	
<b>Client ID:</b> Laboratory ID: Diesel Range Organics Lube Oil Range Organics	99 B7 5'-9'M 09-199-46 ND ND	28 56	NWTPH-Dx NWTPH-Dx	9-24-20 9-24-20	9-24-20 9-24-20	
Client ID: _aboratory ID: _usel Range Organics _ube Oil Range Organics Surrogate: o-Terphenyl	99 B7 5'-9'M 09-199-46 ND	28				



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3
### DIESEL AND HEAVY OIL RANGE ORGANICS NWTPH-Dx

Matrix: Soil Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	B8 0'-5'U	1 42	motriou	Tioparoa	Analyzou	Thago
Laboratory ID:	09-199-48					
Diesel Range Organics	8500	1400	NWTPH-Dx	9-24-20	9-25-20	Ν
Lube Oil	24000	2700	NWTPH-Dx	9-24-20	9-25-20	
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl		50-150				S
Client ID:	B8 5'-10'L					
Laboratory ID:	09-199-53					
Diesel Range Organics	ND	28	NWTPH-Dx	9-24-20	9-24-20	
Lube Oil Range Organics	ND	55	NWTPH-Dx	9-24-20	9-24-20	
Currenter	Davaant Daaayany	Controllingito				

Surrogate:Percent RecoveryControl Limitso-Terphenyl7050-150

Date of Report: September 30, 2020 Samples Submitted: September 21, 2020 Laboratory Reference: 2009-199 Project: 8336-2

#### DIESEL AND HEAVY OIL RANGE ORGANICS NWTPH-Dx QUALITY CONTROL

Matrix: Soil Units: mg/Kg (ppm)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0924S1					
Diesel Range Organics	ND	25	NWTPH-Dx	9-24-20	9-24-20	
Lube Oil Range Organics	ND	50	NWTPH-Dx	9-24-20	9-24-20	
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	79	50-150				

Analyte	Res	sult	Spike	Level	Source Result	Pero Reco	cent overy	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	09-19	99-53									
	ORIG	DUP									
Diesel Range	ND	ND	NA	NA		N	A	NA	NA	NA	
Lube Oil Range	ND	ND	NA	NA		Ν	A	NA	NA	NA	
Surrogate:											
o-Terphenyl						70	68	50-150			



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5

#### PCBs EPA 8082A

Matrix: Soil Units: mg/Kg (ppm)

0 0 (11 /				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	B8 0'-5'U					
Laboratory ID:	09-199-48					
Aroclor 1016	ND	0.054	EPA 8082A	9-29-20	9-30-20	
Aroclor 1221	ND	0.054	EPA 8082A	9-29-20	9-30-20	
Aroclor 1232	ND	0.054	EPA 8082A	9-29-20	9-30-20	
Aroclor 1242	ND	0.054	EPA 8082A	9-29-20	9-30-20	
Aroclor 1248	ND	0.054	EPA 8082A	9-29-20	9-30-20	
Aroclor 1254	ND	0.27	EPA 8082A	9-29-20	9-30-20	U1
Aroclor 1260	ND	0.27	EPA 8082A	9-29-20	9-30-20	U1
Surrogate:	Percent Recovery	Control Limits				
DCB	64	46-125				



#### PCBs EPA 8082A QUALITY CONTROL

Matrix: Soil Units: mg/Kg (ppm)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0929S1					
Aroclor 1016	ND	0.050	EPA 8082A	9-29-20	9-29-20	
Aroclor 1221	ND	0.050	EPA 8082A	9-29-20	9-29-20	
Aroclor 1232	ND	0.050	EPA 8082A	9-29-20	9-29-20	
Aroclor 1242	ND	0.050	EPA 8082A	9-29-20	9-29-20	
Aroclor 1248	ND	0.050	EPA 8082A	9-29-20	9-29-20	
Aroclor 1254	ND	0.050	EPA 8082A	9-29-20	9-29-20	
Aroclor 1260	ND	0.050	EPA 8082A	9-29-20	9-29-20	
Surrogate:	Percent Recovery	Control Limits				
DCB	59	46-125				

					Source	Pe	rcent	Recovery		RPD	
Analyte	Re	sult	Spike	Level	Result	Rec	covery	Limits	RPD	Limit	Flags
MATRIX SPIKES											
Laboratory ID:	09-2	76-01									
	MS	MSD	MS	MSD		MS	MSD				
Aroclor 1260	0.389	0.360	0.500	0.500	ND	78	72	43-125	8	15	
Surrogate:											
DCB						65	58	46-125			



Date of Report: September 30, 2020 Samples Submitted: September 21, 2020 Laboratory Reference: 2009-199 Project: 8336-2

#### % MOISTURE

Client ID	Lab ID	% Moisture	Date Analyzed
B2 14'-17'U	09-199-12	9	9-24-20
B3 5'-8.5'M	09-199-19	5	9-24-20
B4 9.5'-12.5'M	09-199-28	8	9-24-20
B5 5'-9.5'M	09-199-34	12	9-24-20
B6 5'-10'M	09-199-37	12	9-24-20
B7 5'-9'M	09-199-46	10	9-24-20
B8 0'-5'U	09-199-48	8	9-24-20
B8 5'-10'L	09-199-53	9	9-24-20



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#### **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 methods 8260 & 8270, 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.

Ζ-

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



# **Chain of Custody**

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Phone: (425) 883-3881 • www.onsite-env.com Company: TAL Project Number: B3326-2 Project Manager: Chuck Life Sampled by: EVAN H. Eckles	Sam 2 Da Stan		] 1 Day ] 3 Days	Number of Containers	-HCID	NWTPH-Gx/BTEX		NWTPH-Dx ( Acid / SG Clean-up)	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Sernivolatiles 8270D/SIM (with Iow-level PAHs)	27 UU/SIM (IDW-IEVEI) 082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	fotal RCRA Metals	fotal MTCA Metals	letals	HEM (oil and grease) 1664A	(T)	ure
ab ID Sample Identification	Date Sampled	Time Sampled	Matrix	Numbe	NWTPH-HCID	NWTPH	NWTPH-Gx		Haloger	EDB EF	Semivo (with lo	PCBs 8082A	Organo	Organo	Chlorina	Total R(	Total M	TCLP Metals	HEM (o	Ma	% Moisture
1 Bl 2"-6"	9-Kb	9:05	5	1				X												X	X
2 BI -8°-30° 3 B2 0'-5'U		9:25		1				X												4	X
		10:10		1				X												+	X
H B2 0'-5'M		10:10		1				X												×	X
5 B2 0'-5'L		10:10		1				X												4	X
6 B2 5-10'U 7 B2 5-10'M		10:15		1				X												X	X
		10.15		1				X												+	X
8 B2 5-10'L		10:15		1				X												X	X
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Sampled by: Evan H. Eckles		(other)		er of Co	NWTPH-HCID	NWTPH-Gx/BTEX	H-GX	) ×d-H	Volatiles 8260C	enated V	PA 8011	olatiles 8	3270D/S	PCBs 8082A	ochlorine	phospf	lated Ac	fotal RCRA Metals	Total MTCA Metals	TCLP Metals	bi land g	HOL		sture
Lab ID Sample Identification	Date Sampled	Time Sampled	Matrix	Numb	NWTP	NWTP	NWTPH-Gx	NWTP	Volatile	Haloge	EDB E	Semivo (with Ic	PAHS	PCBs	Organo	Organo	Chlorir	Total F	Total N	TCLP	) MEH	H		% Moisture
11 B2 10-15'L	9-148	10:25	5	1				X	-													×		X
12 B2 14-17'U	1	10:40	1	1																				
13 B2 14-17 m		10:40		1				Π														×		
14 B2 14-17 L		10:40		1																		x		
15 B3 0-5'U		11:15		)				11					-									X		
16 B3 0-5 M		11:15		1				1														×		
17 B3 0-5L		11:15		1																		×		
18 B3 5-65U		11:25		1																		X		
19 B3 5-8.5M		11:25		1																				Ċ
20 B3 5-4.5'L	~	11:25	~	)				J														X		V
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Sampled by: Evan H. Eckles		(other)		er of C	H-HCII	H-Gx/B	H-Gx	H-Dx (	ss 826(	inated	PA 801	olatiles wo-leve	PCBs 8082A	ochlori	phosp	ated A	Total RCRA Metals	ITCA N	TCLP Metals	oil and	Hor		sture
Lab ID Sample Identification	Date Sampled	Time Sampled	Matrix	Numb	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTP	Volatiles 8260C	Haloge	EDB E	Semiv (with lo	PCBs	Organi	Organi	Chlorin	Total P	Total N	TCLP	HEM (	T		% Moisture
21 BH 0-5U	9-1-6	12:00	5	1				X													X		X
22 BH 0-5 M	1	12:00	1	1				1													X		1
23 BH 0'-5'L		12:00		1																	×		
23 BH 0'-5'L 2H BH 5'-9.5'U		12:15		)				1													×		
25 BH 5-9.5 M		12:15		1																	X		
26 BH 5-9.5 L		12:15		1																	X		
27 BH 9.5-12.5 U		12:25		1																	X		
27 BH 9.5-12.5 U 26 BH 9.5-12.5 M		12:25		1				•															
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# **Chain of Custody**

Page 4 of 6

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Phone: (425) 883-3881 • www.onsit Company: TAI Project Number: 43360 - 2 Project Name: Project Manager: Chuck Life Sampled by: Evon H.Eckles	Sam		1 Day 3 Days	Number of Containers	HCID	NWTPH-Gx/BTEX	-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)	082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metgis	fotal MTCA Metals	letais	HEM (oi and grease) 1664A		GTOH		ture
Lab ID Sample Identification	Date Sampled	Time Sampled	Matrix	Numbe	NWTPH-HCID	NWTPH	NWTPH-Gx	NWTPH	Volatile	Haloger	EDB EP	Semivo (with lo	PAHs 8	PCBs 8082A	Organo	Organo	Chlorin	Total R(	Total M	TCLP Metais	HEM (o		R		% Moisture
31 B5 i-5 m	9-13	13:00	5	1				X									1						X		X
32 B5 1-5 L	1	13:00	)	)				1															X		1
33 B5 5-9.5U		13:15		1																			×		
34 B5 5 7.5 m		13:15		1				۲																	
35 B5 5-9.5L		13:15		1																			X		
36 BL 5-10 U		14:20		1																			×		
37 B6 5-10m		14:20		1																					
30 BO 5-10'L		14:20		1																			×		T
39 Ble 10-12U		14:30		1																			×		
40 Ble 10-12 m	V	14:30	V	)				V	1														X		V
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Page	5	of	6
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Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052	Tu (	rnaround Requ in working day	est s)		La	abo	rator	y N	umb	er:	09	- 1	9	9									
Phone: (425) 883-3881 • www.onsite-env.com Company: TAI Project Number: B336-2 Project Name:	Sam	,	] 1 Day ] 3 Days											Ι	des 8151A				34A				
Project Manager: Chuck Lie Sampled by: Evan H. Echles	Date	(other) Time		Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-G× NWTPH-D× (	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 Metais	HEM (oil and grease) 1664A		404		% Maisture
Lab 10 Sample Identification 41 B/G 10-12 L	Sampled 9-14		Matrix 5	Nu	N	N	AN N		Ha		Se (wi PA	PC	ō	Ō	5	Tot	Tot	10	Ξ	5			× X
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# **Chain of Custody**

Page 6 of 6

	Analytical Laboratory Testing Services		naround Req				abo	rat	orv	Nun	nh	or	0	0	_ 1	0	0							-		
	14648 NE 95th Street • Redmond, WA 98052 Phone: (425) 883-3881 • www.onsite-env.com	-	working day	(5)	-	E		nau	Uly				U	9		3	13		r	T	1	1	-	-	-	
Compa Project		Same		] 1 Day					(dr							~	STOD/SI M	14								
Project	4334-2 Name:	2 Day	/s [ lard (7 Days)	3 Days					G Clean-		260C	Only)	5	evel)		les 8081E	ticides 82	ides 8151A				64A				
Project	Manager: Chuck Life d by: Evan H. Eckles				Number of Containers		TEX		NWTPH-Dx ( Acid / SG Cletan-up)	U I	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	SIM (jow-le		Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SI M	Chlorinated Acid Herbicides	letals	Aetals		HEM (oi and grease) 1 664A		2		
Sample	" Evan H. Eckles		(other)		er of C	H-HCIE	H-Gx/E	H-Gx	)) ×O-H	Volatiles 8260C	nated	PA 801	olatiles w-leve	3270D/	PCBs 8082A	ochlorii	dsoudd	nated A	Total RCRA Metals	Total MTCA Metals	TCLP Metals	oiland		HOL		sture
Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Numb	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPI	Volatile	Haloge	EDB E	Semive (with lo	PAHs 8	PCBs	Organo	Organo	Chlorir	Total F	Total N	TCLP	HEM	-	¥		% Moisture
51	BA 5-10'U	9-18	16:00	5	1				X															X		X
52	B40 5-10 M	9-12	16:00	5	1				X															X		X
53	B405-10L	9-16	16:00	5	1				Ì																	
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October 12, 2020

Chuck Lie Terra Associates, Inc. 12220 113th Avenue NE, Suite 130 Kirkland, WA 98034

Re: Analytical Data for Project 8336-2 Laboratory Reference No. 2009-199B

Dear Chuck:

Enclosed are the analytical results and associated quality control data for samples submitted on September 21, 2020.

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

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

Sincerely,

David Baumeister Project Manager

Enclosures



Date of Report: October 12, 2020 Samples Submitted: September 21, 2020 Laboratory Reference: 2009-199B Project: 8336-2

#### **Case Narrative**

Samples were collected on September 18, 2020 and received by the laboratory on September 21, 2020. They were maintained at the laboratory at a temperature of  $2^{\circ}$ C to  $6^{\circ}$ C.

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

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

#### NWTPH-Gx/Volatiles EPA 8260D Analysis

Method 5035A VOA vials were not provided for sample B8 0'-5'U. The sample was therefore extracted from a 4ounce jar for analysis. Some loss of volatiles may have occurred.

#### Volatiles EPA 8260D Analysis

The value reported for Acetone in sample B8 0'-5'U exceeds the calibration range and is therefore an estimate. The sample was re-analyzed at a dilution with non-detect results for Acetone.

Please note that any other QA/QC issues associated with these extractions and analyses will be indicated with a footnote reference and discussed in detail on the Data Qualifier page.



### DIESEL AND HEAVY OIL RANGE ORGANICS NWTPH-Dx

Matrix: Soil Units: mg/Kg (ppm)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	B6 5'-10'U					
Laboratory ID:	09-199-36					
Diesel Range Organics	160	28	NWTPH-Dx	10-2-20	10-2-20	N
Lube Oil	1200	57	NWTPH-Dx	10-2-20	10-2-20	
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	93	50-150				
Client ID:	B6 5'-10'L					
Laboratory ID:	09-199-38					
Diesel Range Organics	3700	270	NWTPH-Dx	10-2-20	10-5-20	Ν
Lube Oil	9000	550	NWTPH-Dx	10-2-20	10-5-20	
Surrogate:	Percent Recovery	Control Limits				

o-Terphenyl --- 50-150



Date of Report: October 12, 2020 Samples Submitted: September 21, 2020 Laboratory Reference: 2009-199B Project: 8336-2

#### DIESEL AND HEAVY OIL RANGE ORGANICS NWTPH-Dx QUALITY CONTROL

Matrix: Soil Units: mg/Kg (ppm)

			Date	Date	
Result	PQL	Method	Prepared	Analyzed	Flags
MB1002S1					
ND	25	NWTPH-Dx	10-2-20	10-2-20	
ND	50	NWTPH-Dx	10-2-20	10-2-20	
Percent Recovery	Control Limits				
79	50-150				
	MB1002S1 ND ND Percent Recovery	MB1002S1 ND 25 ND 50 Percent Recovery Control Limits	MB1002S1 ND 25 NWTPH-Dx ND 50 NWTPH-Dx Percent Recovery Control Limits	Result         PQL         Method         Prepared           MB1002S1         -<	Result         PQL         Method         Prepared         Analyzed           MB1002S1

					Source	Perc	cent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Result	Reco	very	Limits	RPD	Limit	Flags
DUPLICATE											
Laboratory ID:	10-00	)2-01									
	ORIG	DUP									
Diesel Range	ND	ND	NA	NA		N	A	NA	NA	NA	
Lube Oil Range	ND	ND	NA	NA		N	A	NA	NA	NA	
Surrogate:											
o-Terphenyl						77	92	50-150			



OnSite Environmental, Inc. 14648 NE 95<sup>th</sup> Street, Redmond, WA 98052 (425) 883-3881

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#### **GASOLINE RANGE ORGANICS NWTPH-Gx**

Matrix: Soil Units: mg/kg (ppm)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	B8 0'-5'U					
Laboratory ID:	09-199-48					
Gasoline	ND	9.9	NWTPH-Gx	10-2-20	10-2-20	
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	100	58-129				



#### GASOLINE RANGE ORGANICS NWTPH-Gx QUALITY CONTROL

Matrix: Soil Units: mg/kg (ppm)

							Date	Date	)	
Analyte		Result	PQL	Me	ethod	l	Prepared	Analyz	ed	Flags
METHOD BLANK										
Laboratory ID:		MB1002S1								
Gasoline		ND	5.0	NW	FPH-Gx		10-2-20	10-2-2	20	
Surrogate:	Pei	rcent Recover	Control Lim	its						
Fluorobenzene		101	58-129							
				Source	Perce	ent	Recovery		RPD	
Analyte	Res	sult	Spike Level	Result	Recov	very	Limits	RPD	Limit	Flags
DUPLICATE										
Laboratory ID:	10-01	17-04								
	ORIG	DUP								
Gasoline	ND	ND	NA NA		NA		NA	NA	30	
Surrogate:										
Fluorobenzene					107	104	58-129			



#### VOLATILE ORGANICS EPA 8260D page 1 of 2

Matrix: Soil Units: mg/kg

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	B8 0'-5'U					
Laboratory ID:	09-199-48					
Dichlorodifluoromethane	ND	0.00092	EPA 8260D	10-2-20	10-2-20	
Chloromethane	ND	0.0046	EPA 8260D	10-2-20	10-2-20	
Vinyl Chloride	ND	0.00092	EPA 8260D	10-2-20	10-2-20	
Bromomethane	ND	0.00092	EPA 8260D	10-2-20	10-2-20	
Chloroethane	ND	0.0046	EPA 8260D	10-2-20	10-2-20	
Trichlorofluoromethane	ND	0.00092	EPA 8260D	10-2-20	10-2-20	
1,1-Dichloroethene	ND	0.00092	EPA 8260D	10-2-20	10-2-20	
Acetone	0.24	0.0092	EPA 8260D	10-2-20	10-2-20	Е
lodomethane	ND	0.0046	EPA 8260D	10-2-20	10-2-20	
Carbon Disulfide	ND	0.00092	EPA 8260D	10-2-20	10-2-20	
Methylene Chloride	0.061	0.0046	EPA 8260D	10-2-20	10-2-20	Н
(trans) 1,2-Dichloroethene	ND	0.00092	EPA 8260D	10-2-20	10-2-20	
Methyl t-Butyl Ether	ND	0.00092	EPA 8260D	10-2-20	10-2-20	
1,1-Dichloroethane	ND	0.00092	EPA 8260D	10-2-20	10-2-20	
Vinyl Acetate	ND	0.0046	EPA 8260D	10-2-20	10-2-20	
2,2-Dichloropropane	ND	0.00092	EPA 8260D	10-2-20	10-2-20	
(cis) 1,2-Dichloroethene	ND	0.00092	EPA 8260D	10-2-20	10-2-20	
2-Butanone	0.043	0.0046	EPA 8260D	10-2-20	10-2-20	
Bromochloromethane	ND	0.00092	EPA 8260D	10-2-20	10-2-20	
Chloroform	ND	0.00092	EPA 8260D	10-2-20	10-2-20	
1,1,1-Trichloroethane	ND	0.00092	EPA 8260D	10-2-20	10-2-20	
Carbon Tetrachloride	ND	0.00092	EPA 8260D	10-2-20	10-2-20	
1,1-Dichloropropene	ND	0.00092	EPA 8260D	10-2-20	10-2-20	
Benzene	ND	0.00092	EPA 8260D	10-2-20	10-2-20	
1,2-Dichloroethane	ND	0.00092	EPA 8260D	10-2-20	10-2-20	
Trichloroethene	ND	0.00092	EPA 8260D	10-2-20	10-2-20	
1,2-Dichloropropane	ND	0.00092	EPA 8260D	10-2-20	10-2-20	
Dibromomethane	ND	0.00092	EPA 8260D	10-2-20	10-2-20	
Bromodichloromethane	ND	0.00092	EPA 8260D	10-2-20	10-2-20	
2-Chloroethyl Vinyl Ether	ND	0.0046	EPA 8260D	10-2-20	10-2-20	
(cis) 1,3-Dichloropropene	ND	0.00092	EPA 8260D	10-2-20	10-2-20	
Methyl Isobutyl Ketone	ND	0.0046	EPA 8260D	10-2-20	10-2-20	
Toluene	ND	0.0046	EPA 8260D	10-2-20	10-2-20	
(trans) 1,3-Dichloropropene	ND	0.00092	EPA 8260D	10-2-20	10-2-20	



OnSite Environmental, Inc. 14648 NE 95<sup>th</sup> Street, Redmond, WA 98052 (425) 883-3881

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				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	B8 0'-5'U					
Laboratory ID:	09-199-48					
1,1,2-Trichloroethane	ND	0.00092	EPA 8260D	10-2-20	10-2-20	
Tetrachloroethene	0.0074	0.00092	EPA 8260D	10-2-20	10-2-20	
1,3-Dichloropropane	ND	0.00092	EPA 8260D	10-2-20	10-2-20	
2-Hexanone	ND	0.0046	EPA 8260D	10-2-20	10-2-20	
Dibromochloromethane	ND	0.00092	EPA 8260D	10-2-20	10-2-20	
1,2-Dibromoethane	ND	0.00092	EPA 8260D	10-2-20	10-2-20	
Chlorobenzene	ND	0.00092	EPA 8260D	10-2-20	10-2-20	
1,1,1,2-Tetrachloroethane	ND	0.00092	EPA 8260D	10-2-20	10-2-20	
Ethylbenzene	ND	0.00092	EPA 8260D	10-2-20	10-2-20	
m,p-Xylene	ND	0.0018	EPA 8260D	10-2-20	10-2-20	
o-Xylene	ND	0.00092	EPA 8260D	10-2-20	10-2-20	
Styrene	ND	0.00092	EPA 8260D	10-2-20	10-2-20	
Bromoform	ND	0.0046	EPA 8260D	10-2-20	10-2-20	
Isopropylbenzene	ND	0.00092	EPA 8260D	10-2-20	10-2-20	
Bromobenzene	ND	0.048	EPA 8260D	10-2-20	10-2-20	
1,1,2,2-Tetrachloroethane	ND	0.048	EPA 8260D	10-2-20	10-2-20	
1,2,3-Trichloropropane	ND	0.048	EPA 8260D	10-2-20	10-2-20	
n-Propylbenzene	ND	0.048	EPA 8260D	10-2-20	10-2-20	
2-Chlorotoluene	ND	0.048	EPA 8260D	10-2-20	10-2-20	
4-Chlorotoluene	ND	0.048	EPA 8260D	10-2-20	10-2-20	
1,3,5-Trimethylbenzene	ND	0.048	EPA 8260D	10-2-20	10-2-20	
tert-Butylbenzene	ND	0.048	EPA 8260D	10-2-20	10-2-20	
1,2,4-Trimethylbenzene	ND	0.048	EPA 8260D	10-2-20	10-2-20	
sec-Butylbenzene	ND	0.048	EPA 8260D	10-2-20	10-2-20	
1,3-Dichlorobenzene	ND	0.048	EPA 8260D	10-2-20	10-2-20	
p-lsopropyltoluene	ND	0.048	EPA 8260D	10-2-20	10-2-20	
1,4-Dichlorobenzene	ND	0.048	EPA 8260D	10-2-20	10-2-20	
1,2-Dichlorobenzene	ND	0.048	EPA 8260D	10-2-20	10-2-20	
n-Butylbenzene	ND	0.048	EPA 8260D	10-2-20	10-2-20	
1,2-Dibromo-3-chloropropane	ND	0.24	EPA 8260D	10-2-20	10-2-20	
1,2,4-Trichlorobenzene	ND	0.048	EPA 8260D	10-2-20	10-2-20	
Hexachlorobutadiene	ND	0.24	EPA 8260D	10-2-20	10-2-20	
Naphthalene	ND	0.24	EPA 8260D	10-2-20	10-2-20	
1,2,3-Trichlorobenzene	ND	0.048	EPA 8260D	10-2-20	10-2-20	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	107	74-131				
Toluene-d8	83	78-128				

#### VOLATILE ORGANICS EPA 8260D page 2 of 2



4-Bromofluorobenzene

71-130

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#### VOLATILE ORGANICS EPA 8260D QUALITY CONTROL page 1 of 2

Matrix: Soil Units: mg/kg

Units. mg/kg		_		Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1002S2					
Dichlorodifluoromethane	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
Chloromethane	ND	0.0050	EPA 8260D	10-2-20	10-2-20	
Vinyl Chloride	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
Bromomethane	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
Chloroethane	ND	0.0050	EPA 8260D	10-2-20	10-2-20	
Trichlorofluoromethane	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
1,1-Dichloroethene	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
Acetone	ND	0.010	EPA 8260D	10-2-20	10-2-20	E
lodomethane	ND	0.0050	EPA 8260D	10-2-20	10-2-20	
Carbon Disulfide	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
Methylene Chloride	ND	0.0050	EPA 8260D	10-2-20	10-2-20	Н
(trans) 1,2-Dichloroethene	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
Methyl t-Butyl Ether	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
1,1-Dichloroethane	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
Vinyl Acetate	ND	0.0050	EPA 8260D	10-2-20	10-2-20	
2,2-Dichloropropane	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
(cis) 1,2-Dichloroethene	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
2-Butanone	ND	0.0050	EPA 8260D	10-2-20	10-2-20	
Bromochloromethane	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
Chloroform	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
1,1,1-Trichloroethane	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
Carbon Tetrachloride	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
1,1-Dichloropropene	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
Benzene	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
1,2-Dichloroethane	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
Trichloroethene	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
1,2-Dichloropropane	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
Dibromomethane	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
Bromodichloromethane	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
2-Chloroethyl Vinyl Ether	ND	0.0050	EPA 8260D	10-2-20	10-2-20	
(cis) 1,3-Dichloropropene	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
Methyl Isobutyl Ketone	ND	0.0050	EPA 8260D	10-2-20	10-2-20	
Toluene	ND	0.0050	EPA 8260D	10-2-20	10-2-20	
(trans) 1,3-Dichloropropene	ND	0.0010	EPA 8260D	10-2-20	10-2-20	



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Date of Report: October 12, 2020 Samples Submitted: September 21, 2020 Laboratory Reference: 2009-199B Project: 8336-2

#### VOLATILE ORGANICS EPA 8260D QUALITY CONTROL page 2 of 2

• • • •				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1002S2					
1,1,2-Trichloroethane	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
Tetrachloroethene	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
1,3-Dichloropropane	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
2-Hexanone	ND	0.0050	EPA 8260D	10-2-20	10-2-20	
Dibromochloromethane	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
1,2-Dibromoethane	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
Chlorobenzene	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
1,1,1,2-Tetrachloroethane	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
Ethylbenzene	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
m,p-Xylene	ND	0.0020	EPA 8260D	10-2-20	10-2-20	
o-Xylene	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
Styrene	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
Bromoform	ND	0.0050	EPA 8260D	10-2-20	10-2-20	
Isopropylbenzene	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
Bromobenzene	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
1,1,2,2-Tetrachloroethane	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
1,2,3-Trichloropropane	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
n-Propylbenzene	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
2-Chlorotoluene	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
4-Chlorotoluene	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
1,3,5-Trimethylbenzene	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
tert-Butylbenzene	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
1,2,4-Trimethylbenzene	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
sec-Butylbenzene	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
1,3-Dichlorobenzene	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
p-lsopropyltoluene	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
1,4-Dichlorobenzene	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
1,2-Dichlorobenzene	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
n-Butylbenzene	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
1,2-Dibromo-3-chloropropane	ND	0.0050	EPA 8260D	10-2-20	10-2-20	
1,2,4-Trichlorobenzene	ND	0.0010	EPA 8260D	10-2-20	10-2-20	
Hexachlorobutadiene	ND	0.0050	EPA 8260D	10-2-20	10-2-20	
Naphthalene	ND	0.0050	EPA 8260D	10-2-20	10-2-20	
1,2,3-Trichlorobenzene	ND	0.0030	EPA 8200D EPA 8260D	10-2-20	10-2-20	
				10-2-20	10-2-20	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	104	74-131				
Toluene-d8	100	78-128				
4-Bromofluorobenzene	95	71-130				



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#### VOLATILE ORGANICS EPA 8260D QUALITY CONTROL

Matrix: Soil Units: mg/kg

						Per	cent	Recovery		RPD	
Analyte	Res	sult	Spike	Level		Reco	overy	Limits	RPD	Limit	Flags
SPIKE BLANKS											
Laboratory ID:	SB10	02S2									
	SB	SBD	SB	SBD		SB	SBD				
1,1-Dichloroethene	0.0469	0.0469	0.0500	0.0500		94	94	55-126	0	17	
Benzene	0.0474	0.0487	0.0500	0.0500		95	97	65-121	3	16	
Trichloroethene	0.0487	0.0476	0.0500	0.0500		97	95	74-126	2	16	
Toluene	0.0470	0.0476	0.0500	0.0500	Е	94	95	71-121	1	16	
Chlorobenzene	0.0467	0.0462	0.0500	0.0500		93	92	72-123	1	16	
Surrogate:											
Dibromofluoromethane					Н	96	100	74-131			
Toluene-d8						103	100	78-128			
4-Bromofluorobenzene						102	106	71-130			



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#### PAHs EPA 8270E/SIM

Matrix: Soil Units: mg/Kg

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	B8 0'-5'U					
Laboratory ID:	09-199-48					
Naphthalene	ND	0.14	EPA 8270E/SIM	10-2-20	10-2-20	
2-Methylnaphthalene	ND	0.14	EPA 8270E/SIM	10-2-20	10-2-20	
1-Methylnaphthalene	ND	0.14	EPA 8270E/SIM	10-2-20	10-2-20	
Acenaphthylene	ND	0.14	EPA 8270E/SIM	10-2-20	10-2-20	
Acenaphthene	ND	0.14	EPA 8270E/SIM	10-2-20	10-2-20	
Fluorene	ND	0.14	EPA 8270E/SIM	10-2-20	10-2-20	
Phenanthrene	ND	0.14	EPA 8270E/SIM	10-2-20	10-2-20	
Anthracene	ND	0.14	EPA 8270E/SIM	10-2-20	10-2-20	
Fluoranthene	ND	0.14	EPA 8270E/SIM	10-2-20	10-2-20	
Pyrene	ND	0.14	EPA 8270E/SIM	10-2-20	10-2-20	
Benzo[a]anthracene	ND	0.14	EPA 8270E/SIM	10-2-20	10-2-20	
Chrysene	ND	0.14	EPA 8270E/SIM	10-2-20	10-2-20	
Benzo[b]fluoranthene	ND	0.14	EPA 8270E/SIM	10-2-20	10-2-20	
Benzo(j,k)fluoranthene	ND	0.14	EPA 8270E/SIM	10-2-20	10-2-20	
Benzo[a]pyrene	ND	0.14	EPA 8270E/SIM	10-2-20	10-2-20	
Indeno(1,2,3-c,d)pyrene	ND	0.14	EPA 8270E/SIM	10-2-20	10-2-20	
Dibenz[a,h]anthracene	ND	0.14	EPA 8270E/SIM	10-2-20	10-2-20	
Benzo[g,h,i]perylene	ND	0.14	EPA 8270E/SIM	10-2-20	10-2-20	
Surrogate:	Percent Recovery	Control Limits				
2-Fluorobiphenyl	48	46 - 113				
Pyrene-d10	58	45 - 114				
Terphenyl-d14	79	49 - 121				



#### PAHs EPA 8270E/SIM QUALITY CONTROL

Matrix: Soil Units: mg/Kg

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1002S1					
Naphthalene	ND	0.0033	EPA 8270E/SIM	10-2-20	10-2-20	
2-Methylnaphthalene	ND	0.0033	EPA 8270E/SIM	10-2-20	10-2-20	
1-Methylnaphthalene	ND	0.0033	EPA 8270E/SIM	10-2-20	10-2-20	
Acenaphthylene	ND	0.0033	EPA 8270E/SIM	10-2-20	10-2-20	
Acenaphthene	ND	0.0033	EPA 8270E/SIM	10-2-20	10-2-20	
Fluorene	ND	0.0033	EPA 8270E/SIM	10-2-20	10-2-20	
Phenanthrene	ND	0.0033	EPA 8270E/SIM	10-2-20	10-2-20	
Anthracene	ND	0.0033	EPA 8270E/SIM	10-2-20	10-2-20	
Fluoranthene	ND	0.0033	EPA 8270E/SIM	10-2-20	10-2-20	
Pyrene	ND	0.0033	EPA 8270E/SIM	10-2-20	10-2-20	
Benzo[a]anthracene	ND	0.0033	EPA 8270E/SIM	10-2-20	10-2-20	
Chrysene	ND	0.0033	EPA 8270E/SIM	10-2-20	10-2-20	
Benzo[b]fluoranthene	ND	0.0033	EPA 8270E/SIM	10-2-20	10-2-20	
Benzo(j,k)fluoranthene	ND	0.0033	EPA 8270E/SIM	10-2-20	10-2-20	
Benzo[a]pyrene	ND	0.0033	EPA 8270E/SIM	10-2-20	10-2-20	
Indeno(1,2,3-c,d)pyrene	ND	0.0033	EPA 8270E/SIM	10-2-20	10-2-20	
Dibenz[a,h]anthracene	ND	0.0033	EPA 8270E/SIM	10-2-20	10-2-20	
Benzo[g,h,i]perylene	ND	0.0033	EPA 8270E/SIM	10-2-20	10-2-20	
Surrogate:	Percent Recovery	Control Limits				
2-Fluorobiphenyl	75	46 - 113				
Pyrene-d10	88	45 - 114				
Terphenyl-d14	86	49 - 121				



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#### PAHs EPA 8270E/SIM QUALITY CONTROL

Matrix: Soil Units: mg/Kg

					I	Per	cent	Recovery		RPD	
Analyte	Re	sult	Spike	Level	R	Recovery		Limits	RPD	Limit	Flags
SPIKE BLANKS											
Laboratory ID:	SB10	)02S1									
	SB	SBD	SB	SBD	S	SВ	SBD				
Naphthalene	0.0758	0.0672	0.0833	0.0833	9	91	81	60 - 116	12	16	
Acenaphthylene	0.0689	0.0679	0.0833	0.0833	8	33	82	60 - 125	1	15	
Acenaphthene	0.0737	0.0688	0.0833	0.0833	8	88	83	60 - 121	7	15	
Fluorene	0.0711	0.0650	0.0833	0.0833	8	35	78	65 - 126	9	15	
Phenanthrene	0.0665	0.0668	0.0833	0.0833	8	80	80	65 - 120	0	15	
Anthracene	0.0779	0.0731	0.0833	0.0833	9	94	88	67 - 125	6	15	
Fluoranthene	0.0758	0.0793	0.0833	0.0833	9	91	95	66 - 125	5	15	
Pyrene	0.0780	0.0795	0.0833	0.0833	9	94	95	62 - 125	2	15	
Benzo[a]anthracene	0.0716	0.0705	0.0833	0.0833	8	86	85	72 - 129	2	15	
Chrysene	0.0764	0.0770	0.0833	0.0833	9	92	92	66 - 123	1	15	
Benzo[b]fluoranthene	0.0698	0.0780	0.0833	0.0833	8	34	94	68 - 128	11	15	
Benzo(j,k)fluoranthene	0.0793	0.0793	0.0833	0.0833	9	95	95	63 - 128	0	16	
Benzo[a]pyrene	0.0799	0.0791	0.0833	0.0833	9	96	95	66 - 130	1	15	
Indeno(1,2,3-c,d)pyrene	0.0700	0.0763	0.0833	0.0833	8	34	92	63 - 135	9	15	
Dibenz[a,h]anthracene	0.0691	0.0779	0.0833	0.0833	8	33	94	65 - 130	12	15	
Benzo[g,h,i]perylene	0.0663	0.0733	0.0833	0.0833	8	30	88	66 - 127	10	15	
Surrogate:											
2-Fluorobiphenyl					7	72	75	46 - 113			
Pyrene-d10					8	88	93	45 - 114			
Terphenyl-d14					8	86	90	49 - 121			

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

Matrix: Soil Units: mg/Kg (ppm)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	B8 0'-5'U					
Laboratory ID:	09-199-48					
Arsenic	ND	11	EPA 6010D	10-8-20	10-8-20	
Cadmium	ND	0.54	EPA 6010D	10-8-20	10-8-20	
Chromium	37	0.54	EPA 6010D	10-8-20	10-8-20	
Lead	18	5.4	EPA 6010D	10-8-20	10-8-20	
Mercury	ND	0.27	EPA 7471B	10-8-20	10-8-20	



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

Matrix: Soil Units: mg/Kg (ppm)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1008SM2					
Arsenic	ND	10	EPA 6010D	10-8-20	10-8-20	
Cadmium	ND	0.50	EPA 6010D	10-8-20	10-8-20	
Chromium	ND	0.50	EPA 6010D	10-8-20	10-8-20	
Lead	ND	5.0	EPA 6010D	10-8-20	10-8-20	
Laboratory ID:	MB1008S1					
Mercury	ND	0.25	EPA 7471B	10-8-20	10-8-20	

					Source	Pe	rcent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Result	Recovery		Limits	RPD	Limit	Flags
DUPLICATE											
Laboratory ID:	10-08	33-01									
	ORIG	DUP									
Arsenic	ND	ND	NA	NA		NA		NA	NA	20	
Cadmium	ND	ND	NA	NA		I	NA	NA	NA	20	
Chromium	22.6	22.3	NA	NA		I	NA	NA	2	20	
Lead	ND	ND	NA	NA		I	NA	NA	NA	20	
Laboratory ID:	10-08	33-01									
Mercury	ND	ND	NA	NA		I	NA	NA	NA	20	
MATRIX SPIKES											
Laboratory ID:	10-08	33-01									
	MS	MSD	MS	MSD		MS	MSD				
Arsenic	96.4	95.7	100	100	ND	96	96	75-125	1	20	
Cadmium	48.0	47.8	50.0	50.0	ND	96	96	75-125	1	20	
Chromium	123	114	100	100	22.6	100	91	75-125	7	20	
Lead	237	237	250	250	ND	95	95	75-125	0	20	
Laboratory ID:	10-08	33-01									
Mercury	0.540	0.527	0.500	0.500	0.00740	107	104	80-120	2	20	



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Date of Report: October 12, 2020 Samples Submitted: September 21, 2020 Laboratory Reference: 2009-199B Project: 8336-2

#### % MOISTURE

			Date
Client ID	Lab ID	% Moisture	Analyzed
B6 5'-10'U	09-199-36	12	10-2-20
B6 5'-10'L	09-199-38	8	10-2-20
B8 0'-5'U	09-199-48	8	9-24-20



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#### **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 methods 8260 & 8270, 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.

Ζ-

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



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Project Manager: Chuck Life				ntainers		LEX				olatiles	(Waters	PAHS)		e Pestici	lorus Pe	id Herbi	etals	etals		grease) 1664A			
Project Manager: Cruck Life Sampled by: Evan H. Eckles		(other)		er of Cont	NWTPH-HCID	NWTPH-Gx/BT	H-Gx	NWTPH-Dx (	Volatiles 8260C		EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs) DALLO 0070D/CIM flow: 10100	8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides	Chlorinated Acid Herbicides	Total RCRA Metals	Total MTCA Metals	TCLP Metals	oil and g	775	d'inte	
ab ID Sample Identification	Date Sampled	Time Sampled	Matrix	Number	NWTP	NWTP	NWTPH-Gx	NWTP	Volatile	Haloge	EDBE	Semive (with lo	PCBs 8082A	Organo	Organo	Chlorir	Total R	Total N	TCLP1	HEM (oil and	Ha	% Moisture	
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		10:15		1				X													+	7	X
8 B2 5-10'L		10:15						X		_		_									X	X	_
9 B2 10-15 U		10:25	_	1	_			X	,	_					_						*	×	$\leq$
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OnSite Environmental Inc.		Cha	nin o	f	Cu	IS	toc	<b>ly</b>										F	Page	2	_ of	0	
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833/0-2	2 Da	iys [	3 Days					an-up						818	8270	8151A							
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Sampled by: Evan H. EKKS	10-	(other)		of Con	HCID	-Gx/BTI	Gx		8260C	ated Vo	A 8011	atiles 82 /-level F	70D/SI	baca chlorine	hasaha	ted Aci	RA Met	CA Met	etals	and gr	HOLI		lire
Lab ID Sample Identification	Date Sampled	Time Sampled	Matrix	Number of	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 82	PUBS 8062A Organochlorine Pesticides 8081B	Organophosphorus Pesticides 82700/StM	Chlorinated Acid Herbicides	Total RCRA Metals	Fotal MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A	HC		% Moisture
11 B2 10-15L	9-1-8	T		1				X		_											X		X
12 B2 14-17U		10:40	1	1													1						
13 B2 14-17 M		10,40		1																	X		
14 B2 14-17 L		10:40		1																	x		
15 B3 0-5U		11:15		)				Τ													×		
16 B3 0-5 M		11:15		1																	×		1
17 B3 0-5L		11:15		1																	×		
18 B3 5-85U		11:25		1																	X		
19 B3 5-9.5M		11:25		1																			Ċ
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Phone: (425) 883-3881 • www.onsite-env.com Company: TAFL Project Number: B3320-2 Project Name: Project Manager: Chuck Life Sampled by: EVAN H.Echles	Same	ys [ dard (7 Days) (other) Time	] 1 Day ] 3 Days	Number of Containe rs	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx ( 🗌 Acid / SG Clean-up)	Volatiles 8260C	EDB EPA 8011 (Waters 0.000)	mivolatiles 8270D/SIM	(with Iow-level PAHs) PAHs 8270D/SIM (Iow-level)	PCBs 8082A		Organophosphorus Pesticides 8270D/SI M	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oiland grease) 16 64A	4	HOLD	% Moisture
Lab IDSample Identification21B40-5	Sampled 9-14	Sampled	Matrix	Z	Z	Z	z	ž	ž		ŭ ŭ	N) A	ă. (		0	ö	4	P	10	I		2	X
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24 BH 5-9.5U		12:15		)				Ì														X	
25 BH 5-9.5 M		12:15		1				T													,	K	
26 BH 5-9.5 L		12:15		1																		X	
27 BH 9.5-12.5U		12:25		١																		X	
26 BH 9.5-125 M		12:25		1				4															
29 BH 4.5-12.5 L		12:25		1																		X	
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Lab ID Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx		Volatiles 8260C Haboenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semiv	(with low-level PAHs) PAHs8270D/SIM (low-level)	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270 D/SM	Chlorit	Total P	Total N	TCLP	HEM (oil and grease) 1664A	X		% Moisture	
31 B5 i-5 m	9-12	13:00	5	1				X													X		X	
32 B5 1-5'L	1	13:00	)	1				1													X			
33 B5 5-9.5U		13:15		1																	X			
34 B5 5-9.5 m		13:15		1				Ð															4	
34 B5 5°-9.5°M 35 B5 5°-9.5°L		13-15		1				T													X			
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30 BU 5-10'L		14:20		1				63													×	-	Ø	
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Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052	Tun (i	Turnaround Request (in working days)					ator	y N	umb	ber: 09-199												
Phone: (425) 883-3881 • www.onsite-env.com Company: TAI Project Number: B336-2 Project Name: Project Manager: Chuck Lie Sampled by: Evan H. Ecklos	Sam	ys [ dard (7 Days) (other) Time	] 1 Day ] 3 Days	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX MWTPH-Gx	NWTPH-Dx ( Acid / SG Clean-up)		Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with Iow-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082A	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	fotal MTCA Metais	TCLP Metals	HEM (oil and grease) 1664A	(TOM		% Moisture
Lab ID     Sample Identification       H     B/o     IO-I2L	Sampled 9-14		Matrix 5	- Ne	Z	NN NN	z z		Ť	H	v, ₹	ΡA	a c	5 0	ō	10		P	Ī	X		× ×
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HH BT 0-5L		15:00	1	1				1					-		1					4		1
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# **Chain of Custody**

Page 6 of 6

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Project	Number:		2 Day		] 1 Day ] 3 Days	Number of Containers	-HCID	NWTPH-Gx/BTEX	-Gx	NWTPH-Dx ( Cacid / SG Clean-up)	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)		Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	letais	HEM (oiland grease) 1664A	(	HOLD	ture
Lab ID		Sample Identification	Date Sampled	Time Sampled	Matrix	Numbe	NWTPH-HCID	NWTPH	NWTPH-Gx	NWTPH	Volatiles	Haloger	EDB EP	Semivo (with lov	PC.Rs 82/UU/	Organo	Organo	Chlorina	Total R(	Total M	TCLP Metals	HEM (o		¥	X % Moisture
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March 11, 2021

Chuck Lie Terra Associates, Inc. 12220 113th Avenue NE, Suite 130 Kirkland, WA 98034

Re: Analytical Data for Project 8336-3 Laboratory Reference No. 2103-080

Dear Chuck:

Enclosed are the analytical results and associated quality control data for samples submitted on March 5, 2021.

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 11, 2021 Samples Submitted: March 5, 2021 Laboratory Reference: 2103-080 Project: 8336-3

## **Case Narrative**

Samples were collected on March 4 and 5, 2021 and received by the laboratory on March 5, 2021. They were maintained at the laboratory at a temperature of  $2^{\circ}$ C to  $6^{\circ}$ 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.



OnSite Environmental, Inc. 14648 NE 95<sup>th</sup> Street, Redmond, WA 98052 (425) 883-3881

# HYDROCARBON IDENTIFICATION NWTPH-HCID

Matrix: Soil Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	B-101 -2.5			•		
Laboratory ID:	03-080-01					
Gasoline Range Organics	ND	22	NWTPH-HCID	3-9-21	3-9-21	
Diesel Range Organics	ND	55	NWTPH-HCID	3-9-21	3-9-21	
Lube Oil Range Organics	ND	110	NWTPH-HCID	3-9-21	3-9-21	
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	108	50-150				
Client ID:	B-101 -7.5					
Laboratory ID:	03-080-03					
Gasoline Range Organics	ND	22	NWTPH-HCID	3-9-21	3-9-21	
Diesel Range Organics	ND	55	NWTPH-HCID	3-9-21	3-9-21	
Lube Oil Range Organics	ND	110	NWTPH-HCID	3-9-21	3-9-21	
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	98	50-150				
Client ID:	MW-1 -10'					
Laboratory ID:	03-080-10					
Gasoline Range Organics	ND	21	NWTPH-HCID	3-9-21	3-9-21	
Diesel Range Organics	Detected	54	NWTPH-HCID	3-9-21	3-9-21	
Lube Oil	Detected	110	NWTPH-HCID	3-9-21	3-9-21	
Surrogate: o-Terphenyl	Percent Recovery 110	Control Limits 50-150				
Client ID:	B-102 -10'					
Laboratory ID:	03-080-20					
Gasoline Range Organics	ND	23	NWTPH-HCID	3-9-21	3-9-21	
Diesel Range Organics	Detected	58	NWTPH-HCID	3-9-21	3-9-21	
Lube Oil	Detected	120	NWTPH-HCID	3-9-21	3-9-21	
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	100	50-150				
Client ID:	B-102 -15					
Laboratory ID:	03-080-21					
Gasoline Range Organics	ND	23	NWTPH-HCID	3-9-21	3-9-21	
<b>Diesel Range Organics</b>	ND	57	NWTPH-HCID	3-9-21	3-9-21	
Lube Oil	Detected	110	NWTPH-HCID	3-9-21	3-9-21	
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	99	50-150				



OnSite Environmental, Inc. 14648 NE 95<sup>th</sup> Street, Redmond, WA 98052 (425) 883-3881

# HYDROCARBON IDENTIFICATION **NWTPH-HCID**

Matrix: Soil Units: mg/Kg (ppm)

onito. ing/tig (ppin)				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	MW-2 -10					
Laboratory ID:	03-080-26					
Gasoline Range Organics	ND	23	NWTPH-HCID	3-9-21	3-9-21	
Diesel Range Organics	Detected	58	NWTPH-HCID	3-9-21	3-9-21	
Lube Oil	Detected	120	NWTPH-HCID	3-9-21	3-9-21	
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	99	50-150				
Client ID:	MW-2 -15					
Laboratory ID:	03-080-27					
Gasoline Range Organics	ND	21	NWTPH-HCID	3-9-21	3-9-21	
Diesel Range Organics	ND	53	NWTPH-HCID	3-9-21	3-9-21	
Lube Oil Range Organics	ND	110	NWTPH-HCID	3-9-21	3-9-21	
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	103	50-150				



## HYDROCARBON IDENTIFICATION NWTPH-HCID QUALITY CONTROL

Matrix: Soil Units: mg/Kg (ppm)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0309S2					
Gasoline Range Organics	ND	20	NWTPH-HCID	3-9-21	3-9-21	
Diesel Range Organics	ND	50	NWTPH-HCID	3-9-21	3-9-21	
Lube Oil Range Organics	ND	100	NWTPH-HCID	3-9-21	3-9-21	
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	100	50-150				



Date of Report: March 11, 2021 Samples Submitted: March 5, 2021 Laboratory Reference: 2103-080 Project: 8336-3

# % MOISTURE

Client ID	Lab ID	% Moisture	Date Analyzed
B-101 -2.5	03-080-01	9	3-9-21
B-101 -7.5	03-080-03	9	3-9-21
MW-1 -10'	03-080-10	7	3-9-21
B-102 -10'	03-080-20	13	3-9-21
B-102 -15	03-080-21	12	3-9-21
MW-2 -10	03-080-26	13	3-9-21
MW-2 -15	03-080-27	6	3-9-21



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#### **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 methods 8260 & 8270, 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.

Ζ-

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



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Chuck Lio			ontain		BTEX	Acic	2	Volatile	8270E	SIM (Ic		ne Pes	phorus	Acid He	Aetals	Aetals		grease				
Sampled by: Nicolas R. Hoffman	(othe	er)	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX NWTPH-Gx	NWTPH-Dx ( 🗌 Acid / SG Clean-up)	Volatiles 8260C	Halogenated Volatiles 8260C	olatiles	(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				sture
Lab ID Sample Identification	Date Time Sampled Sample	d Matrix	Numb	NWTF	NWTF NWTF	NWTF	Volati	Halog	Semiv	PAHs	PCBs	Orgar	Organ	Chlori	Total I	Total I	TCLP	HEM				% Moisture
B-101 -2.5	3/4/21 9:30	Soil	5	X																		X
2 B-101 -5	9:40		1																			
3 B-101 -7.5	9:50		5	X																		X
4 B-101 -10	10:09	5	1																			
5 B-101 -15	10:4	0	1																			
6 B-101 -20	10:4	5	1																			
7 MW-1 -2.5'	11:0	1 1 1	1																			
8 MW-1 -5	)1:14	5	5																			
9 Mw-1 -7.5	11:25	5	5																			
10 MW-1 -10'	11:35		5	×																		X
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Project Manager: Chuck				Number of Containers		X		NWTPH-Dx ( Acid / SG Clean-up)	Volatiles 8260C Halonenated Volatiles 8260C	EDB EPA 8011 Waters Onivi	270D/S	(with low-level PAHs) PAHs 8270D/SIM (low-level)		Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	als	als		HEM (oil and grease) 1664A				
Sampled by: Nicolas R. Hoffman	1	(other)	1	of Con	HCID	NWTPH-Gx/BTEX	Gx		Volatiles 8260C	8011	tiles 82	-level F	82A	hlorine	hospho	ed Aci	fotal RCRA Metals	Total MTCA Metals	etals	and gr				Le
	Date	Time		umber	NWTPH-HCID	MTPH-	NWTPH-Gx	MTPH-	latiles	DB EPA	amivola	ith low Hs 82	PCBs 8082A	ganoc	ganop	Ilorinat	tal RCI	tal MT	TCLP Metals	EM (ai)				% Moisture
Lab ID Sample Identification	Sampled	Sampled	Matrix	NI	ź	Z	ź	ź	<u>&gt;</u> ±		8	N) dd	<u> </u>	Ō	ō	Ö	P P	P		<u>Щ</u>		_		%
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13 Mw-1 -25		12:20		1								_												
14 MW-1 -30		12:35																						
15 MW-1 -35		12:50		1																				
16 MW-1 -40		13:05		1																				
16 MW-1 -40 17 B-102 -2.5 18 B-102 -5		14:10		3																				
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19 B-102 -7.5		14:30		5																				
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Project Manager: Chuck Lic Sampled by: Nicolas R, Hoffman		(other)		Number of Containers	HCID	NWTPH-Gx/BTEX	Gx	NWTPH-Dx ( Acid / SG Clean-up)	8260C	FDB FPA 8011 (Waters Only)		Vernvolatilies az ruu/sinv (with Iow-level PAHs) PAHs 8270D/SIM (Iow-level)	82A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SiM	Chlorinated Acid Herbicides	Total RCRA Metals	Total MTCA Metals	etals	HEM (oil and grease) 1664A			ere
Lab ID Sample Identification	Date Sampled	Time Sampled	Matrix	Number	NWTPH-HCID	-HdTWV	NWTPH-Gx	UWTPH-	Volatiles 8260C			with low	PCBs 8082A	Organoc	Organop	Chlorinat	fotal RC	fotal MT	TCLP Metals	HEM (oil			% Moisture
21 3-102 -15		15:15	-	1	×													1		-			X
22 B-102 -20		15:25		1																			
22 B-102 -20 23 MW-2 -2.5 24 MW-2 -5	3/5/1	8:10		1																			
24 MW-2 -5		8:20		1																			
25 mw-2 -7.5		8:30		5																			
26 MW-2 -10		8:40		3	X																		X
27 MW-Z -15		8:50		1	X																		X
28 MW-2 -20		9:00		5																			
29 MW-2 -25 30 MW-2 -30		9:45		1																			
30 MW-2 -30	V	10:05	V	1																			
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14648 NE 95th Street • Redmond, WA 98052	(i	n working da	ys)		L	abo	ratt	bry	NUL	np	er:	U	)3	- 1	<u>J C</u>	<u>s u</u>										
Phone: (425) 883-3881 · www.onsite-env.com Company: Torr Associates Inc. Project Number: 8336-3	Sam	(Check One) e Day [	1 Day													MIS/O										
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Project Manager: Chuck Lia				Number of Containers	Q	NWTPH-Gx/BTEX		NWTPH-Dx ( Acid / SG Clean-up)	600	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	wol) MIS/C	A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Totai RCRA Metals	Total MTCA Metals	S	HEM (oil and grease) 1664A					
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Lab ID Sample Identification	Date Sampled	Time Sampled	Matrix	Numb	NWTPH-HCID	NWTPI	NWTPH-Gx	NWTPI	Volatiles 8260C	Haloge	EDBE	Semive (with Ic	PAHs 8	PCBs 8082A	Organo	Organo	Chlorin	Total R	Total N	TCLP Metals	HEM (c				% Moisture	
31 Aw-2 -35	3/5/21	10:20	Scil	1																						
32 MW-2 -40'		10:35		1																						
33 MW-Z -45		10:50																								
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March 17, 2021

Chuck Lie Terra Associates, Inc. 12220 113th Avenue NE, Suite 130 Kirkland, WA 98034

Re: Analytical Data for Project 8336-3 Laboratory Reference No. 2103-080B

Dear Chuck:

Enclosed are the analytical results and associated quality control data for samples submitted on March 5, 2021.

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 17, 2021 Samples Submitted: March 5, 2021 Laboratory Reference: 2103-080B Project: 8336-3

## **Case Narrative**

Samples were collected on March 4 and 5, 2021 and received by the laboratory on March 5, 2021. They were maintained at the laboratory at a temperature of  $2^{\circ}$ C to  $6^{\circ}$ 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.



OnSite Environmental, Inc. 14648 NE 95<sup>th</sup> Street, Redmond, WA 98052 (425) 883-3881

# DIESEL AND HEAVY OIL RANGE ORGANICS NWTPH-Dx

Matrix: Soil Units: mg/Kg (ppm)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	MW-1 -10'					
Laboratory ID:	03-080-10					
Diesel Range Organics	220	27	NWTPH-Dx	3-12-21	3-12-21	Ν
Lube Oil	940	54	NWTPH-Dx	3-12-21	3-12-21	
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	88	50-150				
Client ID:	B-102 -10'					
Laboratory ID:	03-080-20					
Diesel Range Organics	1800	720	NWTPH-Dx	3-12-21	3-17-21	N
Lube Oil	14000	1400	NWTPH-Dx	3-12-21	3-17-21	
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl		50-150				S
Client ID:	B-102 -15					
Laboratory ID:	03-080-21					
Diesel Range Organics	100	29	NWTPH-Dx	3-12-21	3-12-21	Ν
Lube Oil	840	57	NWTPH-Dx	3-12-21	3-12-21	
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	99	50-150				
Client ID:	MW-2 -10					
Laboratory ID:	03-080-26					
Diesel Range Organics	230	29	NWTPH-Dx	3-12-21	3-12-21	N
Lube Oil	1400	29 58	NWTPH-Dx NWTPH-Dx	3-12-21	3-12-21	IN
	Percent Recovery	Control Limits		5-12-21	5-12-21	
Surrogate: o-Terphenyl	91	50-150				
0-i eipiieiiyi	91	50-150				



#### DIESEL AND HEAVY OIL RANGE ORGANICS NWTPH-Dx QUALITY CONTROL

Matrix: Soil Units: mg/Kg (ppm)

			Date	Date	
Result	PQL	Method	Prepared	Analyzed	Flags
MB0312S1					
ND	25	NWTPH-Dx	3-12-21	3-12-21	
ND	50	NWTPH-Dx	3-12-21	3-12-21	
Percent Recovery	Control Limits				
85	50-150				
	MB0312S1 ND ND Percent Recovery	MB0312S1 ND 25 ND 50 Percent Recovery Control Limits	MB0312S1ND25ND50Percent RecoveryControl Limits	Result         PQL         Method         Prepared           MB0312S1	Result         PQL         Method         Prepared         Analyzed           MB0312S1

					Source	Percent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Result	Recovery	Limits	RPD	Limit	Flags
DUPLICATE										
Laboratory ID:	SB03	12S1								
	ORIG	DUP								
Diesel Fuel #2	81.2	70.4	NA	NA		NA	NA	14	NA	
Lube Oil Range	ND	ND	NA	NA		NA	NA	NA	NA	
Surrogate:										
o-Terphenyl						102 87	50-150			



Date of Report: March 17, 2021 Samples Submitted: March 5, 2021 Laboratory Reference: 2103-080B Project: 8336-3

# % MOISTURE

Client ID	Lab ID	% Moisture	Date Analyzed
MW-1 -10'	03-080-10	7	3-9-21
B-102 -10'	03-080-20	13	3-9-21
B-102 -15	03-080-21	12	3-9-21
MW-2 -10	03-080-26	13	3-9-21



OnSite Environmental, Inc. 14648 NE 95<sup>th</sup> Street, Redmond, WA 98052 (425) 883-3881



#### **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 methods 8260 & 8270, 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.

Ζ-

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



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	B-101	-2.5	3/4/2	19:30	Soil	5	X																			X
2	B-101	-5		9:40		1									_			_			_					
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1	Mw - 1	-7.5		11:25		5		,					-		_	_			_		_				_	
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Project Manager: Chuck Lin				Intaine		TEX		Acid	U	/olatiles	(Wate	8270D/	SIM (Iow		e Pesti	d shore	cid Herl	etals	etals		grease)				
Sampled by: Nicolas R. Hoff.	han	(other)		Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	H-Gx	NWTPH-Dx (	Volatiles 8260C	enated \	PA 801	olatiles ow-leve	3270D/9	PCBs 8082A	ochlorin	Idsoudd	lated A	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A				sture
Lab ID Sample Identification	Date Sampled	Time Sampled	Matrix	Numb	NWTP	NWTPI	NWTPH-GX	NWTPI	Volatile	Haloge	EDB E	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8	PCBs	Organo	Organo	Chlorir	Total R	Total N	TCLP	HEM (				% Moisture
11 MW-1 -15'	3/4/21	11:55	Soil	5																					
12 MW-1 -20	1	12:05	1	1																					
13 MW-1 -25		12:20		]																					
14 MW-1 -30		12:35		1																					
15 MW-1 -35		12:50		1																					
16 mw-1 -40		13:05		1																					
17 B-102 -2.5 18 B-102 -5		14:10		3																					
		14:20		5																					
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Project Manager: Chuck Liv Sampled by: Nicolas R, Hoffman		(other)		Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	H-Gx		Volatiles 8260C Halonenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	olatiles 8270D/S	(with low-level PAHs) PAHs 8270D/SIM (low-level)	3082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides	Total RCRA Metals	Fotal MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A				sture
Lab ID Sample Identification	Date Sampled	Time Sampled	Matrix	Numb	NWTPI	NWTPI	NWTPH-Gx		Volatile	EDBE	Semivo	PAHs 8	PCBs 8082A	Organo	Organo	Chlorin	Total R	Total N	TCLP	HEM (0				% Moisture
21 3-102 -15		15:15	Soil	1	X			2																X
22 B-102 -20	3/4/21			1																			Í	
23 <u>MW-2 -2,5</u> 24 <u>MW-2 -5</u> 25 <u>MW-2 -7.5</u>	3/5/1	8:10		1																				
24 MW-2 -5	1	8:20		1																				
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26 MW-2 -10		8:40		3	X			Ø																X
27 MW-Z -15		8:50		1	X																			X
28 MW-2 -20		9:00		5																				
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Phone: (425) 883-3881 · www.onsite-env.com Company: Torr Associates Inc. Project Number: 8336-3 Project Manager: Project Manager: Chuck Lie Sampled by: Nicolas R. Hoffman	2 Da     X     Stan     Date	ys [ dard (7 Days) (other) Time	] 1 Day ] 3 Days 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)	Sernivolatiles 8270D/SIM (with Iow-level PAHs)	AHs 8270D/SIM (fow-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					% Maisture
Lab ID     Sample Identification       31     MN-2	Sampled 3/5/21	10:20					2	2	_	<u> </u>														_		
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59 MW-2 -50 25 MW-2 -55	V	12:15		1									_											_		_
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March 29, 2021

Chuck Lie Terra Associates, Inc. 12220 113th Avenue NE, Suite 130 Kirkland, WA 98034

Re: Analytical Data for Project 8336-3 Laboratory Reference No. 2103-080C

Dear Chuck:

Enclosed are the analytical results and associated quality control data for samples submitted on March 5, 2021.

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 29, 2021 Samples Submitted: March 5, 2021 Laboratory Reference: 2103-080C Project: 8336-3

#### **Case Narrative**

Samples were collected on March 4 and 5, 2021 and received by the laboratory on March 5, 2021. They were maintained at the laboratory at a temperature of  $2^{\circ}$ C to  $6^{\circ}$ C.

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

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

#### NWTPH Dx Analysis

The client requested the analysis of samples MW-1-15' and B-102 -20 after the holding time had expired.

#### Volatiles EPA 8260D Analysis

The client requested the analysis of sample B-102 -10' after the holding time had expired.

#### Semivolatiles EPA 8270E/SIM Analysis

The client requested the analysis of sample B-102 -10' after the holding time had expired.

Please note that any other QA/QC issues associated with these extractions and analyses will be indicated with a footnote reference and discussed in detail on the Data Qualifier page.



# DIESEL AND HEAVY OIL RANGE ORGANICS NWTPH-Dx

Matrix: Soil Units: mg/Kg (ppm)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	MW-1 -15'					
Laboratory ID:	03-080-11					
Diesel Range Organics	ND	27	NWTPH-Dx	3-23-21	3-29-21	
Lube Oil Range Organics	ND	55	NWTPH-Dx	3-23-21	3-29-21	
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	81	50-150				
Client ID:	B-102 -20					
Laboratory ID:	03-080-22					
Diesel Range Organics	59	28	NWTPH-Dx	3-23-21	3-23-21	
Lube Oil	300	56	NWTPH-Dx	3-23-21	3-23-21	
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	91	50-150				

#### DIESEL AND HEAVY OIL RANGE ORGANICS NWTPH-Dx QUALITY CONTROL

Matrix: Soil Units: mg/Kg (ppm)

			Date	Date	
Result	PQL	Method	Prepared	Analyzed	Flags
MB0323S1					
ND	25	NWTPH-Dx	3-23-21	3-23-21	
ND	50	NWTPH-Dx	3-23-21	3-23-21	
Percent Recovery	Control Limits				
95	50-150				
	MB0323S1 ND ND Percent Recovery	MB0323S1 ND 25 ND 50 Percent Recovery Control Limits	MB0323S1ND25ND50NWTPH-DxPercent RecoveryControl Limits	Result         PQL         Method         Prepared           MB0323S1         .<	Result         PQL         Method         Prepared         Analyzed           MB0323S1

					Source	Percent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Result	Recovery	Limits	RPD	Limit	Flags
DUPLICATE										
Laboratory ID:	SB03	23S1								
	ORIG	DUP								
Diesel Fuel #2	90.1	80.7	NA	NA		NA	NA	11	NA	
Lube Oil Range	ND	ND	NA	NA		NA	NA	NA	NA	
Surrogate:										
o-Terphenyl						106 93	50-150			



# VOLATILE ORGANICS EPA 8260D page 1 of 2

Matrix: Soil Units: mg/kg

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	B-102 -10'					
Laboratory ID:	03-080-20					
Dichlorodifluoromethane	ND	0.0016	EPA 8260D	3-19-21	3-19-21	
Chloromethane	ND	0.0062	EPA 8260D	3-19-21	3-19-21	
Vinyl Chloride	ND	0.00093	EPA 8260D	3-19-21	3-19-21	
Bromomethane	ND	0.0047	EPA 8260D	3-19-21	3-19-21	
Chloroethane	ND	0.0047	EPA 8260D	3-19-21	3-19-21	
Trichlorofluoromethane	ND	0.00093	EPA 8260D	3-19-21	3-19-21	
1,1-Dichloroethene	ND	0.00093	EPA 8260D	3-19-21	3-19-21	
Acetone	0.029	0.0093	EPA 8260D	3-19-21	3-19-21	
lodomethane	ND	0.0047	EPA 8260D	3-19-21	3-19-21	
Carbon Disulfide	ND	0.00093	EPA 8260D	3-19-21	3-19-21	
Methylene Chloride	ND	0.0047	EPA 8260D	3-19-21	3-19-21	
(trans) 1,2-Dichloroethene	ND	0.00093	EPA 8260D	3-19-21	3-19-21	
Methyl t-Butyl Ether	ND	0.00093	EPA 8260D	3-19-21	3-19-21	
1,1-Dichloroethane	ND	0.00093	EPA 8260D	3-19-21	3-19-21	
Vinyl Acetate	ND	0.0047	EPA 8260D	3-19-21	3-19-21	
2,2-Dichloropropane	ND	0.00093	EPA 8260D	3-19-21	3-19-21	
(cis) 1,2-Dichloroethene	ND	0.00093	EPA 8260D	3-19-21	3-19-21	
2-Butanone	ND	0.0047	EPA 8260D	3-19-21	3-19-21	
Bromochloromethane	ND	0.00093	EPA 8260D	3-19-21	3-19-21	
Chloroform	ND	0.00093	EPA 8260D	3-19-21	3-19-21	
1,1,1-Trichloroethane	ND	0.00093	EPA 8260D	3-19-21	3-19-21	
Carbon Tetrachloride	ND	0.00093	EPA 8260D	3-19-21	3-19-21	
1,1-Dichloropropene	ND	0.00093	EPA 8260D	3-19-21	3-19-21	
Benzene	ND	0.00093	EPA 8260D	3-19-21	3-19-21	
1,2-Dichloroethane	ND	0.00093	EPA 8260D	3-19-21	3-19-21	
Trichloroethene	ND	0.00093	EPA 8260D	3-19-21	3-19-21	
1,2-Dichloropropane	ND	0.00093	EPA 8260D	3-19-21	3-19-21	
Dibromomethane	ND	0.00093	EPA 8260D	3-19-21	3-19-21	
Bromodichloromethane	ND	0.00093	EPA 8260D	3-19-21	3-19-21	
2-Chloroethyl Vinyl Ether	ND	0.0047	EPA 8260D	3-19-21	3-19-21	
(cis) 1,3-Dichloropropene	ND	0.00093	EPA 8260D	3-19-21	3-19-21	
Methyl Isobutyl Ketone	ND	0.0047	EPA 8260D	3-19-21	3-19-21	
Toluene	ND	0.0047	EPA 8260D	3-19-21	3-19-21	
(trans) 1,3-Dichloropropene	ND	0.00093	EPA 8260D	3-19-21	3-19-21	



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# VOLATILE ORGANICS EPA 8260D page 2 of 2

• • • •		201		Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	B-102 -10'					
Laboratory ID:	03-080-20					
1,1,2-Trichloroethane	ND	0.00093	EPA 8260D	3-19-21	3-19-21	
Tetrachloroethene	0.041	0.00093	EPA 8260D	3-19-21	3-19-21	
1,3-Dichloropropane	ND	0.00093	EPA 8260D	3-19-21	3-19-21	
2-Hexanone	ND	0.0047	EPA 8260D	3-19-21	3-19-21	
Dibromochloromethane	ND	0.00093	EPA 8260D	3-19-21	3-19-21	
1,2-Dibromoethane	ND	0.00093	EPA 8260D	3-19-21	3-19-21	
Chlorobenzene	ND	0.00093	EPA 8260D	3-19-21	3-19-21	
1,1,1,2-Tetrachloroethane	ND	0.00093	EPA 8260D	3-19-21	3-19-21	
Ethylbenzene	0.0045	0.00093	EPA 8260D	3-19-21	3-19-21	
m,p-Xylene	0.0092	0.0019	EPA 8260D	3-19-21	3-19-21	
o-Xylene	0.0026	0.00093	EPA 8260D	3-19-21	3-19-21	
Styrene	ND	0.00093	EPA 8260D	3-19-21	3-19-21	
Bromoform	ND	0.0047	EPA 8260D	3-19-21	3-19-21	
Isopropylbenzene	0.0024	0.00093	EPA 8260D	3-19-21	3-19-21	Y
Bromobenzene	ND	0.056	EPA 8260D	3-22-21	3-22-21	
1,1,2,2-Tetrachloroethane	ND	0.056	EPA 8260D	3-22-21	3-22-21	
1,2,3-Trichloropropane	ND	0.056	EPA 8260D	3-22-21	3-22-21	
n-Propylbenzene	ND	0.056	EPA 8260D	3-22-21	3-22-21	
2-Chlorotoluene	ND	0.056	EPA 8260D	3-22-21	3-22-21	
4-Chlorotoluene	ND	0.056	EPA 8260D	3-22-21	3-22-21	
1,3,5-Trimethylbenzene	ND	0.056	EPA 8260D	3-22-21	3-22-21	
tert-Butylbenzene	ND	0.056	EPA 8260D	3-22-21	3-22-21	
1,2,4-Trimethylbenzene	ND	0.056	EPA 8260D	3-22-21	3-22-21	
sec-Butylbenzene	ND	0.056	EPA 8260D	3-22-21	3-22-21	
1,3-Dichlorobenzene	ND	0.056	EPA 8260D	3-22-21	3-22-21	
p-Isopropyltoluene	ND	0.056	EPA 8260D	3-22-21	3-22-21	
1,4-Dichlorobenzene	ND	0.056	EPA 8260D	3-22-21	3-22-21	
1,2-Dichlorobenzene	ND	0.056	EPA 8260D	3-22-21	3-22-21	
n-Butylbenzene	ND	0.056	EPA 8260D	3-22-21	3-22-21	
•	ND	0.030				
1,2-Dibromo-3-chloropropane			EPA 8260D	3-22-21	3-22-21	
1,2,4-Trichlorobenzene	ND	0.056	EPA 8260D	3-22-21	3-22-21	
Hexachlorobutadiene	ND	0.28	EPA 8260D	3-22-21	3-22-21	
Naphthalene	ND	0.28	EPA 8260D	3-22-21	3-22-21	
1,2,3-Trichlorobenzene	ND	0.056	EPA 8260D	3-22-21	3-22-21	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	115	74-131				
Toluene-d8	100	78-128				
4-Bromofluorobenzene	85	71-130				



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# VOLATILE ORGANICS EPA 8260D QUALITY CONTROL page 1 of 2

Matrix: Soil Units: mg/kg

AnalyteResMETHOD BLANKLaboratory ID:MB03DichlorodifluoromethaneNIChloromethaneNIChloromethaneNIBromomethaneNIBromomethaneNIChloroethaneNITrichlorofluoromethaneNI1,1-DichloroetheneNIAcetoneNIIodomethaneNICarbon DisulfideNIMethylene ChlorideNI(trans) 1,2-DichloroetheneNI1,1-DichloroethaneNIWethyl t-Butyl EtherNI1,1-DichloroethaneNIVinyl AcetateNI2,2-DichloropropaneNI(cis) 1,2-DichloroetheneNININI(cis) 1,2-DichloroetheneNI	DOI	Mathad	Drepared	Date	Flore
Laboratory ID:MB03DichlorodifluoromethaneNIChloromethaneNIChloromethaneNIVinyl ChlorideNIBromomethaneNIChloroethaneNIChloroethaneNITrichlorofluoromethaneNI1,1-DichloroetheneNIAcetoneNIIodomethaneNICarbon DisulfideNIMethylene ChlorideNIMethyl t-Butyl EtherNI1,1-DichloroethaneNI2,2-DichloropropaneNI	ult PQL	Method	Prepared	Analyzed	Flags
DichlorodifluoromethaneNIDichlorodifluoromethaneNIChloromethaneNIVinyl ChlorideNIBromomethaneNIChloroethaneNIChlorofluoromethaneNI1,1-DichloroetheneNIAcetoneNIIodomethaneNICarbon DisulfideNIMethylene ChlorideNIMethyl t-Butyl EtherNI1,1-DichloroethaneNI2,2-DichloropropaneNI	1001				
ChloromethaneNIVinyl ChlorideNIBromomethaneNIBromomethaneNIChloroethaneNITrichlorofluoromethaneNI1,1-DichloroetheneNIAcetoneNIIodomethaneNICarbon DisulfideNIMethylene ChlorideNIMethyl t-Butyl EtherNI1,1-DichloroethaneNIYinyl AcetateNI2,2-DichloropropaneNI		EPA 8260D	3-19-21	3-19-21	
Vinyl ChlorideNIBromomethaneNIBromomethaneNIChloroethaneNITrichlorofluoromethaneNI1,1-DichloroetheneNIAcetoneNIIodomethaneNICarbon DisulfideNIMethylene ChlorideNIMethyl t-Butyl EtherNI1,1-DichloroethaneNIYinyl AcetateNI		EPA 8260D	3-19-21	3-19-21	
BromomethaneNIChloroethaneNIChloroethaneNITrichlorofluoromethaneNI1,1-DichloroetheneNIAcetoneNIIodomethaneNICarbon DisulfideNIMethylene ChlorideNIMethyl t-Butyl EtherNI1,1-DichloroethaneNIVinyl AcetateNI2,2-DichloropropaneNI		EPA 8260D	3-19-21	3-19-21	
ChloroethaneNITrichlorofluoromethaneNI1,1-DichloroetheneNIAcetoneNIIodomethaneNICarbon DisulfideNIMethylene ChlorideNI(trans) 1,2-DichloroetheneNIMethyl t-Butyl EtherNI1,1-DichloroethaneNIVinyl AcetateNI2,2-DichloropropaneNI		EPA 8260D	3-19-21	3-19-21	
TrichlorofluoromethaneNI1,1-DichloroetheneNIAcetoneNIIodomethaneNICarbon DisulfideNIMethylene ChlorideNI(trans) 1,2-DichloroetheneNIMethyl t-Butyl EtherNI1,1-DichloroethaneNIVinyl AcetateNI2,2-DichloropropaneNI		EPA 8260D	3-19-21	3-19-21	
1,1-DichloroetheneNIAcetoneNIIodomethaneNIIodomethaneNICarbon DisulfideNIMethylene ChlorideNI(trans) 1,2-DichloroetheneNIMethyl t-Butyl EtherNI1,1-DichloroethaneNIVinyl AcetateNI2,2-DichloropropaneNI		EPA 8260D	3-19-21	3-19-21	
AcetoneNIIodomethaneNIIodomethaneNICarbon DisulfideNICarbon DisulfideNIMethylene ChlorideNI(trans) 1,2-DichloroetheneNIMethyl t-Butyl EtherNI1,1-DichloroethaneNIVinyl AcetateNI2,2-DichloropropaneNI		EPA 8260D	3-19-21	3-19-21	
IodomethaneNICarbon DisulfideNIMethylene ChlorideNI(trans) 1,2-DichloroetheneNIMethyl t-Butyl EtherNI1,1-DichloroethaneNIVinyl AcetateNI2,2-DichloropropaneNI		EPA 8260D	3-19-21	3-19-21	
Carbon DisulfideNIMethylene ChlorideNI(trans) 1,2-DichloroetheneNIMethyl t-Butyl EtherNI1,1-DichloroethaneNIVinyl AcetateNI2,2-DichloropropaneNI					
Methylene ChlorideNI(trans) 1,2-DichloroetheneNIMethyl t-Butyl EtherNI1,1-DichloroethaneNIVinyl AcetateNI2,2-DichloropropaneNI		EPA 8260D	3-19-21	3-19-21	
(trans) 1,2-DichloroetheneNIMethyl t-Butyl EtherNI1,1-DichloroethaneNIVinyl AcetateNI2,2-DichloropropaneNI		EPA 8260D	3-19-21	3-19-21	
Methyl t-Butyl EtherNI1,1-DichloroethaneNIVinyl AcetateNI2,2-DichloropropaneNI		EPA 8260D	3-19-21	3-19-21	
1,1-DichloroethaneNIVinyl AcetateNI2,2-DichloropropaneNI		EPA 8260D	3-19-21	3-19-21	
Vinyl Acetate NI 2,2-Dichloropropane NI		EPA 8260D	3-19-21	3-19-21	
2,2-Dichloropropane NI		EPA 8260D	3-19-21	3-19-21	
		EPA 8260D	3-19-21	3-19-21	
(cis) 1,2-Dichloroethene NI		EPA 8260D	3-19-21	3-19-21	
		EPA 8260D	3-19-21	3-19-21	
2-Butanone NI	D 0.0050	EPA 8260D	3-19-21	3-19-21	
Bromochloromethane NI	D 0.0010	EPA 8260D	3-19-21	3-19-21	
Chloroform NI	D 0.0010	EPA 8260D	3-19-21	3-19-21	
1,1,1-Trichloroethane NI	D 0.0010	EPA 8260D	3-19-21	3-19-21	
Carbon Tetrachloride NI	D 0.0010	EPA 8260D	3-19-21	3-19-21	
1,1-Dichloropropene NI	D 0.0010	EPA 8260D	3-19-21	3-19-21	
Benzene NI	D 0.0010	EPA 8260D	3-19-21	3-19-21	
1,2-Dichloroethane NI	D 0.0010	EPA 8260D	3-19-21	3-19-21	
Trichloroethene NI	D 0.0010	EPA 8260D	3-19-21	3-19-21	
1,2-Dichloropropane NI	D 0.0010	EPA 8260D	3-19-21	3-19-21	
Dibromomethane NI		EPA 8260D	3-19-21	3-19-21	
Bromodichloromethane NI		EPA 8260D	3-19-21	3-19-21	
2-Chloroethyl Vinyl Ether NI		EPA 8260D	3-19-21	3-19-21	
(cis) 1,3-Dichloropropene NI		EPA 8260D	3-19-21	3-19-21	
Methyl Isobutyl Ketone NI		EPA 8260D	3-19-21	3-19-21	
Toluene NI		EPA 8260D	3-19-21	3-19-21	
(trans) 1,3-Dichloropropene NI		EPA 8260D	3-19-21	3-19-21	



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# VOLATILE ORGANICS EPA 8260D QUALITY CONTROL page 2 of 2

• • • •	<b>-</b> <i>u</i>	50		Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0319S1					
1,1,2-Trichloroethane	ND	0.0010	EPA 8260D	3-19-21	3-19-21	
Tetrachloroethene	ND	0.0010	EPA 8260D	3-19-21	3-19-21	
1,3-Dichloropropane	ND	0.0010	EPA 8260D	3-19-21	3-19-21	
2-Hexanone	ND	0.0050	EPA 8260D	3-19-21	3-19-21	
Dibromochloromethane	ND	0.0010	EPA 8260D	3-19-21	3-19-21	
1,2-Dibromoethane	ND	0.0010	EPA 8260D	3-19-21	3-19-21	
Chlorobenzene	ND	0.0010	EPA 8260D	3-19-21	3-19-21	
1,1,1,2-Tetrachloroethane	ND	0.0010	EPA 8260D	3-19-21	3-19-21	
Ethylbenzene	ND	0.0010	EPA 8260D	3-19-21	3-19-21	
m,p-Xylene	ND	0.0020	EPA 8260D	3-19-21	3-19-21	
o-Xylene	ND	0.0010	EPA 8260D	3-19-21	3-19-21	
Styrene	ND	0.0010	EPA 8260D	3-19-21	3-19-21	
Bromoform	ND	0.0050	EPA 8260D	3-19-21	3-19-21	
Isopropylbenzene	ND	0.0010	EPA 8260D	3-19-21	3-19-21	
Bromobenzene	ND	0.0010	EPA 8260D	3-19-21	3-19-21	
1,1,2,2-Tetrachloroethane	ND	0.0010	EPA 8260D	3-19-21	3-19-21	
1,2,3-Trichloropropane	ND	0.0010	EPA 8260D	3-19-21	3-19-21	
n-Propylbenzene	ND	0.0010	EPA 8260D	3-19-21	3-19-21	
2-Chlorotoluene	ND	0.0010	EPA 8260D	3-19-21	3-19-21	
4-Chlorotoluene	ND	0.0010	EPA 8260D	3-19-21	3-19-21	
1,3,5-Trimethylbenzene	ND	0.0010	EPA 8260D	3-19-21	3-19-21	
tert-Butylbenzene	ND	0.0010	EPA 8260D	3-19-21	3-19-21	
1,2,4-Trimethylbenzene	ND	0.0010	EPA 8260D	3-19-21	3-19-21	
sec-Butylbenzene	ND	0.0010	EPA 8260D	3-19-21	3-19-21	
1,3-Dichlorobenzene	ND	0.0010	EPA 8260D	3-19-21	3-19-21	
p-Isopropyltoluene	ND	0.0010	EPA 8260D	3-19-21	3-19-21	
1,4-Dichlorobenzene	ND	0.0010	EPA 8260D	3-19-21	3-19-21	
1,2-Dichlorobenzene	ND	0.0010	EPA 8260D	3-19-21	3-19-21	
n-Butylbenzene	ND	0.0010	EPA 8260D	3-19-21	3-19-21	
1,2-Dibromo-3-chloropropane	ND	0.0050	EPA 8260D	3-19-21	3-19-21	
1,2,4-Trichlorobenzene	ND	0.0010	EPA 8260D	3-19-21	3-19-21	
Hexachlorobutadiene	ND	0.0050	EPA 8260D	3-19-21	3-19-21	
Naphthalene	ND	0.0050	EPA 8260D	3-19-21	3-19-21	
1,2,3-Trichlorobenzene	ND	0.0010	EPA 8260D	3-19-21	3-19-21	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	98	74-131				
Toluene-d8	99	78-128				
4-Bromofluorobenzene	93 97	71-130				
	31	11-130				



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## VOLATILE ORGANICS EPA 8260D QUALITY CONTROL page 1 of 2

Matrix: Soil Units: mg/kg

Analyta	Desult	DOI	Mathad	Date	Date	Flore
Analyte METHOD BLANK	Result	PQL	Method	Prepared	Analyzed	Flags
	MD020201					
Laboratory ID:	MB0322S1	0.0010		2 22 24	2.02.04	
Dichlorodifluoromethane	ND	0.0010	EPA 8260D	3-22-21	3-22-21	
Chloromethane	ND	0.0050	EPA 8260D	3-22-21	3-22-21	
Vinyl Chloride	ND	0.0010	EPA 8260D	3-22-21	3-22-21	
Bromomethane	ND	0.0050	EPA 8260D	3-22-21	3-22-21	
Chloroethane	ND	0.0050	EPA 8260D	3-22-21	3-22-21	
Trichlorofluoromethane	ND	0.0010	EPA 8260D	3-22-21	3-22-21	
1,1-Dichloroethene	ND	0.0010	EPA 8260D	3-22-21	3-22-21	
Acetone	ND	0.010	EPA 8260D	3-22-21	3-22-21	
lodomethane	ND	0.0072	EPA 8260D	3-22-21	3-22-21	
Carbon Disulfide	ND	0.0010	EPA 8260D	3-22-21	3-22-21	
Methylene Chloride	ND	0.0071	EPA 8260D	3-22-21	3-22-21	
(trans) 1,2-Dichloroethene	ND	0.0010	EPA 8260D	3-22-21	3-22-21	
Methyl t-Butyl Ether	ND	0.0010	EPA 8260D	3-22-21	3-22-21	
1,1-Dichloroethane	ND	0.0010	EPA 8260D	3-22-21	3-22-21	
Vinyl Acetate	ND	0.0050	EPA 8260D	3-22-21	3-22-21	
2,2-Dichloropropane	ND	0.0010	EPA 8260D	3-22-21	3-22-21	
(cis) 1,2-Dichloroethene	ND	0.0010	EPA 8260D	3-22-21	3-22-21	
2-Butanone	ND	0.0050	EPA 8260D	3-22-21	3-22-21	
Bromochloromethane	ND	0.0010	EPA 8260D	3-22-21	3-22-21	
Chloroform	ND	0.0010	EPA 8260D	3-22-21	3-22-21	
1,1,1-Trichloroethane	ND	0.0010	EPA 8260D	3-22-21	3-22-21	
Carbon Tetrachloride	ND	0.0010	EPA 8260D	3-22-21	3-22-21	
1,1-Dichloropropene	ND	0.0010	EPA 8260D	3-22-21	3-22-21	
Benzene	ND	0.0010	EPA 8260D	3-22-21	3-22-21	
1,2-Dichloroethane	ND	0.0010	EPA 8260D	3-22-21	3-22-21	
Trichloroethene	ND	0.0010	EPA 8260D	3-22-21	3-22-21	
1,2-Dichloropropane	ND	0.0010	EPA 8260D	3-22-21	3-22-21	
Dibromomethane	ND	0.0010	EPA 8260D	3-22-21	3-22-21	
Bromodichloromethane	ND	0.0010	EPA 8260D	3-22-21	3-22-21	
2-Chloroethyl Vinyl Ether	ND	0.0050	EPA 8260D	3-22-21	3-22-21	
(cis) 1,3-Dichloropropene	ND	0.0010	EPA 8260D	3-22-21	3-22-21	
Methyl Isobutyl Ketone	ND	0.0050	EPA 8260D	3-22-21	3-22-21	
Toluene	ND	0.0050	EPA 8260D	3-22-21	3-22-21	
	ND	0.0030	EPA 8260D	3-22-21	3-22-21	
(trans) 1,3-Dichloropropene	ND	0.0010	EFA OZUUD	3-22-21	3-22-21	



# VOLATILE ORGANICS EPA 8260D QUALITY CONTROL page 2 of 2

	_			Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0322S1					
1,1,2-Trichloroethane	ND	0.0010	EPA 8260D	3-22-21	3-22-21	
Tetrachloroethene	ND	0.0010	EPA 8260D	3-22-21	3-22-21	
1,3-Dichloropropane	ND	0.0010	EPA 8260D	3-22-21	3-22-21	
2-Hexanone	ND	0.0050	EPA 8260D	3-22-21	3-22-21	
Dibromochloromethane	ND	0.0010	EPA 8260D	3-22-21	3-22-21	
1,2-Dibromoethane	ND	0.0010	EPA 8260D	3-22-21	3-22-21	
Chlorobenzene	ND	0.0010	EPA 8260D	3-22-21	3-22-21	
1,1,1,2-Tetrachloroethane	ND	0.0010	EPA 8260D	3-22-21	3-22-21	
Ethylbenzene	ND	0.0010	EPA 8260D	3-22-21	3-22-21	
m,p-Xylene	ND	0.0020	EPA 8260D	3-22-21	3-22-21	
o-Xylene	ND	0.0010	EPA 8260D	3-22-21	3-22-21	
Styrene	ND	0.0010	EPA 8260D	3-22-21	3-22-21	
Bromoform	ND	0.0050	EPA 8260D	3-22-21	3-22-21	
lsopropylbenzene	ND	0.0010	EPA 8260D	3-22-21	3-22-21	
Bromobenzene	ND	0.0010	EPA 8260D	3-22-21	3-22-21	
1,1,2,2-Tetrachloroethane	ND	0.0010	EPA 8260D	3-22-21	3-22-21	
1,2,3-Trichloropropane	ND	0.0010	EPA 8260D	3-22-21	3-22-21	
n-Propylbenzene	ND	0.0010	EPA 8260D	3-22-21	3-22-21	
2-Chlorotoluene	ND	0.0010	EPA 8260D	3-22-21	3-22-21	
4-Chlorotoluene	ND	0.0010	EPA 8260D	3-22-21	3-22-21	
1,3,5-Trimethylbenzene	ND	0.0010	EPA 8260D	3-22-21	3-22-21	
tert-Butylbenzene	ND	0.0010	EPA 8260D	3-22-21	3-22-21	
1,2,4-Trimethylbenzene	ND	0.0010	EPA 8260D	3-22-21	3-22-21	
sec-Butylbenzene	ND	0.0010	EPA 8260D	3-22-21	3-22-21	
1,3-Dichlorobenzene	ND	0.0010	EPA 8260D	3-22-21	3-22-21	
p-Isopropyltoluene	ND	0.0010	EPA 8260D	3-22-21	3-22-21	
1,4-Dichlorobenzene	ND	0.0010	EPA 8260D	3-22-21	3-22-21	
1,2-Dichlorobenzene	ND	0.0010	EPA 8260D	3-22-21	3-22-21	
n-Butylbenzene	ND	0.0010	EPA 8260D	3-22-21	3-22-21	
1,2-Dibromo-3-chloropropane	ND	0.0050	EPA 8260D	3-22-21	3-22-21	
1,2,4-Trichlorobenzene	ND	0.0010	EPA 8260D	3-22-21	3-22-21	
Hexachlorobutadiene	ND	0.0050	EPA 8260D	3-22-21	3-22-21	
Naphthalene	ND	0.0050	EPA 8260D	3-22-21	3-22-21	
1,2,3-Trichlorobenzene	ND	0.0010	EPA 8260D	3-22-21	3-22-21	
Surrogate:	Percent Recovery	Control Limits		0-22-21	0-22-21	
Dibromofluoromethane	115	74-131				
Toluene-d8						
	102	78-128				
4-Bromofluorobenzene	100	71-130				



OnSite Environmental, Inc. 14648 NE 95<sup>th</sup> Street, Redmond, WA 98052 (425) 883-3881

# VOLATILE ORGANICS EPA 8260D QUALITY CONTROL

Matrix: Soil Units: mg/kg

					Pe	rcent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Rec	overy	Limits	RPD	Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB03	19S1								
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	0.0487	0.0541	0.0500	0.0500	97	108	55-126	11	17	
Benzene	0.0570	0.0517	0.0500	0.0500	114	103	65-121	10	16	
Trichloroethene	0.0548	0.0526	0.0500	0.0500	110	105	74-126	4	16	
Toluene	0.0573	0.0523	0.0500	0.0500	115	105	71-121	9	16	
Chlorobenzene	0.0559	0.0532	0.0500	0.0500	112	106	72-123	5	16	
Surrogate:										
Dibromofluoromethane					101	104	74-131			
Toluene-d8					100	100	78-128			
4-Bromofluorobenzene					106	101	71-130			
Laboratory ID:	SB03	22S1								
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	0.0458	0.0494	0.0500	0.0500	92	99	55-126	8	17	
Benzene	0.0479	0.0492	0.0500	0.0500	96	98	65-121	3	16	
Trichloroethene	0.0529	0.0537	0.0500	0.0500	106	107	74-126	2	16	
Toluene	0.0477	0.0477	0.0500	0.0500	95	95	71-121	0	16	
Chlorobenzene	0.0497	0.0535	0.0500	0.0500	99	107	72-123	7	16	
Surrogate:										
Dibromofluoromethane					106	110	74-131			
Toluene-d8					98	97	78-128			
4-Bromofluorobenzene					100	101	71-130			



# SEMIVOLATILE ORGANICS EPA 8270E/SIM page 1 of 2

Matrix: Soil Units: mg/Kg

Units: mg/Kg				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	B-102 -10'				-	
Laboratory ID:	03-080-20					
n-Nitrosodimethylamine	ND	0.039	EPA 8270E	3-22-21	3-22-21	
Pyridine	ND	0.39	EPA 8270E	3-22-21	3-22-21	
Phenol	ND	0.039	EPA 8270E	3-22-21	3-22-21	
Aniline	ND	0.19	EPA 8270E	3-22-21	3-22-21	
bis(2-Chloroethyl)ether	ND	0.039	EPA 8270E	3-22-21	3-22-21	
2-Chlorophenol	ND	0.039	EPA 8270E	3-22-21	3-22-21	
1,3-Dichlorobenzene	ND	0.039	EPA 8270E	3-22-21	3-22-21	
1,4-Dichlorobenzene	ND	0.039	EPA 8270E	3-22-21	3-22-21	
Benzyl alcohol	ND	0.039	EPA 8270E	3-22-21	3-22-21	
1,2-Dichlorobenzene	ND	0.039	EPA 8270E	3-22-21	3-22-21	
2-Methylphenol (o-Cresol)	ND	0.039	EPA 8270E	3-22-21	3-22-21	
bis(2-Chloroisopropyl)ether	ND	0.039	EPA 8270E	3-22-21	3-22-21	
(3+4)-Methylphenol (m,p-Cresol)	ND	0.039	EPA 8270E	3-22-21	3-22-21	
n-Nitroso-di-n-propylamine	ND	0.039	EPA 8270E	3-22-21	3-22-21	
Hexachloroethane	ND	0.039	EPA 8270E	3-22-21	3-22-21	
Nitrobenzene	ND	0.039	EPA 8270E	3-22-21	3-22-21	
Isophorone	ND	0.039	EPA 8270E	3-22-21	3-22-21	
2-Nitrophenol	ND	0.039	EPA 8270E	3-22-21	3-22-21	
2,4-Dimethylphenol	ND	0.039	EPA 8270E	3-22-21	3-22-21	
bis(2-Chloroethoxy)methane	ND	0.039	EPA 8270E	3-22-21	3-22-21	
2,4-Dichlorophenol	ND	0.039	EPA 8270E	3-22-21	3-22-21	
1,2,4-Trichlorobenzene	ND	0.039	EPA 8270E	3-22-21	3-22-21	
Naphthalene	ND	0.0077	EPA 8270E/SIM	3-22-21	3-22-21	
4-Chloroaniline	ND	0.19	EPA 8270E	3-22-21	3-22-21	
Hexachlorobutadiene	ND	0.039	EPA 8270E	3-22-21	3-22-21	
4-Chloro-3-methylphenol	ND	0.039	EPA 8270E	3-22-21	3-22-21	
2-Methylnaphthalene	ND	0.0077	EPA 8270E/SIM	3-22-21	3-22-21	
1-Methylnaphthalene	ND	0.0077	EPA 8270E/SIM	3-22-21	3-22-21	
Hexachlorocyclopentadiene	ND	0.039	EPA 8270E	3-22-21	3-22-21	
2,4,6-Trichlorophenol	ND	0.039	EPA 8270E	3-22-21	3-22-21	
2,3-Dichloroaniline	ND	0.039	EPA 8270E	3-22-21	3-22-21	
2,4,5-Trichlorophenol	ND	0.039	EPA 8270E	3-22-21	3-22-21	
2-Chloronaphthalene	ND	0.039	EPA 8270E	3-22-21	3-22-21	
2-Nitroaniline	ND	0.039	EPA 8270E	3-22-21	3-22-21	
1,4-Dinitrobenzene	ND	0.039	EPA 8270E	3-22-21	3-22-21	
Dimethylphthalate	ND	0.039	EPA 8270E	3-22-21	3-22-21	
1,3-Dinitrobenzene	ND	0.039	EPA 8270E	3-22-21	3-22-21	
2,6-Dinitrotoluene	ND	0.039	EPA 8270E	3-22-21	3-22-21	
1,2-Dinitrobenzene	ND	0.039	EPA 8270E	3-22-21	3-22-21	
Acenaphthylene	ND	0.0077	EPA 8270E/SIM	3-22-21	3-22-21	
3-Nitroaniline	ND	0.039	EPA 8270E	3-22-21	3-22-21	



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# SEMIVOLATILE ORGANICS EPA 8270E/SIM

page 2 c	of 2
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• • •	<b>_</b>			Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	B-102 -10'					
_aboratory ID:	03-080-20	0.40		0.00.01	0.00.04	
2,4-Dinitrophenol	ND	0.19	EPA 8270E	3-22-21	3-22-21	
Acenaphthene	ND	0.0077	EPA 8270E/SIM	3-22-21	3-22-21	
4-Nitrophenol	ND	0.039	EPA 8270E	3-22-21	3-22-21	
2,4-Dinitrotoluene	ND	0.039	EPA 8270E	3-22-21	3-22-21	
Dibenzofuran	ND	0.039	EPA 8270E	3-22-21	3-22-21	
2,3,5,6-Tetrachlorophenol	ND	0.039	EPA 8270E	3-22-21	3-22-21	
2,3,4,6-Tetrachlorophenol	ND	0.039	EPA 8270E	3-22-21	3-22-21	
Diethylphthalate	ND	0.19	EPA 8270E	3-22-21	3-22-21	
1-Chlorophenyl-phenylether		0.039	EPA 8270E	3-22-21	3-22-21	
4-Nitroaniline	ND	0.039	EPA 8270E	3-22-21	3-22-21	
Fluorene	ND	0.015	EPA 8270E/SIM	3-22-21	3-23-21	
4,6-Dinitro-2-methylphenol	ND	0.19	EPA 8270E	3-22-21	3-22-21	
n-Nitrosodiphenylamine	ND	0.039	EPA 8270E	3-22-21	3-22-21	
1,2-Diphenylhydrazine	ND	0.039	EPA 8270E	3-22-21	3-22-21	
4-Bromophenyl-phenylether		0.039	EPA 8270E	3-22-21	3-22-21	
Hexachlorobenzene	ND	0.039	EPA 8270E	3-22-21	3-22-21	
Pentachlorophenol	ND	0.19	EPA 8270E	3-22-21	3-22-21	
Phenanthrene	0.051	0.039	EPA 8270E	3-22-21	3-22-21	
Anthracene	ND	0.015	EPA 8270E/SIM	3-22-21	3-23-21	
Carbazole	ND	0.039	EPA 8270E	3-22-21	3-22-21	
Di-n-butylphthalate	ND	0.19	EPA 8270E	3-22-21	3-22-21	
Fluoranthene	0.016	0.015	EPA 8270E/SIM	3-22-21	3-23-21	
<sup>D</sup> yrene	0.030	0.015	EPA 8270E/SIM	3-22-21	3-23-21	
Butylbenzylphthalate	ND	0.96	EPA 8270E	3-22-21	3-25-21	
pis-2-Ethylhexyladipate	ND	0.96	EPA 8270E	3-22-21	3-25-21	
3,3'-Dichlorobenzidine	ND	0.96	EPA 8270E	3-22-21	3-25-21	
Benzo[a]anthracene	ND	0.015	EPA 8270E/SIM	3-22-21	3-23-21	
Chrysene	ND	0.015	EPA 8270E/SIM	3-22-21	3-23-21	
pis(2-Ethylhexyl)phthalate	ND	0.96	EPA 8270E	3-22-21	3-25-21	
Di-n-octylphthalate	ND	0.96	EPA 8270E	3-22-21	3-25-21	
Benzo[b]fluoranthene	ND	0.015	EPA 8270E/SIM	3-22-21	3-23-21	
Benzo(j,k)fluoranthene	ND	0.015	EPA 8270E/SIM	3-22-21	3-23-21	
Benzo[a]pyrene	ND	0.015	EPA 8270E/SIM	3-22-21	3-23-21	
ndeno[1,2,3-cd]pyrene	ND	0.015	EPA 8270E/SIM	3-22-21	3-23-21	
Dibenz[a,h]anthracene	ND	0.015	EPA 8270E/SIM	3-22-21	3-23-21	
Benzo[g,h,i]perylene	ND	0.015	EPA 8270E/SIM	3-22-21	3-23-21	
Surrogate:	Percent Recovery	Control Limits				
2-Fluorophenol	68	22 - 109				
Phenol-d6	73	36 - 110				
Nitrobenzene-d5	70	31 - 109				
2-Fluorobiphenyl	74	45 - 107				
2,4,6-Tribromophenol	91	43 - 124				
Terphenyl-d14	77	52 - 118				



Date of Report: March 29, 2021 Samples Submitted: March 5, 2021 Laboratory Reference: 2103-080C Project: 8336-3

#### SEMIVOLATILE ORGANICS EPA 8270E/SIM QUALITY CONTROL page 1 of 2

Matrix: Soil Units: mg/Kg

Analyte         Result         PQL         Method         Prepared         Analyzed         Flags           METHOD BLANK
Laboratory ID:         MB0322S1           n-Nitrosodimethylamine         ND         0.033         EPA 8270E         3-22-21         3-22-21           Pyridine         ND         0.33         EPA 8270E         3-22-21         3-22-21           Phenol         ND         0.033         EPA 8270E         3-22-21         3-22-21           Aniline         ND         0.17         EPA 8270E         3-22-21         3-22-21           2-Chlorophenol         ND         0.033         EPA 8270E         3-22-21         3-22-21           1,3-Dichlorobenzene         ND         0.033         EPA 8270E         3-22-21         3-22-21           1,4-Dichlorobenzene         ND         0.033         EPA 8270E         3-22-21         3-22-21           1,4-Dichlorobenzene         ND         0.033         EPA 8270E         3-22-21         3-22-21           1,2-Dichlorobenzene         ND
n-Nitrosodimethylamine         ND         0.033         EPA 8270E         3-22-21         3-22-21           Pyridine         ND         0.33         EPA 8270E         3-22-21         3-22-21           Phenol         ND         0.033         EPA 8270E         3-22-21         3-22-21           Anlline         ND         0.17         EPA 8270E         3-22-21         3-22-21           bis(2-Chloroethyl)ether         ND         0.033         EPA 8270E         3-22-21         3-22-21           2-Chlorophenol         ND         0.033         EPA 8270E         3-22-21         3-22-21           1,4-Dichlorobenzene         ND         0.033         EPA 8270E         3-22-21         3-22-21           1,4-Dichlorobenzene         ND         0.033         EPA 8270E         3-22-21         3-22-21           1,2-Dichlorobenzene         ND         0.033         EPA 8270E         3-22-21         3-22-21           2-Methylphenol (o-Cresol)         ND         0.033         EPA 8270E         3-22-21         3-22-21           2-4thylphenol (o-Cresol)         ND         0.033         EPA 8270E         3-22-21         3-22-21           2-4thylphenol (n,p-Cresol)         ND         0.033         EPA 8270E <t< th=""></t<>
n-Nitrosodimethylamine         ND         0.033         EPA 8270E         3-22-21         3-22-21           Pyridine         ND         0.33         EPA 8270E         3-22-21         3-22-21           Phenol         ND         0.033         EPA 8270E         3-22-21         3-22-21           Anlline         ND         0.17         EPA 8270E         3-22-21         3-22-21           bis(2-Chloroethyl)ether         ND         0.033         EPA 8270E         3-22-21         3-22-21           2-Chlorophenol         ND         0.033         EPA 8270E         3-22-21         3-22-21           1,4-Dichlorobenzene         ND         0.033         EPA 8270E         3-22-21         3-22-21           1,4-Dichlorobenzene         ND         0.033         EPA 8270E         3-22-21         3-22-21           1,2-Dichlorobenzene         ND         0.033         EPA 8270E         3-22-21         3-22-21           2-Methylphenol (o-Cresol)         ND         0.033         EPA 8270E         3-22-21         3-22-21           2-4thylphenol (o-Cresol)         ND         0.033         EPA 8270E         3-22-21         3-22-21           2-4thylphenol (n,p-Cresol)         ND         0.033         EPA 8270E <t< td=""></t<>
Pyridine         ND         0.33         EPA 8270E         3-22-21         3-22-21           Phenol         ND         0.033         EPA 8270E         3-22-21         3-22-21           Aniline         ND         0.17         EPA 8270E         3-22-21         3-22-21           Aniline         ND         0.17         EPA 8270E         3-22-21         3-22-21           2-Chlorophenol         ND         0.033         EPA 8270E         3-22-21         3-22-21           2-Chlorophenol         ND         0.033         EPA 8270E         3-22-21         3-22-21           1,4-Dichlorobenzene         ND         0.033         EPA 8270E         3-22-21         3-22-21           1,2-Dichlorobenzene         ND         0.033         EPA 8270E         3-22-21         3-22-21           1,2-Dichlorobenzene         ND         0.033         EPA 8270E         3-22-21         3-22-21           2-Methylphenol (o-Cresol)         ND         0.033         EPA 8270E         3-22-21         3-22-21           2-Methylphenol (m,p-Cresol)         ND         0.033         EPA 8270E         3-22-21         3-22-21           1/2-4-Methylphenol (m,p-Cresol)         ND         0.033         EPA 8270E         3-22-21
Phenol         ND         0.033         EPA 8270E         3-22-21         3-22-21           Aniline         ND         0.17         EPA 8270E         3-22-21         3-22-21           bis(2-Chloroethyl)ether         ND         0.033         EPA 8270E         3-22-21         3-22-21           2-Chlorophenol         ND         0.033         EPA 8270E         3-22-21         3-22-21           1,3-Dichlorobenzene         ND         0.033         EPA 8270E         3-22-21         3-22-21           1,4-Dichlorobenzene         ND         0.033         EPA 8270E         3-22-21         3-22-21           1,4-Dichlorobenzene         ND         0.033         EPA 8270E         3-22-21         3-22-21           1,4-Dichlorobenzene         ND         0.033         EPA 8270E         3-22-21         3-22-21           2-Methylphenol (o-Cresol)         ND         0.033         EPA 8270E         3-22-21         3-22-21           2-Methylphenol (m,p-Cresol)         ND         0.033         EPA 8270E         3-22-21         3-22-21           3-44-2010rothane         ND         0.033         EPA 8270E         3-22-21         3-22-21           3-44-2010rothane         ND         0.033         EPA 8270E <td< td=""></td<>
Aniline         ND         0.17         EPA 8270E         3-22-21         3-22-21           bis(2-Chloroethyl)ether         ND         0.033         EPA 8270E         3-22-21         3-22-21           2-Chlorophenol         ND         0.033         EPA 8270E         3-22-21         3-22-21           1,3-Dichlorobenzene         ND         0.033         EPA 8270E         3-22-21         3-22-21           1,4-Dichlorobenzene         ND         0.033         EPA 8270E         3-22-21         3-22-21           1,4-Dichlorobenzene         ND         0.033         EPA 8270E         3-22-21         3-22-21           2-Methylphenol (o-Cresol)         ND         0.033         EPA 8270E         3-22-21         3-22-21           2-Methylphenol (m,p-Cresol)         ND         0.033         EPA 8270E         3-22-21         3-22-21           2-Methylphenol (m,p-Cresol)         ND         0.033         EPA 8270E         3-22-21         3-22-21           is/2-Chloroisopropylether         ND         0.033         EPA 8270E         3-22-21         3-22-21           is/2-Chloroisopropylamine         ND         0.033         EPA 8270E         3-22-21         3-22-21           hexachloroethane         ND         0.033
2-Chlorophenol         ND         0.033         EPA 8270E         3-22-21         3-22-21           1,3-Dichlorobenzene         ND         0.033         EPA 8270E         3-22-21         3-22-21           1,4-Dichlorobenzene         ND         0.033         EPA 8270E         3-22-21         3-22-21           Benzyl alcohol         ND         0.033         EPA 8270E         3-22-21         3-22-21           1,2-Dichlorobenzene         ND         0.033         EPA 8270E         3-22-21         3-22-21           2-Methylphenol (o-Cresol)         ND         0.033         EPA 8270E         3-22-21         3-22-21           2-Methylphenol (m,p-Cresol)         ND         0.033         EPA 8270E         3-22-21         3-22-21           3-40-Methylphenol (m,p-Cresol)         ND         0.033         EPA 8270E         3-22-21         3-22-21           (3+4)-Methylphenol (m,p-Cresol)         ND         0.033         EPA 8270E         3-22-21         3-22-21           (3+4)-Methylphenol (m,p-Cresol)         ND         0.033         EPA 8270E         3-22-21         3-22-21           Ibis(2-Chloroethane         ND         0.033         EPA 8270E         3-22-21         3-22-21           2-A-Dimethylphenol         ND
1,3-DichlorobenzeneND0.033EPA 8270E3-22-213-22-211,4-DichlorobenzeneND0.033EPA 8270E3-22-213-22-21Benzyl alcoholND0.033EPA 8270E3-22-213-22-211,2-DichlorobenzeneND0.033EPA 8270E3-22-213-22-212-Methylphenol (o-Cresol)ND0.033EPA 8270E3-22-213-22-21bis(2-Chloroisopropyl)etherND0.033EPA 8270E3-22-213-22-21(3'4-)-Methylphenol (m,p-Cresol)ND0.033EPA 8270E3-22-213-22-21n-Nitroso-di-n-propylamineND0.033EPA 8270E3-22-213-22-21HexachloroethaneND0.033EPA 8270E3-22-213-22-21NitrobenzeneND0.033EPA 8270E3-22-213-22-21VitrophenolND0.033EPA 8270E3-22-213-22-21VitrophenolND0.033EPA 8270E3-22-213-22-212-NitrophenolND0.033EPA 8270E3-22-213-22-212-A-DimethylphenolND0.033EPA 8270E3-22-213-22-212-A-DirophenolND0.033EPA 8270E3-22-213-22-212-A-DirophenolND0.033EPA 8270E3-22-213-22-212-A-DichlorophenolND0.033EPA 8270E3-22-213-22-212-A-DichlorophenolND0.033EPA 8270E3-22-213-22-212-A-DichlorophenolND<
1,4-DichlorobenzeneND0.033EPA 8270E3-22-213-22-21Benzyl alcoholND0.033EPA 8270E3-22-213-22-211,2-DichlorobenzeneND0.033EPA 8270E3-22-213-22-212-Methylphenol (o-Cresol)ND0.033EPA 8270E3-22-213-22-21bis(2-Chloroisopropyl)etherND0.033EPA 8270E3-22-213-22-21(3+4)-Methylphenol (m, p-Cresol)ND0.033EPA 8270E3-22-213-22-21n-Nitroso-di-n-propylamineND0.033EPA 8270E3-22-213-22-21HexachloroethaneND0.033EPA 8270E3-22-213-22-21IsophoroneND0.033EPA 8270E3-22-213-22-21IsophoroneND0.033EPA 8270E3-22-213-22-212-NitrophenolND0.033EPA 8270E3-22-213-22-212-NitrophenolND0.033EPA 8270E3-22-213-22-212,4-DinethylphenolND0.033EPA 8270E3-22-213-22-212,4-DichlorophenolND0.033EPA 8270E3-22-213-22-211,2,4-TrichlorobenzeneND0.033EPA 8270E3-22-213-22-211,2,4-TrichlorobenzeneND0.033EPA 8270E3-22-213-22-211,2,4-TrichlorobenzeneND0.033EPA 8270E3-22-213-22-211,2,4-TrichlorobenzeneND0.033EPA 8270E3-22-213-22-211,2,4-Tr
Benzyl alcoholND0.033EPA 8270E3-22-213-22-211,2-DichlorobenzeneND0.033EPA 8270E3-22-213-22-212-Methylphenol (o-Cresol)ND0.033EPA 8270E3-22-213-22-21bis(2-Chloroisopropyl)etherND0.033EPA 8270E3-22-213-22-21(3+4)-Methylphenol (m,p-Cresol)ND0.033EPA 8270E3-22-213-22-21n-Nitroso-di-n-propylamineND0.033EPA 8270E3-22-213-22-21HexachloroethaneND0.033EPA 8270E3-22-213-22-21NitrobenzeneND0.033EPA 8270E3-22-213-22-21IsophoroneND0.033EPA 8270E3-22-213-22-212-NitrophenolND0.033EPA 8270E3-22-213-22-212,4-DimethylphenolND0.033EPA 8270E3-22-213-22-211,2,4-TrichlorobenzeneND0.033EPA 8270E3-22-213-22-211,2,4-TrichlorobenzeneND0.033EPA 8270E3-22-213-22-211,2,4-TrichlorobenzeneND0.033EPA 8270E3-22-213-22-211,2,4-TrichlorobenzeneND0.033EPA 8270E3-22-213-22-211,2,4-TrichlorobenzeneND0.033EPA 8270E3-22-213-22-211,2,4-TrichlorobenzeneND0.033EPA 8270E3-22-213-22-211,2,4-TrichlorobenzeneND0.033EPA 8270E3-22-213-22-21
1,2-DicklorobenzeneND0.033EPA 8270E3-22-213-22-212-Methylphenol (o-Cresol)ND0.033EPA 8270E3-22-213-22-21bis(2-Chloroisopropyl)etherND0.033EPA 8270E3-22-213-22-21(3+4)-Methylphenol (m,p-Cresol)ND0.033EPA 8270E3-22-213-22-21n-Nitroso-di-n-propylamineND0.033EPA 8270E3-22-213-22-21HexachloroethaneND0.033EPA 8270E3-22-213-22-21NitrobenzeneND0.033EPA 8270E3-22-213-22-21IsophoroneND0.033EPA 8270E3-22-213-22-212-NitrophenolND0.033EPA 8270E3-22-213-22-212,4-DimethylphenolND0.033EPA 8270E3-22-213-22-211,2,4-TrichlorobenzeneND0.033EPA 8270E3-22-213-22-211,2,4-TrichlorobenzeneND0.033EPA 8270E3-22-213-22-211,2,4-TrichlorobenzeneND0.033EPA 8270E3-22-213-22-211,2,4-TrichlorobenzeneND0.033EPA 8270E3-22-213-22-211,2,4-TrichlorobenzeneND0.033EPA 8270E3-22-213-22-211,2,4-TrichlorobenzeneND0.0067EPA 8270E3-22-213-22-211,2,4-TrichlorobenzeneND0.033EPA 8270E3-22-213-22-211,2,4-TrichlorobenzeneND0.033EPA 8270E3-22-213-22-21
1,2-DichlorobenzeneND0.033EPA 8270E3-22-213-22-212-Methylphenol (o-Cresol)ND0.033EPA 8270E3-22-213-22-21bis(2-Chloroisopropyl)etherND0.033EPA 8270E3-22-213-22-21(3+4)-Methylphenol (m,p-Cresol)ND0.033EPA 8270E3-22-213-22-21n-Nitroso-di-n-propylamineND0.033EPA 8270E3-22-213-22-21HexachloroethaneND0.033EPA 8270E3-22-213-22-21NitrobenzeneND0.033EPA 8270E3-22-213-22-21IsophoroneND0.033EPA 8270E3-22-213-22-212-NitrophenolND0.033EPA 8270E3-22-213-22-212,4-DimethylphenolND0.033EPA 8270E3-22-213-22-21js(2-Chloroethoxy)methaneND0.033EPA 8270E3-22-213-22-21j,4-DichlorophenolND0.033EPA 8270E3-22-213-22-21j,4-DichlorobenzeneND0.033EPA 8270E3-22-213-22-21j,2,4-TrichlorobenzeneND0.033EPA 8270E3-22-213-22-21j,2,4-TrichlorobenzeneND0.033EPA 8270E3-22-213-22-21j,2,4-TrichlorobenzeneND0.0067EPA 8270E3-22-213-22-21j,2,4-TrichlorobenzeneND0.033EPA 8270E3-22-213-22-21j,2,4-TrichlorobenzeneND0.033EPA 8270E3-22-213-22-21
bis(2-Chloroisopropyl)etherND0.033EPA 8270E3-22-213-22-21(3+4)-Methylphenol (m,p-Cresol)ND0.033EPA 8270E3-22-213-22-21n-Nitroso-di-n-propylamineND0.033EPA 8270E3-22-213-22-21HexachloroethaneND0.033EPA 8270E3-22-213-22-21NitrobenzeneND0.033EPA 8270E3-22-213-22-21IsophoroneND0.033EPA 8270E3-22-213-22-212-NitrophenolND0.033EPA 8270E3-22-213-22-212,4-DimethylphenolND0.033EPA 8270E3-22-213-22-212,4-DichlorophenolND0.033EPA 8270E3-22-213-22-212,4-DichlorophenolND0.033EPA 8270E3-22-213-22-211,2,4-TrichlorobenzeneND0.033EPA 8270E3-22-213-22-21NaphthaleneND0.0067EPA 8270E3-22-213-22-214-ChloroanilineND0.033EPA 8270E3-22-213-22-214-Chloro-3-methylphenolND0.033EPA 8270E3-22-213-22-214-Chloro-3-methylphenolND0.033EPA 8270E3-22-213-22-212-MethylnaphthaleneND0.0067EPA 8270E3-22-213-22-212-MethylnaphthaleneND0.0067EPA 8270E3-22-213-22-21
(3+4)-Methylphenol (m,p-Cresol)ND0.033EPA 8270E3-22-213-22-21n-Nitroso-di-n-propylamineND0.033EPA 8270E3-22-213-22-21HexachloroethaneND0.033EPA 8270E3-22-213-22-21NitrobenzeneND0.033EPA 8270E3-22-213-22-21IsophoroneND0.033EPA 8270E3-22-213-22-212-NitrophenolND0.033EPA 8270E3-22-213-22-212,4-DimethylphenolND0.033EPA 8270E3-22-213-22-212,4-DichlorophenolND0.033EPA 8270E3-22-213-22-212,4-DichlorophenolND0.033EPA 8270E3-22-213-22-211,2,4-TrichlorobenzeneND0.033EPA 8270E3-22-213-22-211,2,4-TrichlorobenzeneND0.0067EPA 8270E3-22-213-22-21NaphthaleneND0.033EPA 8270E3-22-213-22-214-ChloroanilineND0.033EPA 8270E3-22-213-22-214-Chloro-3-methylphenolND0.033EPA 8270E3-22-213-22-212-MethylnaphthaleneND0.033EPA 8270E3-22-213-22-212-MethylnaphthaleneND0.033EPA 8270E3-22-213-22-212-MethylnaphthaleneND0.0067EPA 8270E3-22-213-22-212-MethylnaphthaleneND0.0067EPA 8270E3-22-213-22-21
(3+4)-Methylphenol (m,p-Cresol)ND0.033EPA 8270E3-22-213-22-21n-Nitroso-di-n-propylamineND0.033EPA 8270E3-22-213-22-21HexachloroethaneND0.033EPA 8270E3-22-213-22-21NitrobenzeneND0.033EPA 8270E3-22-213-22-21IsophoroneND0.033EPA 8270E3-22-213-22-212-NitrophenolND0.033EPA 8270E3-22-213-22-212,4-DimethylphenolND0.033EPA 8270E3-22-213-22-212,4-DichlorophenolND0.033EPA 8270E3-22-213-22-212,4-DichlorophenolND0.033EPA 8270E3-22-213-22-211,2,4-TrichlorobenzeneND0.033EPA 8270E3-22-213-22-211,2,4-TrichlorobenzeneND0.0067EPA 8270E3-22-213-22-21NaphthaleneND0.033EPA 8270E3-22-213-22-214-ChloroanilineND0.033EPA 8270E3-22-213-22-214-Chloro-3-methylphenolND0.033EPA 8270E3-22-213-22-212-MethylnaphthaleneND0.033EPA 8270E3-22-213-22-212-MethylnaphthaleneND0.033EPA 8270E3-22-213-22-212-MethylnaphthaleneND0.0067EPA 8270E3-22-213-22-212-MethylnaphthaleneND0.0067EPA 8270E3-22-213-22-21
n-Nitroso-di-n-propylamineND0.033EPA 8270E3-22-213-22-21HexachloroethaneND0.033EPA 8270E3-22-213-22-21NitrobenzeneND0.033EPA 8270E3-22-213-22-21IsophoroneND0.033EPA 8270E3-22-213-22-212-NitrophenolND0.033EPA 8270E3-22-213-22-212,4-DimethylphenolND0.033EPA 8270E3-22-213-22-212,4-Dinoethoxy)methaneND0.033EPA 8270E3-22-213-22-212,4-DichlorophenolND0.033EPA 8270E3-22-213-22-211,2,4-TrichlorobenzeneND0.033EPA 8270E3-22-213-22-21NaphthaleneND0.0067EPA 8270E3-22-213-22-214-ChloroanilineND0.17EPA 8270E3-22-213-22-214-Chloro-3-methylphenolND0.033EPA 8270E3-22-213-22-212-MethylnaphthaleneND0.033EPA 8270E3-22-213-22-214-Chloro-3-methylphenolND0.033EPA 8270E3-22-213-22-212-MethylnaphthaleneND0.0067EPA 8270E3-22-213-22-212-MethylnaphthaleneND0.0067EPA 8270E3-22-213-22-212-MethylnaphthaleneND0.0067EPA 8270E/SIM3-22-213-22-212-MethylnaphthaleneND0.0067EPA 8270E/SIM3-22-213-22-21
NitrobenzeneND0.033EPA 8270E3-22-213-22-21IsophoroneND0.033EPA 8270E3-22-213-22-212-NitrophenolND0.033EPA 8270E3-22-213-22-212,4-DimethylphenolND0.033EPA 8270E3-22-213-22-21bis(2-Chloroethoxy)methaneND0.033EPA 8270E3-22-213-22-212,4-DichlorophenolND0.033EPA 8270E3-22-213-22-211,2,4-TrichlorobenzeneND0.033EPA 8270E3-22-213-22-21NaphthaleneND0.0067EPA 8270E3-22-213-22-214-ChloroanilineND0.17EPA 8270E3-22-213-22-21HexachlorobutadieneND0.033EPA 8270E3-22-213-22-214-Chloro-3-methylphenolND0.033EPA 8270E3-22-213-22-212-MethylnaphthaleneND0.0067EPA 8270E3-22-213-22-212-MethylnaphthaleneND0.0067EPA 8270E3-22-213-22-21
IsophoroneND0.033EPA 8270E3-22-213-22-212-NitrophenolND0.033EPA 8270E3-22-213-22-212,4-DimethylphenolND0.033EPA 8270E3-22-213-22-21bis(2-Chloroethoxy)methaneND0.033EPA 8270E3-22-213-22-212,4-DichlorophenolND0.033EPA 8270E3-22-213-22-211,2,4-TrichlorobenzeneND0.033EPA 8270E3-22-213-22-21NaphthaleneND0.0067EPA 8270E3-22-213-22-214-ChloroanilineND0.17EPA 8270E3-22-213-22-21HexachlorobutadieneND0.033EPA 8270E3-22-213-22-214-Chloro-3-methylphenolND0.033EPA 8270E3-22-213-22-212-MethylnaphthaleneND0.0067EPA 8270E3-22-213-22-21
2-NitrophenolND0.033EPA 8270E3-22-213-22-212,4-DimethylphenolND0.033EPA 8270E3-22-213-22-21bis(2-Chloroethoxy)methaneND0.033EPA 8270E3-22-213-22-212,4-DichlorophenolND0.033EPA 8270E3-22-213-22-211,2,4-TrichlorobenzeneND0.033EPA 8270E3-22-213-22-21NaphthaleneND0.0067EPA 8270E3-22-213-22-214-ChloroanilineND0.17EPA 8270E3-22-213-22-21HexachlorobutadieneND0.033EPA 8270E3-22-213-22-214-Chloro-3-methylphenolND0.033EPA 8270E3-22-213-22-212-MethylnaphthaleneND0.0067EPA 8270E3-22-213-22-21
2,4-DimethylphenolND0.033EPA 8270E3-22-213-22-21bis(2-Chloroethoxy)methaneND0.033EPA 8270E3-22-213-22-212,4-DichlorophenolND0.033EPA 8270E3-22-213-22-211,2,4-TrichlorobenzeneND0.033EPA 8270E3-22-213-22-21NaphthaleneND0.0067EPA 8270E3-22-213-22-214-ChloroanilineND0.17EPA 8270E3-22-213-22-21HexachlorobutadieneND0.033EPA 8270E3-22-213-22-214-Chloro-3-methylphenolND0.033EPA 8270E3-22-213-22-212-MethylnaphthaleneND0.0067EPA 8270E3-22-213-22-21
bis(2-Chloroethoxy)methane         ND         0.033         EPA 8270E         3-22-21         3-22-21           2,4-Dichlorophenol         ND         0.033         EPA 8270E         3-22-21         3-22-21           1,2,4-Trichlorobenzene         ND         0.033         EPA 8270E         3-22-21         3-22-21           Naphthalene         ND         0.0067         EPA 8270E         3-22-21         3-22-21           4-Chloroaniline         ND         0.17         EPA 8270E         3-22-21         3-22-21           Hexachlorobutadiene         ND         0.033         EPA 8270E         3-22-21         3-22-21           4-Chloro-3-methylphenol         ND         0.033         EPA 8270E         3-22-21         3-22-21           2-Methylnaphthalene         ND         0.033         EPA 8270E         3-22-21         3-22-21
2,4-DichlorophenolND0.033EPA 8270E3-22-213-22-211,2,4-TrichlorobenzeneND0.033EPA 8270E3-22-213-22-21NaphthaleneND0.0067EPA 8270E/SIM3-22-213-22-214-ChloroanilineND0.17EPA 8270E3-22-213-22-21HexachlorobutadieneND0.033EPA 8270E3-22-213-22-214-Chloro-3-methylphenolND0.033EPA 8270E3-22-213-22-212-MethylnaphthaleneND0.0067EPA 8270E/SIM3-22-213-22-21
1,2,4-TrichlorobenzeneND0.033EPA 8270E3-22-213-22-21NaphthaleneND0.0067EPA 8270E/SIM3-22-213-22-214-ChloroanilineND0.17EPA 8270E3-22-213-22-21HexachlorobutadieneND0.033EPA 8270E3-22-213-22-214-Chloro-3-methylphenolND0.033EPA 8270E3-22-213-22-212-MethylnaphthaleneND0.0067EPA 8270E/SIM3-22-213-22-21
Naphthalene         ND         0.0067         EPA 8270E/SIM         3-22-21         3-22-21           4-Chloroaniline         ND         0.17         EPA 8270E         3-22-21         3-22-21           Hexachlorobutadiene         ND         0.033         EPA 8270E         3-22-21         3-22-21           4-Chloro-3-methylphenol         ND         0.033         EPA 8270E         3-22-21         3-22-21           2-Methylnaphthalene         ND         0.0067         EPA 8270E/SIM         3-22-21         3-22-21
4-Chloroaniline         ND         0.17         EPA 8270E         3-22-21         3-22-21           Hexachlorobutadiene         ND         0.033         EPA 8270E         3-22-21         3-22-21           4-Chloro-3-methylphenol         ND         0.033         EPA 8270E         3-22-21         3-22-21           2-Methylnaphthalene         ND         0.0067         EPA 8270E/SIM         3-22-21         3-22-21
Hexachlorobutadiene         ND         0.033         EPA 8270E         3-22-21         3-22-21           4-Chloro-3-methylphenol         ND         0.033         EPA 8270E         3-22-21         3-22-21           2-Methylnaphthalene         ND         0.0067         EPA 8270E/SIM         3-22-21         3-22-21
4-Chloro-3-methylphenol         ND         0.033         EPA 8270E         3-22-21         3-22-21           2-Methylnaphthalene         ND         0.0067         EPA 8270E/SIM         3-22-21         3-22-21
2-Methylnaphthalene ND 0.0067 EPA 8270E/SIM 3-22-21 3-22-21
1-Methylnaphthalene ND 0.0067 EPA 8270E/SIM 3-22-21 3-22-21
Hexachlorocyclopentadiene ND 0.033 EPA 8270E 3-22-21 3-22-21
2,4,6-Trichlorophenol ND 0.033 EPA 8270E 3-22-21 3-22-21
2,3-Dichloroaniline ND 0.033 EPA 8270E 3-22-21 3-22-21
2,4,5-Trichlorophenol ND 0.033 EPA 8270E 3-22-21 3-22-21
2-Chloronaphthalene ND 0.033 EPA 8270E 3-22-21 3-22-21
2-Nitroaniline ND 0.033 EPA 8270E 3-22-21 3-22-21
1,4-Dinitrobenzene ND 0.033 EPA 8270E 3-22-21 3-22-21
Dimethylphthalate         ND         0.033         EPA 8270E         3-22-21         3-22-21
1,3-Dinitrobenzene ND 0.033 EPA 8270E 3-22-21 3-22-21
2,6-Dinitrotoluene ND 0.033 EPA 8270E 3-22-21 3-22-21
1,2-Dinitrobenzene ND 0.033 EPA 8270E 3-22-21 3-22-21
Acenaphthylene ND 0.0067 EPA 8270E/SIM 3-22-21 3-22-21
3-Nitroaniline ND 0.033 EPA 8270E 3-22-21 3-22-21



OnSite Environmental, Inc. 14648 NE 95<sup>th</sup> Street, Redmond, WA 98052 (425) 883-3881

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK					,, <b>,</b>	
Laboratory ID:	MB0322S1					
2,4-Dinitrophenol	ND	0.17	EPA 8270E	3-22-21	3-22-21	
Acenaphthene	ND	0.0067	EPA 8270E/SIM	3-22-21	3-22-21	
4-Nitrophenol	ND	0.033	EPA 8270E	3-22-21	3-22-21	
2,4-Dinitrotoluene	ND	0.033	EPA 8270E	3-22-21	3-22-21	
Dibenzofuran	ND	0.033	EPA 8270E	3-22-21	3-22-21	
2,3,5,6-Tetrachlorophenol	ND	0.033	EPA 8270E	3-22-21	3-22-21	
2,3,4,6-Tetrachlorophenol	ND	0.033	EPA 8270E	3-22-21	3-22-21	
Diethylphthalate	ND	0.17	EPA 8270E	3-22-21	3-22-21	
4-Chlorophenyl-phenylether	ND	0.033	EPA 8270E	3-22-21	3-22-21	
4-Nitroaniline	ND	0.033	EPA 8270E	3-22-21	3-22-21	
Fluorene	ND	0.0067	EPA 8270E/SIM	3-22-21	3-22-21	
4,6-Dinitro-2-methylphenol	ND	0.17	EPA 8270E	3-22-21	3-22-21	
n-Nitrosodiphenylamine	ND	0.033	EPA 8270E	3-22-21	3-22-21	
1,2-Diphenylhydrazine	ND	0.033	EPA 8270E	3-22-21	3-22-21	
4-Bromophenyl-phenylether	ND	0.033	EPA 8270E	3-22-21	3-22-21	
Hexachlorobenzene	ND	0.033	EPA 8270E	3-22-21	3-22-21	
Pentachlorophenol	ND	0.17	EPA 8270E	3-22-21	3-22-21	
Phenanthrene	ND	0.0067	EPA 8270E/SIM	3-22-21	3-22-21	
Anthracene	ND	0.0067	EPA 8270E/SIM	3-22-21	3-22-21	
Carbazole	ND	0.033	EPA 8270E	3-22-21	3-22-21	
Di-n-butylphthalate	ND	0.17	EPA 8270E	3-22-21	3-22-21	
Fluoranthene	ND	0.0067	EPA 8270E/SIM	3-22-21	3-22-21	
<sup>D</sup> yrene	ND	0.0067	EPA 8270E/SIM	3-22-21	3-22-21	
Butylbenzylphthalate	ND	0.17	EPA 8270E	3-22-21	3-22-21	
ois-2-Ethylhexyladipate	ND	0.17	EPA 8270E	3-22-21	3-22-21	
3,3'-Dichlorobenzidine	ND	0.17	EPA 8270E	3-22-21	3-22-21	
3enzo[a]anthracene	ND	0.0067	EPA 8270E/SIM	3-22-21	3-22-21	
Chrysene	ND	0.0067	EPA 8270E/SIM	3-22-21	3-22-21	
bis(2-Ethylhexyl)phthalate	ND	0.17	EPA 8270E	3-22-21	3-22-21	
Di-n-octylphthalate	ND	0.17	EPA 8270E	3-22-21	3-22-21	
Benzo[b]fluoranthene	ND	0.0067	EPA 8270E/SIM	3-22-21	3-22-21	
Benzo(j,k)fluoranthene	ND	0.0067	EPA 8270E/SIM	3-22-21	3-22-21	
Benzo[a]pyrene	ND	0.0067	EPA 8270E/SIM	3-22-21	3-22-21	
ndeno[1,2,3-cd]pyrene	ND	0.0067	EPA 8270E/SIM	3-22-21	3-22-21	
Dibenz[a,h]anthracene	ND	0.0067	EPA 8270E/SIM	3-22-21	3-22-21	
3enzo[g,h,i]perylene	ND	0.0067	EPA 8270E/SIM	3-22-21	3-22-21	
Surrogate:	Percent Recovery	Control Limits				
2-Fluorophenol	88	22 - 109				
Phenol-d6	93	36 - 110				
Nitrobenzene-d5	87	31 - 109				
2-Fluorobiphenyl	86	45 - 107				
2,4,6-Tribromophenol	91	43 - 124				
Terphenyl-d14	83	52 - 118				


#### SEMIVOLATILE ORGANICS EPA 8270E/SIM QUALITY CONTROL

Matrix: Soil Units: mg/Kg

					Source	Per	cent	Recovery		RPD	
Analyte	Re	sult	Spike	Level	Result	Reco	overy	Limits	RPD	Limit	Flags
MATRIX SPIKES											
Laboratory ID:	03-1	77-08									
	MS	MSD	MS	MSD		MS	MSD				
Phenol	1.14	1.05	1.33	1.33	ND	86	79	30 - 108	8	37	
2-Chlorophenol	1.13	1.02	1.33	1.33	ND	85	77	30 - 113	10	39	
1,4-Dichlorobenzene	0.555	0.478	0.667	0.667	ND	83	72	24 - 116	15	35	
n-Nitroso-di-n-propylamine	0.578	0.516	0.667	0.667	ND	87	77	34 - 112	11	34	
1,2,4-Trichlorobenzene	0.568	0.487	0.667	0.667	ND	85	73	34 - 115	15	38	
4-Chloro-3-methylphenol	1.20	1.05	1.33	1.33	ND	90	79	41 - 117	13	26	
Acenaphthene	0.537	0.493	0.667	0.667	ND	81	74	41 - 111	9	21	
4-Nitrophenol	0.961	0.948	1.33	1.33	ND	72	71	30 - 127	1	32	
2,4-Dinitrotoluene	0.603	0.499	0.667	0.667	ND	90	75	32 - 114	19	30	
Pentachlorophenol	0.886	0.768	1.33	1.33	ND	67	58	36 - 147	14	37	
Pyrene	0.658	0.610	0.667	0.667	0.0849	86	79	33 - 127	8	33	
Surrogate:											
2-Fluorophenol						86	77	22 - 109			
Phenol-d6						91	83	36 - 110			
Nitrobenzene-d5						88	77	31 - 109			
2-Fluorobiphenyl						86	80	45 - 107			
2,4,6-Tribromophenol						93	76	43 - 124			
Terphenyl-d14						89	78	52 - 118			



16

#### PCBs EPA 8082A

······				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	B-102 -10'					
Laboratory ID:	03-080-20					
Aroclor 1016	ND	0.058	EPA 8082A	3-23-21	3-23-21	
Aroclor 1221	ND	0.058	EPA 8082A	3-23-21	3-23-21	
Aroclor 1232	ND	0.058	EPA 8082A	3-23-21	3-23-21	
Aroclor 1242	ND	0.058	EPA 8082A	3-23-21	3-23-21	
Aroclor 1248	ND	0.058	EPA 8082A	3-23-21	3-23-21	
Aroclor 1254	ND	0.058	EPA 8082A	3-23-21	3-23-21	
Aroclor 1260	ND	0.058	EPA 8082A	3-23-21	3-23-21	
Surrogate:	Percent Recovery	Control Limits				
DCB	93	46-125				

#### PCBs EPA 8082A QUALITY CONTROL

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0323S1					
Aroclor 1016	ND	0.050	EPA 8082A	3-23-21	3-23-21	
Aroclor 1221	ND	0.050	EPA 8082A	3-23-21	3-23-21	
Aroclor 1232	ND	0.050	EPA 8082A	3-23-21	3-23-21	
Aroclor 1242	ND	0.050	EPA 8082A	3-23-21	3-23-21	
Aroclor 1248	ND	0.050	EPA 8082A	3-23-21	3-23-21	
Aroclor 1254	ND	0.050	EPA 8082A	3-23-21	3-23-21	
Aroclor 1260	ND	0.050	EPA 8082A	3-23-21	3-23-21	
Surrogate:	Percent Recovery	Control Limits				
DCB	99	46-125				

					Source	Pe	rcent	Recovery		RPD	
Analyte	Re	sult	Spike	Spike Level R		Rec	covery	Limits	RPD	Limit	Flags
MATRIX SPIKES											
Laboratory ID:	03-08	80-20									
	MS	MSD	MS	MSD		MS	MSD				
Aroclor 1260	0.391	0.400	0.500	0.500	ND	78	80	43-125	2	15	
Surrogate:											
DCB						88	88	46-125			



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

erine: ing/itg (ppin)				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	B-102 -10'					
Laboratory ID:	03-080-20					
Arsenic	ND	12	EPA 6010D	3-23-21	3-23-21	
Barium	37	2.9	EPA 6010D	3-23-21	3-23-21	
Cadmium	ND	0.58	EPA 6010D	3-23-21	3-23-21	
Chromium	19	0.58	EPA 6010D	3-23-21	3-23-21	
Lead	ND	5.8	EPA 6010D	3-23-21	3-23-21	
Mercury	ND	0.29	EPA 7471B	3-24-21	3-24-21	
Selenium	ND	12	EPA 6010D	3-23-21	3-23-21	
Silver	ND	1.2	EPA 6010D	3-23-21	3-23-21	



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

Matrix: Soil Units: mg/Kg (ppm)

e				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0323SM1					
Arsenic	ND	10	EPA 6010D	3-23-21	3-23-21	
Barium	ND	2.5	EPA 6010D	3-23-21	3-23-21	
Cadmium	ND	0.50	EPA 6010D	3-23-21	3-23-21	
Chromium	ND	0.50	EPA 6010D	3-23-21	3-23-21	
Lead	ND	5.0	EPA 6010D	3-23-21	3-23-21	
Selenium	ND	10	EPA 6010D	3-23-21	3-23-21	
Silver	ND	1.0	EPA 6010D	3-23-21	3-23-21	
Laboratory ID:	MB0324S1					
Mercury	ND	0.25	EPA 7471B	3-24-21	3-24-21	

					Source		cent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Result	Rec	overy	Limits	RPD	Limit	Flags
DUPLICATE											
Laboratory ID:	03-08	30-20									
	ORIG	DUP									
Arsenic	ND	ND	NA	NA		Ν	ΝA	NA	NA	20	
Barium	31.7	30.7	NA	NA		Ν	A	NA	3	20	
Cadmium	ND	ND	NA	NA		Ν	A	NA	NA	20	
Chromium	16.6	16.9	NA	NA		Ν	A	NA	1	20	
Lead	ND	ND	NA	NA		Ν	A	NA	NA	20	
Selenium	ND	ND	NA	NA		Ν	A	NA	NA	20	
Silver	ND	ND	NA	NA		١	١A	NA	NA	20	
Laboratory ID:	03-08	30-20									
Mercury	ND	ND	NA	NA		NA		NA	NA	20	
MATRIX SPIKES											
Laboratory ID:	03-08	30-20									
<b>`</b>	MS	MSD	MS	MSD		MS	MSD				
Arsenic	103	100	100	100	ND	103	100	75-125	3	20	
Barium	143	144	100	100	31.7	111	113	75-125	1	20	
Cadmium	46.5	44.6	50.0	50.0	ND	93	89	75-125	4	20	
Chromium	117	112	100	100	16.6	101	96	75-125	4	20	
Lead	259	249	250	250	ND	104	100	75-125	4	20	
Selenium	103	100	100	100	ND	103	100	75-125	3	20	

Laboratory ID: 03-0	80-20								
Mercury 0.497	0.496	0.500	0.500	0.0118	97	97	80-120	0	20

ND

95

89

75-125

7

20

M

Silver

23.8

22.2

25.0

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This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

25.0

#### % MOISTURE

Client ID	Lab ID	% Moisture	Date Analyzed
Chent ID	Lab ID	78 WOIsture	Analyzed
MW-1 -15'	03-080-11	9	3-23-21
B-102 -10'	03-080-20	13	3-9-21
B-102 -20	03-080-22	10	3-23-21



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#### **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 methods 8260 & 8270, 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.

Ζ-

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



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	Analytical Laboratory Testing 14648 NE 95th Street • R	Services Redmond, WA 98052		urnaround Rec (in working da			L	abo	orat	ory	Nur	nbe	er:	0	13	- (	3 (	30									
Company: Project Number		ociatos In	. 🗆 Sar	(Check One) me Day	) ] 1 Day					(d								WIS/D02	A								
Project Name:	8336-	5	2 D	andard (7 Days)	3 Days					Acid / SG Clean-up)		260C	Only)	5	evel)		es 8081B	ticides 82	ides 8151				64A				
Project Manag	er: Chuck	Lie				ontainers		TEX		Acid / S	0	/olatiles 8	1 (Waters	8270D/SII	SIM (low-le		ie Pesticid	horus Pes	cid Herbic	etals	letals		grease) 16				
Sampled by:	Chuck Nicolas R.	Hoffman	Date	(other) Time		Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx (	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	4s 8270D/	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
Lab ID	Sample Identi		Sampleo	d Sampled	Matrix	1	NZ I	SZ	NZ	NZ N	Nol	Ha	<u> </u>	Ser (wit	PAF	PO	Örg	Org	R	Tota	Tota	TCI	Ē			+	
	B-101	-2.5	3/4/2	19:30	Soil	15	X					_															X
2	B-101	-5		9:40		1																					
3	B-101	-7.5		950		5	X																				X
4	B-101	-10		10:05		1																					
5	B-101	-15		10:40		1																					
6	B-101	-20		10:45		1																					
7	MW-1	-2.5		11:05		1																					
8	MW-1	-5		11:15		5			Ì						1												
5	/hw - ]	-7.5		11:25		5																			1		1
10	MW-1	- 10'	V	11:35	V	5	X			3																	X
		1-712		Company				Date			Time				ment		_					-					
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Phone: (425) 883-3881 • www.onsite-env.com	-	(Check One)				_							Τ	1	Σ			1	1					
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8336-3	2 Day	ys	3 Days					Acid / SG Clean-up)						081B	es 827	8151/								
Project Name:	Stand	dard (7 Days)		S				SGC	R2600	s Only	WIS	/-level		cides 8	esticic	picides				1664A				
Project Manager: Chuck Lin				Number of Containers		TEX			Volatiles 8260C Halonenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	8270D/	(with low-level PAHs) PAHs 8270D/SIM (low-level)		Organochlorine Pesticldes 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	letals	letals		HEM (oil and grease) 1664A				
Sampled by: Nicolas R. Hoffman		(other)	<u>``</u>	er of G	NWTPH-HCID	NWTPH-Gx/BTEX	H-Gx	NWTPH-Dx (	Volatiles 8260C	PA 801	olatiles	%-leve	3082A	ochlorir	dsould	lated A	Total RCRA Metals	Total MTCA Metals	Metals	oil and				sture
Lab ID Sample Identification	Date Sampled	Time Sampled	Matrix	Numbe	IWTPI	NWTPH	NWTPH-Gx	IMTPI	Volatile	EDBE	Semivo	PAHs 8	PCBs 8082A	Organo	Organo	Chloric	Total R	Total N	TCLP Metals	HEM (0				% Moisture
$\frac{11}{MW-1} - 15'$	3/4/21	11:55		5				0																0
12 MW-1 -20	1	12:05	1	1																				
13 MW-1 -25		12:20	Ì	J																				
14 MW-1 -30		12:35		1																				
15 MW-1 -35		12:50		1																				
16 MW-1 -40 17 B-102 -2,5 18 B-102 -5		13:05		1																				
17 B-102 -2,5		14:10		3																				
L8 B-102 -5		14:20		5																				
19 B-102 -7.5		14:30		5																				
20 B-102 -10'	V	14:40	V	5	X			D	0		C		0				0							X
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Joria Associatas Inc	_ 🗌 Sam	e Day	1 Day												DD/SIN									
Project Number: 8336 - 3	2 Da	ys [	3 Days					an-up						)81B	s 8270	8151A								
Project Name:	Stan	dard (7 Days)		5				SGCIE	00000	00028	(VIIV)	MI	ipapi	ides 80	sticide	icides				664A				
Project Manager:				tainer		×		Acid /		latiles	Waters	PAHs)		Pestic	orus Pe	d Herb	als	tals		ease) 1				
Sampled by: Nicolas R, Hoffman		(other)		Number of Containers	HCID	NWTPH-Gx/BTEX	XO	NWTPH-DX ( Acid / SG Clean-up)	8260C	Halogenated volatiles 82000	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	82A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	tals	HEM (oil and grease) 1664A				Le
mm Trott, SI (also in	Date	Time		mber	NWTPH-HCID	VTPH-(	NWTPH-Gx	I-HAIN	Volatiles 8260C	rogena	BEPA	th low-	PCBs 8082A	ganocł	ganopl	lorinat	al RCF	al MT0	TCLP Metals	M (oil				% Moisture
Lab ID Sample Identification	Sampled	Sampled	Matrix	Nu		N			8			Se (wi	E Dd	ō	ō	ъ Б	Tot	Tot	10	뽀	$\vdash$	_	-	1
21 3-102 -15	3/4/21		Soil	1	X		(	X	)															X
22 B-102 -20	3/4/21	15:25		1				0						_										0
23 MW-Z -2.5 24 MW-Z -5	3/5/1	8:10		1																				
24 MW-2 -5		8:20		1																				
25 mw-z -7.5		8:30		5																				
26 MW-2 -10		8:40		3	X		(	Ø																X
27 MW-2 -15		8:50		]	X																			X
28 MW-2 -20		9:00		5																				
29 MW-2 -25		9:45		1																				
30 MW-2 -30	V	10:05	V	1																				
Signature 1.1	C	ompany	150-1			Date	-	_	Time	117	->	Com	nents/	Specia	l Inst	ructio	INS			-				
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Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052		naround Req n working da			L	abo	rato	ory	Nur	nb	er:	0	13.	- (	) 8	2										
Phone: (425) 883-3881 · www.onsite-env.com Company: Torr Associates Inc. Project Number: 8336-3	Sam	(Check One) e Day [	1 Day																							
Project Number:	2 Da		3 Days					(dn-u							<u>6</u>	8270[	51A									
Project Name:		dard (7 Days)		2				SG Clea		8260C	's Only)	SIM	/-level)		cides 808	esticides	bicides 81				1664A					
Project Manager: Chuck Lia Sampled by: Nico Jas R. Hoffman	]			Number of Containers	CID	NWTPH-Gx/BTEX	×	NWTPH-Dx ( Acid / SG Clean-up)	560C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	D/SIM (tow	A I	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	si	HEM (oil and grease) 1664A					
Nicolas R. Hottman		(other)		Jer of	DH-H	-H-G	G-H-G	KO-H-	Volatiles 8260C	Jenate	EPA 8	volatil low-le	8270	PCBS 8082A	lochic	oydou	inatec	RCRA	MTCA	TCLP Metals	(oil an					Isture
Lab ID Sample Identification	Date Sampled	Time Sampled	Matrix	Numt	NWTPH-HCID	NWTF	NWTPH-Gx	NWTF	Volati	Halog	EDB [	Semiv (with	PAHs	PCBS	Orgar	Orgar	Chlori	Total	Total	TCLP	HEM					% Moisture
31 AW-2 -35		10:20	Scil	1																						_
32 MW-2 -40'		10:35		1																						
33 MW-2 -45		10:50		1																						
34 MW-2 -50		11:30		1																						
25 MW-2 -55	V	12:15	V	1																						
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April 2, 2021

Chuck Lie Terra Associates, Inc. 12220 113th Avenue NE, Suite 130 Kirkland, WA 98034

Re: Analytical Data for Project 8336-3 Laboratory Reference No. 2103-203

Dear Chuck:

Enclosed are the analytical results and associated quality control data for samples submitted on March 18, 2021.

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



#### **Case Narrative**

Samples were collected on March 17, 2021 and received by the laboratory on March 18, 2021. They were maintained at the laboratory at a temperature of  $2^{\circ}$ C to  $6^{\circ}$ 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.



OnSite Environmental, Inc. 14648 NE 95<sup>th</sup> Street, Redmond, WA 98052 (425) 883-3881

#### HYDROCARBON IDENTIFICATION NWTPH-HCID

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	MW-101 -10'			-	-	
Laboratory ID:	03-203-02					
Gasoline Range Organics	ND	22	NWTPH-HCID	3-22-21	3-22-21	
Diesel Range Organics	Detected	55	NWTPH-HCID	3-22-21	3-22-21	
Lube Oil	Detected	110	NWTPH-HCID	3-22-21	3-22-21	
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	97	50-150				
Client ID:	MW-101 -15'					

11111-101-13					
03-203-03					
ND	22	NWTPH-HCID	3-22-21	3-22-21	
Detected	55	NWTPH-HCID	3-22-21	3-22-21	
Detected	110	NWTPH-HCID	3-22-21	3-22-21	
Percent Recovery	Control Limits				
97	50-150				
	03-203-03 ND Detected Detected Percent Recovery	03-203-03           ND         22           Detected         55           Detected         110           Percent Recovery         Control Limits	03-203-03           ND         22         NWTPH-HCID           Detected         55         NWTPH-HCID           Detected         110         NWTPH-HCID           Percent Recovery         Control Limits         Control Limits	03-203-03         ND         22         NWTPH-HCID         3-22-21           Detected         55         NWTPH-HCID         3-22-21           Detected         110         NWTPH-HCID         3-22-21           Percent Recovery         Control Limits         Control Limits         Control Limits	03-203-03           ND         22         NWTPH-HCID         3-22-21         3-22-21           Detected         55         NWTPH-HCID         3-22-21         3-22-21           Detected         110         NWTPH-HCID         3-22-21         3-22-21           Percent Recovery         Control Limits         Control Limits         Control Limits



#### HYDROCARBON IDENTIFICATION NWTPH-HCID QUALITY CONTROL

Matrix: Soil Units: mg/Kg (ppm)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0322S2					
Gasoline Range Organics	ND	20	NWTPH-HCID	3-22-21	3-22-21	
Diesel Range Organics	ND	50	NWTPH-HCID	3-22-21	3-22-21	
Lube Oil Range Organics	ND	100	NWTPH-HCID	3-22-21	3-22-21	
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	96	50-150				



4

#### DIESEL AND HEAVY OIL RANGE ORGANICS NWTPH-Dx

Matrix: Soil Units: mg/Kg (ppm)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	MW-101 -10'					
Laboratory ID:	03-203-02					
Diesel Range Organics	980	140	NWTPH-Dx	3-25-21	3-26-21	Ν
Lube Oil	7000	270	NWTPH-Dx	3-25-21	3-26-21	
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	87	50-150				
Client ID:	MW-101 -15'					
Laboratory ID:	03-203-03					
Diesel Range Organics	150	28	NWTPH-Dx	3-25-21	3-25-21	Ν
Lube Oil	1000	55	NWTPH-Dx	3-25-21	3-25-21	
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	84	50-150				
Client ID:	MW-101 -20'					
Laboratory ID:	03-203-04					
Diesel Range Organics	89	27	NWTPH-Dx	3-25-21	3-25-21	Ν
Lube Oil	610	54	NWTPH-Dx	3-25-21	3-25-21	
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	78	50-150				



5

#### DIESEL AND HEAVY OIL RANGE ORGANICS NWTPH-Dx QUALITY CONTROL

Matrix: Soil Units: mg/Kg (ppm)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0325S1					
Diesel Range Organics	ND	25	NWTPH-Dx	3-25-21	3-25-21	
Lube Oil Range Organics	ND	50	NWTPH-Dx	3-25-21	3-25-21	
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	92	50-150				

					Source	Perc	cent	Recovery		RPD	
Analyte	Res	sult	Spike	Spike Level		Reco	very	Limits	RPD	Limit	Flags
DUPLICATE											
Laboratory ID:	SB03	25S1									
	ORIG	DUP									
Diesel Fuel #2	85.6	79.5	NA	NA		Ν	A	NA	7	NA	
Lube Oil Range	ND	ND	NA	NA		Ν	A	NA	NA	NA	
Surrogate:											
o-Terphenyl						97	93	50-150			



6

#### DIESEL AND HEAVY OIL RANGE ORGANICS **NWTPH-Dx**

Matrix: Soil Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	MW-101 -25'		monrou	Toparou	7.1141/204	1.14.90
Laboratory ID:	03-203-05					
Diesel Range Organics	27	27	NWTPH-Dx	3-31-21	4-1-21	Ν
Lube Oil	190	54	NWTPH-Dx	3-31-21	4-1-21	
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	91	50-150				
Client ID:	MW-101 -30'					
Laboratory ID:	03-203-06					
Diesel Range Organics	ND	27	NWTPH-Dx	3-31-21	4-1-21	
Lube Oil Range Organics	ND	54	NWTPH-Dx	3-31-21	4-1-21	
Surrogate:	Percent Recovery	Control Limits				
o Torphonyl	06	E0 1E0				

o-Terphenyl 96 50-150



#### DIESEL AND HEAVY OIL RANGE ORGANICS NWTPH-Dx QUALITY CONTROL

Matrix: Soil Units: mg/Kg (ppm)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0331S2					
Diesel Range Organics	ND	25	NWTPH-Dx	3-31-21	4-1-21	
Lube Oil Range Organics	ND	50	NWTPH-Dx	3-31-21	4-1-21	
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	77	50-150				

					Source	Perc	cent	Recovery		RPD	
Analyte	Res	sult	Spike	Spike Level		Reco	overy	Limits	RPD	Limit	Flags
DUPLICATE											
Laboratory ID:	SB03	31S2									
	ORIG	DUP									
Diesel Fuel #2	92.2	85.8	NA	NA		Ν	A	NA	7	NA	
Lube Oil Range	ND	ND	NA	NA		Ν	А	NA	NA	NA	
Surrogate:											
o-Terphenyl						89	83	50-150			



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#### % MOISTURE

			Date
Client ID	Lab ID	% Moisture	Analyzed
MW-101 -10'	03-203-02	9	3-22-21
MW-101 -15'	03-203-03	9	3-22-21
MW-101 -20'	03-203-04	7	3-25-21
MW-101 -25'	03-203-05	8	3-31-21
MW-101 -30'	03-203-06	7	3-31-21



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#### **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 methods 8260 & 8270, 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.

Ζ-

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



OnSite Environmental Inc.		Cha	ain c	of	Cı	ist	00	dy										Pi	age _	1	of	l	_	
Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052		rnaround Req in working da			L	abo	rate	ory	Nun	nbe	r:	03-203												
Phone: (425) 883-3881 · www.onsite-env.com	-	(Check One)			F	T				Т	T	Ť	T	T	1	T	1	Γ	1	1	1 1	1	T	T
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8336-3	2 Da	iys	3 Days					an-up)						81B	s 8270	3151A								
Project Name:	Star	idard (7 Days)						SG Cle		Uning	W	evel)		des 80	sticides	cides 8				364A				
Project Manager:	1			ainers		×		Acid / SG Clean-up)		Matore	70D/SI	(Iow-I		esticio	us Pea	Herbid	s	als		ase) 16				
Sampled by:		(other)		f Cont	CID	ix/BTE	×	× (□ /	260C		les 82	D/SIN	2A	orine F	order	d Acid	A Meta	A Meta	als	nd gre				0
Nicolas R. Hoffman	Date	Time	12 11	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx (	Volatiles 8260C	FDB FPA 8011 Maters Ochu	nivolati	(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
Lab ID Sample Identification	Sampled		Matrix	-		MN	MN	MN	Vola		Sen	(wit) PAH	PCE	Org	Org	Chic	Tota	Tota	1cL	HEV				% W
1 MW-101 -5'	3/1/21	10:30	Soil	5																				
2 MW-101 -10'		10:50		5	X			X																X
3 MW-101 -15'		11:05		5	X		(	XX																×
4 MW-101 -20'		11:20		5				X	)															XX
5 mw-101 -25'		11:45		1																				
6 MW-101 -30'		12:10		1																				
7 MW-101 -40'		13105		1																				
8 MW-101 -50		14:00		1																				
9 MW-101 -55'	V	14:25	V	1																				
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April 5, 2021

Chuck Lie Terra Associates, Inc. 12220 113th Avenue NE, Suite 130 Kirkland, WA 98034

Re: Analytical Data for Project 8336-3 Laboratory Reference No. 2103-263

Dear Chuck:

Enclosed are the analytical results and associated quality control data for samples submitted on March 22, 2021.

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



#### **Case Narrative**

Samples were collected on March 22, 2021 and received by the laboratory on March 22, 2021. They were maintained at the laboratory at a temperature of  $2^{\circ}$ C to  $6^{\circ}$ 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.



OnSite Environmental, Inc. 14648 NE 95<sup>th</sup> Street, Redmond, WA 98052 (425) 883-3881

#### DIESEL AND HEAVY OIL RANGE ORGANICS **NWTPH-Dx**

Matrix: Soil Units: mg/Kg (ppm)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	MW-3 -5'					
Laboratory ID:	03-263-01					
Diesel Range Organics	ND	27	NWTPH-Dx	4-2-21	4-2-21	
Lube Oil Range Organics	ND	54	NWTPH-Dx	4-2-21	4-2-21	
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	86	50-150				
Client ID:	MW-3 -10'					
Laboratory ID:	03-263-02					
Diesel Range Organics	ND	28	NWTPH-Dx	4-2-21	4-2-21	
Lube Oil Range Organics	ND	56	NWTPH-Dx	4-2-21	4-2-21	
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	87	50-150				

3

#### DIESEL AND HEAVY OIL RANGE ORGANICS NWTPH-Dx QUALITY CONTROL

			Date	Date	
Result	PQL	Method	Prepared	Analyzed	Flags
MB0402S1					
ND	25	NWTPH-Dx	4-2-21	4-2-21	
ND	50	NWTPH-Dx	4-2-21	4-2-21	
Percent Recovery	Control Limits				
81	50-150				
	MB0402S1 ND ND Percent Recovery	MB0402S1 ND 25 ND 50 Percent Recovery Control Limits	MB0402S1       ND     25     NWTPH-Dx       ND     50     NWTPH-Dx       Percent Recovery     Control Limits	MB0402S1ND25ND50NWTPH-Dx4-2-21Percent RecoveryControl Limits	MB0402S1         ND         25         NWTPH-Dx         4-2-21         4-2-21           ND         50         NWTPH-Dx         4-2-21         4-2-21           Percent Recovery         Control Limits

					Source	Perc	cent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Result	Reco	overy	Limits	RPD	Limit	Flags
DUPLICATE											
Laboratory ID:	SB04	02S1									
	ORIG	DUP									
Diesel Fuel #2	88.4	80.4	NA	NA		Ν	А	NA	9	NA	
Lube Oil Range	ND	ND	NA	NA		Ν	А	NA	NA	NA	
Surrogate:											
o-Terphenyl						90	89	50-150			



#### % MOISTURE

			Date
Client ID	Lab ID	% Moisture	Analyzed
MW-3 -5'	03-263-01	8	4-1-21
MW-3 -10'	03-263-02	11	4-1-21



OnSite Environmental, Inc. 14648 NE 95<sup>th</sup> Street, Redmond, WA 98052 (425) 883-3881



#### **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.
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- 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 methods 8260 & 8270, 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.

Ζ-

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



OnSite Environmental Inc.	Cha	ain of			_								Pa	ige	]	of		
Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052	Turnaround Req (in working da	uest ys)	Lat	oorat	ory I	Numl	ber:	03	- 2	263	3							
Phone: (425) 883-3881 · www.onsite-env.com Company: Tarra Associates Fre Project Number: 8336-3 Project Name:	(Check One)	1 Day			Acid / SG Clean-up)	s 8260C	ars Only)	/SIM // w-level)		Organochlorine Pesticides 8081B Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A			16240	4401			
Sampled by: Nicohs R Hoffman	(other)	er of Containers	NWTPH-HCID	H-Gx		Volatiles 8260C Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs) PAHs 8270D/SIM (low-level)	3082A	Organochlorine Pesticides 8081B Organophosphorus Pesticides 82	ated Acid Her	Fotal RCRA Metals	Total MTCA Metals	TCLP Metals				ture
Lab ID Sample Identification	Date Time Sampled Sampled	Matrix Natrix	NWTPH-HCID	NWTPH-Gx	NWTPH	Volatile Halogei	EDB EF	Semivo (with lo PAHs 8	PCBs 8082A	Organo Organo	Chlorin	Total R(	Total M	TCLP Metals				% Moisture
1 MW-3 -5'	3/22/21 9:00	Soil 5		(	S													X
2 Mw-3 - 6'	9:10	5			$\otimes$													$\otimes$
3 MW-3 -20'	9130	5																
4 MW-3 -25	9:45	5																
S MH-3 -30	9:55	1																
6 MW-3 -35	10:15	t																
7 MLU-3 -40'	10:40																	
8 MW-443 =45'	10:55	1																
9 MW-3 -50'	11415	1																
10 MW-3 -55	V 11:45	VI																
Signature	Company		_	ate	1	Time		Comme	ents/Sp	ecial Ins	tructio	ons	1.72			-		
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								No.		1.								

#### APPENDIX C ANALYTICAL TEST REPORTS - GROUNDWATER

### Table 1Static Groundwater Level Summary

Monitoring	Top of	3/29	9/2021	4/7/2021			
Well	Casing	Depth	Elevation	Depth	Elevation		
MW-101	99.95	47.33	52.62	47.29	52.66		
MW-2	99.45	46.98	52.47	46.84	52.61		
MW-3	98.97	45.94	53.03	45.69	53.28		

**Notes:** All measurements are in feet.

Slab at southeastern corner of the building is assumed to be Elev 100.

## Table 2Analytical Test ResultsSoils - Hydrocarbons

Test Boring	Depth	TPH -	TPH -	TPH -
_	_	Gasoline	<b>Diesel Range</b>	Oil Range
		Range		
B-2	15	NT	28U	350
B-3	7	NT	26U	55
B-4	11	NT	27U	54U
B-5	7	NT	1300	9200
B-6	6	NT	160	1200
	7.5	NT	1300	7100
	9	NT	3700	9000
B-7	7	NT	28U	56U
B-8	2.5	9.9U	8500	24,000
	7.5	NT	28U	55U
B-101	2.5	22U	55U	110U
	7.5	22U	55U	110U
B-102	10	23U	1800	14,000
	15	23U	100	840
	20	NT	59	300
MW-1	10	21U	220	940
	15	NT	27U	55U
MW-101	10	22U	980	7,000
	15	22U	150	1,000
	20	NT	89	610
MW-2	10	23U	230	1400
	15	21U	53U	110U
MW-3	5	NT	27U	54U
	10	NT	28U	54U
MTCA N	/Iethod A	30	2,0	00

**Notes:** Depths are in feet below existing grade.

All units are mg/kg.

U modifier signifies the compound was not present at the stated numerical Practical Quantitation Limit (PQL).

Shaded cells exceed the MTCA Method a cleanup level.

#### Table 3 Analytical Test Results Soils - Metals

Test	Depth	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver
Boring									
B-8	2.5	11U	NT	0.54U	37	18	0.27U	NT	NT
B-102	10	12U	37	0.58U	19	5.8U	0.29U	12U	1.2U
MTCA N	Iethod A	20	16,000	2	2,000 (19)	250	2.0	400	400

Notes: Depths are in feet below existing grade.

All units are mg/kg.

U modifier signifies the compound was not present at the stated numerical PQL.

Values for chromium are for total chromium. Hexavalent chromium are values in parenthesis.

# Table 4Analytical Testing SummarySoil - Volatile Organics

Test Boring	Depth	Acetone	Methylene Chloride	2-Butanone (MEK)	Ethyl Benzene	Xylenes	Isopropyl benzene (cumene)	PCE
B-8	2.5	0.24E	0.061H	0.043	0.00092U	0.0118U	0.00092U	0.0074
B-10	10	0.029	0.0047U	0.0047U	0.0045	0.0118	0.0024	0.041
MTCA Method	A (B)	(7,200)	0.02	400	6.0	9.0	8,000	0.05

**Notes:** All units mg/kg.

U indicates the compound was not present at the stated numerical PQL.

Refer to lab report for all of the compounds analyzed for volatile compounds.

H indicates the results are likely due to lab contamination as discussed in the lab report.

E indicates the results exceed the quantitation limits and are an estimate.

Cleanup levels are shown for reference purposes only. No site cleanup levels have been established.

### Table 5Analytical Testing Summary<br/>Soil PCBs

Test	Depth	Aroclor	Aroclor	Aroclor	Aroclor	Aroclor	Aroclor	Aroclor
Boring		1016	1221	1232	1242	1248	1254	1260
B-8	2.5	0.054U	0.054U	0.054U	0.054U	0.054U	0.27U	0.27U
B-102	10	0.058U	0.058U	0.058U	0.058U	0.058U	0.058U	0.058U
MTCA	Method A (B)				1.0			

Notes: All units mg/kg.

U indicates the compound was not present at the stated PQL.

Cleanup levels are shown for reference purposes only. No site cleanup levels have been established.

#### Table 6 Analytical Testing Summary Soil CPAHs

**B-8** at 2.5

Compound	Test Result	TEF	Adjusted Value
benzo(a)pyrene	0.14U	1	0.07
benzo(a)anthracene	0.14U	0.1	0.007
benzo(b)fluoranthene	0.14U	0.1	0.007
benzo(k)fluoranthene	0.14U	0.1	0.007
chrysene	0.14U	0.01	0.0007
Dibenz(a,h)anthracene	0.14U	0.1	0.007
indeno(1,2,3-cd)pyrene	0.14U	0.1	0.007
TOTAL CPAH		N/A	0.1
MTCA			0.1

#### **B-102 at 10**

Compound	Test Result	TEF	Adjusted Value
benzo(a)pyrene	0.015U	1	0.075
benzo(a)anthracene	0.015U	0.1	0.0075
benzo(b)fluoranthene	0.015U	0.1	0.0075
benzo(k)fluoranthene	0.015U	0.1	0.0075
chrysene	0.015U	0.01	0.00075
Dibenz(a,h)anthracene	0.015U	0.1	0.0075
indeno(1,2,3-cd)pyrene	0.015U	0.1	0.0075
TOTAL CPAH		N/A	0.11
MTCA			0.1

**Notes:** All units are mg/kg based on dry weight.

U indicates the compound was not present at the stated PQL. TEF values are from Chapter 173-340 WAC-Table 708-2.

TEF corrected values are based on 50 percent of the PQL.

### Table 7Analytical Testing SummaryPAHs - Soils

Test Boring	Depth Naphthalene 5.5 0.14U		2-Methyl naphthalene	1-methyl Naphthalene	Fluorene	Fluoranthene	Phenanthrene	Pyrene
B-8	2.5	0.14U	0.14U	0.14U	0.14U	0.14U	0.14U	0.14U
B-102	10	0.0077U	0.0077U	0.0077U	0.015U	0.016	0.051	0.03
MTCA Method A (B)		5.0			3,200	3,200		2,400

Notes: All units mg/kg.

Refer to lab report for full results. Only compounds with detections are listed above.

Cleanup levels shown are for reference purposed only. Site-specific cleanup levels have not been determined.

## Table 8Analytical Test ResultsGroundwater - Hydrocarbons

Test Boring	Date	TPH- Gasoline Range	TPH Diesel Range	TPH Oil Range	
MW-1	3/30/21	100U	220U	220U	
MW-2	3/30/21	100U	220U	220U	
MW-3	3/30/21	100U	220U	340	
MTCA N	Aethod A	800	500		

# Table 9Analytical Test ResultsVolatile Organic Compounds - Groundwater

Well Monitoring	Date	Benzene	Ethylbenzene	Toluene	Xylenes	Isopropyl Benzene	Perchloroethylene	Methylene Chloride	2-Butanone (MEK)	Acetone
MW-101	3/30/21	0.2U	0.2U	1.0U	0.6U	0.2U	0.2U	1.0U	7.0U	7.1U
MW-2	3/30/21	0.2U	0.2U	1.0U	0.6U	0.2U	0.2U	1.0U	7.0U	7.1U
MW-3	3/30/21	0.2U	0.2U	1.0U	0.6U	0.2U	0.2U	1.0U	7.0U	7.1U
MTCA Method A		5.0	700	1,000	300	NP	5.0	5.0	(4,800)	(7,200)

Notes: All units are mg/kg..

U modifier signifies the compound was not present at the stated numerical practical quantitation limit. Only common volatiles and volatiles found in soil samples are summarized above. Refer to lab report for additional compounds.

Values in parenthesis are Method B.

NP indicates there is no MTCA or EPA cleanup level or drinking water MCL for Isopropyl Benzene.

# Table 10Analytical Test ResultsGroundwater - Metals

Well Monitoring	Date	Total cadmium	Dissolved Cadmium	Total Chromium	Dissolved Chromium	Total Lead	Dissolved Lead	Total Nickel	Dissolved Nickel	Total Zinc	Dissolved Zinc	
MW-101	3/29/21	4.4U	4.0U	46	10U	3.0	1.0U	46	20U	28U	25U	
MW-2	3/29/21	4.4U	4.0U	15	10U	1.1U	1.0U	22U	20U	28U	25U	
MW-3	3/29/21	4.4U	4.0U	15	10U	3.7	1.0U	55	20U	33	25U	
MTCA Method A		5.0	5.0		50		15		320		4800	

**Notes:** All units are mg/kg.

U modifier signifies the compound was not present at the stated numerical practical quantitation limit. The value for nickel is for soluble salts of nickel.
## Table 11Groundwater Parameters

Well Monitoring	Date	Temperature	Dissolved Oxygen	Conductivity	Hq	ORP	Turbidity	Ferrous Iron	Purge Rate	Purge Volume
MW-1	3/29/2021	16.02	0.33	1027	7.07	-300.1	22	0.0	0.05	9
MW-2	3/29/2021	15.30	0.38	808	8.48	-116.3	12	0.0	0.05	6
MW-3	3/29/2021	14.81	0.45	1425	8.80	-343.7	18	0.0	0.05	6

**Notes:** Temperature is in degrees Celsius.

Conductivity is in  $\mu$ S/cm.

Dissolved Oxygen is in mg/l.

pH is in standard units.

ORP is in millivolts.

Turbidity is in NTUs.

Ferrous Iron in in PPM based on Hatch field test.

Purge Rate is in gallon per minute.

Purge volume is in gallons.

No sheen was observed on any purge water.

### PHASE II ENVIRONMENTAL SITE ASSESSMENT

Midas Muffler 7055 – 15th Avenue NW Seattle, Washington King County Tax Parcel 751850-0690

Project No. T-8336-4



## Terra Associates, Inc.

**Prepared for:** 

Anderson and Associates Mercer Island, Washington

November 24, 2021



### **TERRA ASSOCIATES, Inc.**

Consultants in Geotechnical Engineering, Geology and Environmental Earth Sciences

> November 24, 2021 Project No. T-8336-4

Mr. M. Bruce Anderson Anderson and Associates 7420 SE 24<sup>th</sup> street, Suite 4 Mercer Island, Washington 98040

Subject: Phase II Environmental Site Assessment-Supplemental Explorations and Sampling Midas Muffler 7055 – 15th Avenue NW Seattle, Washington King County Tax Parcel 751850-0690

Dear Mr. Anderson:

We have completed a Phase II Environmental Site Assessment (ESA) for King County Tax Parcel 751850-0690, located at 7055 – 15th Avenue NW in Seattle, Washington. Our prior Phase I Environmental Site Assessment study prepared for a potential purchaser in 2018 found two Recognized Environmental Conditions (RECs) associated with the site. As discussed in the attached report, site-specific sampling was focused on the RECs.

The attached report describes our study in detail. We trust the information presented is sufficient for your current needs. If you have any questions or require additional information, please call.

Sincerely yours, TERRA ASSOCIATES, INC.

Charles R. Lie, L.E.G., L.H.G. Project Manager

### Phase II Environmental Site Assessment Midas Muffler 7055 – 15th Avenue Northwest Seattle, Washington King County Tax Parcel 751850-0690 WAD988494720

### SUMMARY

This report summarizes recent environmental sampling and analytical testing on soils and groundwater at King County Tax Parcel 751850-0690, located in the Ballard area of Seattle, Washington.

The site consists of one tax parcel totaling 0.3 acres. Currently the subject site is developed with a Midas Muffler auto repair shop. Prior to the existing building, two single-family residences were onsite.

We prepared a Phase I ESA for an earlier prospective purchaser. The Phase I ESA revealed evidence of two Recognized Environmental Conditions (RECs) in connection with the parcel. These consist of:

- 1. The suspected former presence of residential heating oil USTs.
- 2. The use of the site as an auto shop including subsurface hydraulic lifts.

To evaluate the RECs, Terra Associates, Inc. has completed three episodes of soil sampling and the construction of four monitoring wells onsite. As discussed in this report, the constituent of concern was the total petroleum hydrocarbons in the diesel-to-oil range found to exceed current MTCA Method A cleanup values for unrestricted land use.

The following sections of this memo present more information.

### **SCOPE OF WORK**

Our scope of work for this site assessment consisted of the following:

- One-call utility notification required by state law, as well as contacting the private locating service prior to drilling test holes.
- Drilling twelve soil test borings to depths of 20 to 40 feet below site grades.
- Drilling four test borings to depths of about sixty feet to allow permanent monitoring wells to be established and allow direct sampling of groundwater.
- Sampling soils from all test borings. All soil samples were field screened for hydrocarbons.
- Sampling each of the monitoring wells for analytical testing.
- Transfer of soil and groundwater samples from the site to Onsite Environmental, Inc.'s analytical laboratory.
- Appropriate review of the analytical test results.
- Preparation of this report.

### FINDINGS

### Site Conditions

The site is located in the Ballard neighborhood of Seattle, Washington. Most of the surrounding area is and has been single-family residential. 15th Avenue NW is an arterial developed with retail and single-story commercial buildings. Figures 1 and 2 show the site location and Figure 3 is an oblique aerial photo showing site conditions.

The exploration locations for this report are shown on Figure 4.

The site slopes gently down toward the south and corresponds with adjacent streets and other properties. The soils found in the borings consist of dense till soils. The deeper test borings with monitoring wells encountered advance outwash.

No groundwater was encountered in the test borings completed for this project.

### ANALYTICAL TESTING SUMMARY/DISCUSSION

The lab results are summarized on Tables 1 through 10 attached to this memo. The full laboratory test reports are attached in Appendix B.

The results of the analysis show there are elevated oil-range hydrocarbons exceeding the cleanup values in Test Borings B-5, B-6, B-8, B-102, and B-101. Based on the sampling summarized in this report, the lower bounds of the elevated hydrocarbons are expected to be 12 to 15 feet below existing grades. With one exception, none of the secondary analysis required by Table 830-1 exceeded their respective cleanup values. The soils sample from boring B-102 at 10 feet had carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs) that exceed the Method A cleanup value. The cPAHs were at a total of 0.11 mg/kg versus a cleanup value of 0.10 mg/kg. No naphthalene was detected in either of the follow up samples of soils that had expanded testing to address the analytical testing on Table 830-1.

### Site Remedial Options

We understand that you plan to retain the building shell and remodel the interior. Based on the soils encountered in the borings, the limited lateral extent, and the lack of impacts to groundwater, excavation and removal of the PCS appears to be feasible. The high clear ceiling will allow the use of a track hoe to excavate the PCS. The contractor will need to double handle the PCS due to the limitations of entering and exiting the building. The soils are suitable for direct disposal into the municipal waste stream or could be routed to the limited purpose landfills in Snohomish County that accept PCS. The determination of the disposal site is flexible and will depend upon the anticipated costs of trucking and availability of the dump sites.

We recommend that the two monitoring wells within the building be lawfully closed prior to any slab demolition activities. MW-2 and MW-101 are both located within areas that will require excavation. We recommend the two monitoring wells outside of the building footprint be retained pending final closure of the site with Ecology.

We will provide you with a proposal to provide supplemental consultation and sampling services during the remedial excavation. We understand that it could be January of 2022 before the work will begin. We will also work with you during the submittal of the cleanup reports to the state. Given that there are not any USTs on site, we have been told by PLIA that they will not be accepting the project into their program.

### LIMITATIONS

Our conclusions and recommendations are our professional opinion and were reached in accordance with generally accepted professional engineering practices. We make no other warranty, either expressed, or implied. This report is the copyrighted property of Terra Associates, Inc. and is intended for the specific application to the Ballard Midas Muffler project in Seattle, Washington. This report is for the exclusive use of Anderson and Associates and their authorized representatives.

The test results summarized in this report represent the sample locations shown on the attached figures and the sample date the samples were taken. None of the data should be extrapolated to other locations either on or offsite.

Attachments: Tables 1

Tables 1 through 11 – Analytical Testing Summary Figure 1 – Vicinity Map Figure 2 – Topographic Vicinity Map Figure 3 – Oblique Aerial Photo

Figure 4 – Exploration Location Sketch Appendix A – Subsurface Exploration

Appendix B - Analytical Test Report - Soils

Appendix C – Analytical Test Report - Groundwater

## Table 1Static Groundwater Level Summary

Monitoring	Top of	3/29/2021		4/7	//2021	10-6-2021		
Well	Casing	Depth	Elevation	Depth	Elevation	Depth	Elevation	
MW-101	99.95	47.33	52.62	47.29	52.66	48.79	51.16	
MW-2	99.45	46.98	52.47	46.84	52.61	48.24	51.21	
MW-3	98.97	45.94	53.03	45.69	53.28	47.57	51.4	
MW-201	102.15					51.73	50.42	

Notes: All measurements are in feet.

Slab at southeastern corner of the building is assumed to be Elev 100. Groundwater final elevations will be based on the current field survey being done by others.

Test Boring	Depth	TPH - Gasoline Range	TPH - Diesel Range	TPH - Oil Range
B-2	15	NT	28U	350
B-3	7	NT	26U	55
B-4	11	NT	27U	54U
B-5	7	NT	1300	9200
B-6	6	NT	160	1200
	7.5	NT	1300	7100
	9	NT	3700	9000
B-7	7	NT	28U	56U
B-8	2.5	9.9U	8500	24,000
	7.5	NT	28U	55U
B-101	2.5	22U	55U	110U
	7.5	22U	55U	110U
B-102	10	<i>23U</i>	1800	14,000
	15	<i>23U</i>	100	840
	20	NT	59	300
MW-1	10	21U	220	940
	15	NT	27U	55U
MW-101	10	<i>22U</i>	980	7,000
	15	<i>22U</i>	150	1,000
	20	NT	89	610
MW-2	10	23U	230	1400
	15	21U	53U	110U
MW-3	5	NT	27U	54U
	10	NT	28U	54U
MW-201	5	22U	54U	100U
	50	21U	52U	100U
SB-1	5	21U	53U	110U
	10	22U	56U	110U
	15	22U	54U	110U
	20	21U	54U	110U
MTCA M	Iethod A	30	2,0	000

# Table 2Analytical Test ResultsSoils - Hydrocarbons

**Notes:** Depths are in feet below existing grade.

All units are mg/kg.

U modifier signifies the compound was not present at the stated numerical Practical Quantitation Limit (PQL).

Shaded cells exceed the MTCA Method A cleanup level.

# Table 3Analytical Test ResultsSoils - Metals

Test Boring	Depth	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver
B-8	2.5	11U	NT	0.54U	37	18	0.27U	NT	NT
B-102	10	12U	37	0.58U	19	5.8U	0.29U	12U	1.2U
MTCA N	Iethod A	20	16,000	2	2,000 (19)	250	2.0	400	400

**Notes:** Depths are in feet below existing grade.

All units are mg/kg.

U modifier signifies the compound was not present at the stated numerical PQL.

Values for chromium are for total chromium. Hexavalent chromium are values in parenthesis.

# Table 4Analytical Testing SummarySoil - Volatile Organics

Test Boring	Depth	Acetone	Methylene Chloride	2-Butanone (MEK)	Ethyl Benzene	Xylenes	Isopropyl benzene (cumene)	PCE
B-8	2.5	0.24E	0.061H	0.043	0.00092U	0.0118U	0.00092U	0.0074
B-10	10	0.029	0.0047U	0.0047U	0.0045	0.0118	0.0024	0.041
MTCA Method	A (B)	(7,200)	0.02	400	6.0	9.0	8,000	0.05

**Notes:** All units mg/kg.

U indicates the compound was not present at the stated numerical PQL.

Refer to lab report for all of the compounds analyzed for volatile compounds.

H indicates the results are likely due to lab contamination as discussed in the lab report.

E indicates the results exceed the quantitation limits and are an estimate.

Cleanup levels are shown for reference purposes only. No site cleanup levels have been established.

## Table 5Analytical Testing Summary<br/>Soil PCBs

Test	Depth	Aroclor	Aroclor	Aroclor	Aroclor	Aroclor	Aroclor	Aroclor
Boring		1016	1221	1232	1242	1248	1254	1260
B-8	2.5	0.054U	0.054U	0.054U	0.054U	0.054U	0.27U	0.27U
B-102	10	0.058U	0.058U	0.058U	0.058U	0.058U	0.058U	0.058U
MTCA	Method A (B)				1.0			

Notes: All units mg/kg.

U indicates the compound was not present at the stated PQL.

Cleanup levels are shown for reference purposes only. No site cleanup levels have been established.

### Table 6 Analytical Testing Summary Soil CPAHs

**B-8** at 2.5

Compound	Test Result	TEF	Adjusted Value
benzo(a)pyrene	0.14U	1	0.07
benzo(a)anthracene	0.14U	0.1	0.007
benzo(b)fluoranthene	0.14U	0.1	0.007
benzo(k)fluoranthene	0.14U	0.1	0.007
chrysene	0.14U	0.01	0.0007
Dibenz(a,h)anthracene	0.14U	0.1	0.007
indeno(1,2,3-cd)pyrene	0.14U	0.1	0.007
TOTAL CPAH		N/A	0.1
MTCA			0.1

#### **B-102 at 10**

Compound	Test Result	TEF	Adjusted Value
benzo(a)pyrene	0.015U	1	0.075
benzo(a)anthracene	0.015U	0.1	0.0075
benzo(b)fluoranthene	0.015U	0.1	0.0075
benzo(k)fluoranthene	0.015U	0.1	0.0075
chrysene	0.015U	0.01	0.00075
Dibenz(a,h)anthracene	0.015U	0.1	0.0075
indeno(1,2,3-cd)pyrene	0.015U	0.1	0.0075
TOTAL CPAH		N/A	0.11
MTCA			0.1

**Notes:** All units are mg/kg based on dry weight.

U indicates the compound was not present at the stated PQL. TEF values are from Chapter 173-340 WAC-Table 708-2.

TEF corrected values are based on 50 percent of the PQL.

## Table 7Analytical Testing SummaryPAHs - Soils

Test Boring	Depth	Naphthalene	2-Methyl naphthalene	1-methyl Naphthalene	Fluorene	Fluoranthene	Phenanthrene	Pyrene
B-8	2.5	0.14U	0.14U	0.14U	0.14U	0.14U	0.14U	0.14U
B-102	10	0.0077U	0.0077U	0.0077U	0.015U	0.016	0.051	0.03
MTCA N (E			5.0		3,200	3,200		2,400

Notes: All units mg/kg.

Refer to lab report for full results. Only compounds with detections are listed above.

Cleanup levels shown are for reference purposed only. Site-specific cleanup levels have not been determined.

Test Boring	Date	TPH- Gasoline Range	TPH Diesel Range	TPH Oil Range
MW-1	3/30/21	100U	220U	220U
	10/12/21	100U	210U	210U
MW-2	3/30/21	100U	220U	220U
	10/12/21	100U	210U	210U
MW-3	3/30/21	100U	220U	340
	10/12/21	100U	220U	220U
MW-201	10/12/21	100U	220U	220U
MTCA Method A		800	50	00

# Table 8Analytical Test ResultsGroundwater - Hydrocarbons

# Table 9Analytical Test ResultsVolatile Organic Compounds - Groundwater

Well Monitoring	Date	Benzene	Ethylbenzene	Toluene	Xylenes	sec-Butylbenzene	Perchloroethylene	Methylene Chloride	2-Butanone (MEK)	Acetone
MW-101	3/30/21	0.2U	0.2U	1.0U	0.6U	0.2U	0.2U	1.0U	7.0U	7.1U
MW-2	3/30/21	0.2U	0.2U	1.0U	0.6U	0.2U	0.2U	1.0U	7.0U	7.1U
MW-3	3/30/21	0.2U	0.2U	1.0U	0.6U	0.2U	0.2U	1.0U	7.0U	7.1U
MW-201	10/12/21	0.39	0.2U	1.0U	0.6U	0.22	0.2U	1.0U	5.0U	5.0U
MTCA N	Iethod A	5.0	700	1,000	300	800	5.0	5.0	(4,800)	(7,200)

Notes: All units are mg/kg..

U modifier signifies the compound was not present at the stated numerical practical quantitation limit. Only common volatiles and volatiles found in soil samples are summarized above. Refer to lab report for additional compounds.

Values in parenthesis are Method B.

NP indicates there is no MTCA or EPA cleanup level or drinking water MCL for Isopropyl Benzene.

### Table 10 **Analytical Test Results Groundwater – Metals**

Well Monitoring	Date	Total cadmium	Dissolved Cadmium	Total Chromium	Dissolved Chromium	Total Lead	Dissolved Lead	Total Nickel	Dissolved Nickel	Total Zinc	Dissolved Zinc
MW-101	3/29/21	4.4U	4.0U	46	10U	3.0	1.0U	46	20U	28U	25U
MW-2	3/29/21	4.4U	4.0U	15	10U	1.1U	1.0U	22U	20U	28U	25U
MW-3	3/29/21	4.4U	4.0U	15	10U	3.7	1.0U	55	20U	33	25U
MW-201	10/12/21	4.4U	4.0U	46	10U	2.4	1.0U	40	20U	46	25U
MTCA N	Iethod A	5.0	)		50	1	5	32	20	48	00

**Notes:** All units are mg/kg. U modifier signifies the compound was not present at the stated numerical practical quantitation limit. The value for nickel is for soluble salts of nickel.

## Table 11Groundwater Parameters

Well Monitoring	Date	Temperature	Dissolved Oxygen	Conductivity	Hq	ORP	Turbidity	Ferrous Iron	Purge Rate	Purge Volume
MW-101	3/29/2021	16.02	0.33	1027	7.07	-300.1	22	0.0	0.05	9
	10/12/2021	14.84	0.24	373	6.55	78.2	NM	NM	0.17	7
MW-2	3/29/2021	15.30	0.38	808	8.48	-116.3	12	0.0	0.05	6
	10/12/2021	15.21	0.32	312	6.41	84.8	NM	NM	0.17	7
MW-3	3/29/2021	14.81	0.45	1425	8.80	-343.7	18	0.0	0.05	6
	10/12/2021	15.18	0.13	496	6.49	17	NM	NM	0.17	7
MW-201	10/12/2021	14.8	0.15	457	6.73	-482	NM	NM	0.17	6

**Notes:** Temperature is in degrees Celsius.

Conductivity is in  $\mu$ S/cm.

Dissolved Oxygen is in mg/l.

pH is in standard units.

ORP is in millivolts.

Turbidity is in NTUs.

Ferrous Iron in in PPM based on Hatch field test.

Purge Rate is in gallon per minute.

Purge volume is in gallons.

No sheen was observed on any purge water.

NM indicates that the parameter was not measured.

#### APPENDIX A SUBSURFACE EXPLORATION

### Midas Muffler Seattle, Washington

All drilling tools were cleaned prior to starting explorations and in between explorations to reduce the potential for cross-contamination.

For the initial drilling on August 21,2020, a drill rig owned and operated by Cascade Drilling was used to advance the test borings. The drill rig uses Direct Push Technology (DPT) to advance the test borings. Samples were taken at selected locations from the DPT core tubing.

Test Boring B-1 was terminated due to refusal drilling. It appears a large cobble or a boulder was present that prevented the test boring from being advanced. The sample tools became hot due to refusal drilling conditions and no sample was taken for analysis from Test Boring B-1.

Subsequent drilling was completed using limited access drill rigs owned and operated by Boretec. The Boretec drill rigs were equipped with hollow stem augers. Samples were taken at selected intervals using standard split spoon samplers driven by a 140-pound hammer falling thirty inches. Test Boring MW-1 was intended to be a monitoring well. At a depth of forty feet, wet soil conditions were noted in Boring MW-1 that indicated groundwater was reached. The next day, no groundwater was present in the test boring. Monitoring well MW-101 was then built approximately five feet west of Test Boring MW-1. This well extended to sixty feet below site grades.

The third episode of drilling on site was on October 5th and 6th, 2021. On these dates a fourth monitoring well and a soil boring were drilled along the west margin of the site. These two borings were drilled using a sonic drill rig owned and operated by Anderson Environmental Contracting, LLC. The sonic drill rig uses a continuous casing that is vibrated into the soil. Nearly complete core samples were recovered on a ten-foot basis. A standard 2-inch PVC monitoring well was built in one of the borings to allow direct sampling of the groundwater.

The wells were built using standard resource protection well procedures in accordance with state well regulations, Chapter 173-160 WAC. The wells consist of a 10-foot-long screen with 0.01-inch factory screen segments. The casing and screens consist of 2-inch diameter PVC materials and the wells were completed with flush-mount monument covers.

A representative from our firm continuously monitored the drilling and kept a detailed log of each exploration. Samples recovered during the site explorations were logged by our representative and placed into laboratory-prepared glassware. All samples were refrigerated pending delivery to Onsite Environmental, Inc. in Redmond, Washington. We followed chain of custody protocols for all samples.

Samples were screened in the field using the headspace and sheen methods. For the headspace screening, a sub-sample of the soil is placed in a plastic bag and allowed to reach ambient temperatures. The probe from a handheld Photo Ionization Device is then inserted to measure the air in the headspace of the bag. The sheen test consists of placing a sub-sample into a pan with clean water to see if sheen develops.

Prior to sampling the wells for groundwater, they were developed by surging the screen segment and bailing about three casing volumes. The wells were left for about five days prior to sampling. Sampling was completed with a downhole submersible pump using low-flow purge techniques. Standard groundwater parameters were monitored during purging. Samples were taken after a minimum of three casing volumes were removed and groundwater parameters, including turbidity, had stabilized.

The wells were surveyed by Terrene to establish their horizontal and vertical locations.

	LO	G OF DPT NO. DPT-1							Figure No.		
	Proj	ect: Ballard Midas	Project N	<b>o:</b> <u>T-8336-2</u>	_ Date	e Dril	lled:	Septer	nber 18, 2020		
	Clie	nt: Jubilee 95, LLC	Driller: Cascade Dri	lling				Logged By: <u>EE</u>			
	Loca	ation: Seattle, Washington Depth	to Groundwater <u>: N/A</u>		Appr	ox. E	Elev:	N/A	1		
Depth (ft)	Sample Interval	Soil Description		idor/ heen	R 30 6	ecov	ery %		PID (PPM)	Observ. Well	
0-		(3 inches CONCRETE)									
		Gray-brown silty SAND.									
				lone					0		
	_										
		Devine termineted at 2.5 feet on each la en hau	Idea								
		Boring terminated at 2.5 feet on cobble or bou									
	-										
5-											



LC	DG OF DPT NO. DPT-2				Figure No.				
Pro	oject: Ballard Midas	Project No: <u>T-8336-2</u>	Date Drille	ed: <u>Sep</u> t	September 18, 2020				
Cli	ent: Jubilee 95, LLC	Driller: Cascade Drilling		_ Logg	Logged By: EE				
Loo	cation: Seattle, Washington Dep	th to Groundwater:N/A	Approx. El	ev: N/A					
Depth (ft) Sample Interval	Soil Description	Odor/ Sheen	Recove	Recovery % PID (PP 30 60 120					
0	(2 inches ASPHALT CONCRETE)								
	Gray-brown silty SAND with gravel, moist.	None			0.26				
- - - - - 10		None			2.7				
-		None			7.7				
15		None							
	Boring terminated at 17 feet due to refusal No seepage observed.	drilling.							
20									



	LC	G OF DPT NO. DPT-3							Figure No.			
	Proj	iect: Ballard Midas		Project No: <u>T-8336-2</u>	D	ate Dr	illed:	Septer	September 18, 2020			
	Clie	nt:Jubilee 95, LLC	Driller: <u>Ca</u>	iscade Drilling				Logged By: EE				
		ation: Seattle, Washington Depth to	o Groundv	vater <u>: N/A</u>	_ Ap	prox.	Elev:	N/A				
Depth (ft)	Sample Interval	Soil Description		Odor/ Recovery % PID Sheen 30 60 120								
0—		(2 inches ASPHALT)										
		(2 Incres ASPHALT) Gray-brown silty SAND with gravel, moist. Boring terminated at 8.5 feet due to refusal drill No seepage observed.	ling.						5			
10 —												
							10.0					



	LC	G OF DPT NO. DPT-4					Figure No.			
	Proj	ect: Ballard Midas	Project No: 1	- <u>8336-2</u> I	Date Di	rilled: S	ed: <u>September 18, 2020</u>			
	Clie	nt: Jubilee 95, LLC	Driller: Cascade Drilling	l		Lo	ogged By <u>: EE</u>			
	Loc	ation: <u>Seattle</u> , Washington Dept	h to Groundwater: N/A	A	pprox.	Elev: N	/A			
Depth (ft)	Sample Interval	Soil Description	Odor Shee	n	Reco 0 60	overy % 120	PID (PPM)	Observ. Well		
0-		(2 inches CONCRETE)								
-		Gray-brown silty SAND with gravel, moist.	Till) None	2			7.2			
5			None	2			14.9			
10		Boring terminated at 12.5 feet due to refusa	Strong C	Ddor			186			
- 15 –	-	No seepage observed.								



	LO	G OF DPT NO. DPT-5						Figure No.			
	Proj	ect: Ballard Midas	Project No: <u>T-8336-2</u>	Da	ate D	rilled	<u>Septe</u>	<u>mber 18, 2020</u>	l		
	Clie	nt:Jubilee 95, LLC	Driller: Cascade Drilling				Logged By <u>: EE</u>				
		ation: <u>Seattle</u> , Washington Depth t	o Groundwater <u>: N/A</u>	Ар	prox	. Elev	: N/A	T			
Depth (ft)	Sample Interval	Soil Description	Odor/ Sheen	30	Reco	overy 1	% 20	PID (PPM) Obser Well			
0-		(3 inches CONCRETE over 12-inch VOID)									
5-	-	Brown-gray silty SAND with gravel, moist.	None Moderate Odor					10.1			
10		Boring terminated at 9.5 feet due to refusal dril No seepage observed.	ling.								



	LC	G OF DPT NO. DPT-6						Figure No.			
	Proj	ect: Ballard Midas	Project No: <u>T-8336-2</u>	Date	e Dri	lled:	Septer	September 18, 2020			
	Clie	nt:Jubilee 95, LLC	Driller: Cascade Drilling				_ Logged By: EE				
	Loc	ation: Seattle, Washington D	epth to Groundwater: N/A	_ Appr	ox. E	Elev:	N/A				
Depth (ft)	Sample Interval	Soil Description	Odor/ Sheen	R 30 6	lecov	ery % 12		PID (PPM)	Observ. Well		
0-	_	(4 inches CONCRETE) (VOID) Gray-brown silty SAND with gravel.									
			None								
5-			None					61			
10 -			None					59			
	-	Boring terminated at 12 feet due to refus No seepage observed.	al drilling.								



LC	OG OF DPT NO. DPT-7				Figure No.					
Pro	ject: Ballard Midas	Project No: <u>T-8336-2</u>	Date	Drilled: Sep	<b>I:</b> <u>September 18, 2020</u>					
Clie	ent: Jubilee 95, LLC	Driller: Cascade Drilling		Logg	Logged By: EE					
Loc	ation: Seattle, Washington Dept	h to Groundwater <u>: N/A</u>	Appro	ox. Elev: N/A						
Depth (ft) Sample Interval	Soil Description	Odor/ Sheen	Re 30 60	ecovery % 0 120	PID (PPM)	Observ. Well				
	(3 inches CONCRETE) (VOID)         Gray-brown silty SAND with gravel, moist.         Boring terminated at 9 feet due to refusal dr No seepage observed.	Illing.			62					



L	OG OF DPT NO. DPT-8				Figure No.			
P	roject: Ballard Midas	Project No: <u>T-8336-2</u>	Date Drill	ed: <u>Sept</u>	ember 18, 2020	I		
C	lient: Jubilee 95, LLC	Driller: Cascade Drilling		Logge	Logged By: EE			
L	ocation: Seattle, Washington Dep	th to Groundwater: N/A	Approx. El	ev: <u>N/A</u>				
Depth (ft)	Soil Description	Odor/ Sheen	Recove	ry % 120	PID (PPM)	Observ. Well		
	(3 inches CONCRETE) (3 inches CONCRETE) Boring terminated at 10 feet due to refusal No seepage observed.	drilling.			85			
15 —								



	LC	G OF BORING B-101							Figure No.		
	Proj	ect: Midas Muffler	Project N	lo: <u>T-8</u>	336-3	B Date Dr	illed:	d: <u>March 4, 2021</u>			
	Clie	nt: Jubilee 95, LLC D	riller: Boretec				L	ogged	By: NRH		
	Loc	ation: Seattle, Washington Depth to	Groundwater: <u>N/A</u>			Approx.	Elev:_2	252 Fee	t		
Depth (ft)	Sample Interval	Soil Description	Odor/ Sheen	30		overy % 120	10	SPT ( Blows	/ft	Observ. Well	
0-					00		10	30	50		
	-	4.5 inch concrete slab at surface. Light gray/brown silty SAND with gravel, fine grained, moist. (SM) (till)	No/No/0.0			66			• 52		
5-			No/No/NA	•		25			27/50 for 2		
			No/No/1.0		•	100		•	27/50 for 5		
10 -		Cuttings steaming from heavy drilling action.	No/No/NA						50 for 4		
15 -			No/No/NA		•	100			50 for 4		
20 -		Moist to wet at 20 feet. Boring terminated at 21.5 feet. Hole backfilled	No/No/NA		•	100			50 for 2		
		with bentonite chips and patched at surface with concrete.									



LC	G OF BORING B-102					Figure No.							
Proj	ect: Midas Muffler	Project N	lo: <u>T-</u> 8	833	6-3	Date Dri	lled	ed: March 4, 2021					
Clie	nt: Jubilee 95, LLC D	riller: Boretec						Lo	ogg	ed E	By:_Ւ	IRH	
Loc	ation: Seattle, Washington Depth to	Groundwater: <u>N/A</u>			/	Approx. I	Elev	7: <u>25</u>	52 F	eet			
ample Interval	Soil Description	Odor/ Sheen	20		-				Blo	ws/	fť		Observ. Well
											50	,	
	b.5 inch concrete slab at surrace. Light gray/brown silty SAND with gravel, fine grained, moist. (SM)	No/No/NA	·			30		•				10	
		No/No/0.0	•			30	•					5	
		Light/Light/3.9		•		50				•		38	
	Gray silty SAND with gravel, fine to medium grained, moise. (SM) (till)	No/No/0.0				100					·	50 for 3	
	M	oderate/Moderate/(	).9			100					·	50 for 3	
	Boring terminated at 21.5 feet. Hole backfilled with bentonite chips and patched at surface	No/No/0.0				100					•	50 for 3	
	Proj Clie	Client: Jubilee 95, LLC       D         Location: Seattle, Washington       Depth to         Image: Seattle of the seattle of the	Project:       Midas Muffler       Project M         Client:       Jubilee 95, LLC       Driller:       Borietec         Location:       Seattle, Washington       Depth to Groundwater:N/A         Image: Soil Description       Odor/ Sheen         Image: Soil Description       Odor/ Sheen         Image: Soil Description       Odor/ Sheen         Image: Soil Description       Odor/ Sheen         Image: Soil Description       No/No/NA         Image: Soil Description       No/No/O.0         Image: Soil Description       No/No/O.0         Image: Soil Description<	Project:       Midas Muffler       Project No: T-I         Client:       Jubilee 95, LLC       Driller:       Boretec         Location:       Soil Description       Odor/ Sheen       30         0       6.5 inch concrete slab at surface.       Light gray/brown silty SAND with gravel, fine       No/No/NA         0       6.5 inch concrete slab at surface.       Light gray/brown silty SAND with gravel, fine       No/No/0.0         0       Gray silty SAND with gravel, fine to medium       No/No/0.0       Light/Light/3.9         0       Gray silty SAND with gravel, fine to medium       No/No/0.0       No/No/0.0         0       Moderate/Moderate/0.9       Moderate/Moderate/0.9       No/No/0.0         0       Boring terminated at 21.5 feet. Hole backfilled with bentonite chips and patched at surface       No/No/0.0	Project:       Midas Muffler       Project No: T-833         Client:       Jubilee 95, LLC       Driller:       Boretec         Location:       Seattle, Washington       Depth to Groundwater:N/A         Image: Soil Description       Odor/ Sheen       R 30         Go       6.5 inch concrete slab at surface.       Light gray/brown silty SAND with gravel, fine         Image: Gray silty SAND with gravel, fine to medium       No/No/N0.0       Image: Gray silty SAND with gravel, fine to medium         Gray silty SAND with gravel, fine to medium       No/No/0.0       Image: Gray silty SAND with gravel, fine to medium         Image: Gray silty SAND with gravel, fine to medium       No/No/0.0       Image: Gray silty SAND         Image: Gray silty SAND with gravel, fine to medium       No/No/0.0       Image: Gray silty SAND         Image: Gray silty SAND with gravel, fine to medium       No/No/0.0       Image: Gray silty SAND         Image: Gray silty SAND with gravel, fine to medium       No/No/0.0       Image: Gray silty SAND         Image: Gray silty SAND with gravel, fine to medium       No/No/0.0       Image: Gray silty SAND         Image: Gray silty SAND       Moderate/Moderate/0.9       Image: Gray silty SAND         Image: Gray silty SAND       Moderate/Moderate/0.9       Image: Gray silty SAND         Image: Gray silty sity SAND       Moderate/Moderate/0.9 <td>Project:       Midas Muffler       Project No: T-8336-3         Client:       Jubilee 95, LLC       Driller:       Boretec         Location:       Seattle, Washington       Depth to Groundwater:N/A       Image: Comparison of the compar</td> <td>Project:       Midas Muffler       Project No: T-8336-3       Date Dri         Client:       Jubilee 95, LLC       Driller:       Bornetec         Location:       Seattle, Washington       Depth to Groundwater;NA       Approx.1         Image: the status of the</td> <td>Project:       Midas Muffler       Project No: T-8336-3       Date Drilled         Client:       Jubilee 95, LLC       Driller:       Boretec         Location:       Seattle, Washington       Depth to Groundwater:N/A       Approx. Elev         Image: Soil Description       Odor/ Sheen       Recovery %       30       60       120       1         Image: Soil Description       Odor/ Sheen       No/No/NA       Image: Soil Description       30       60       120       1         Image: Soil Concrete slab at surface.       Light gray/brown silty SAND with gravel, fine grained, moist. (SM)       No/No/0.0       Image: Soil Concrete slab at surface.       Image: Soil Concrete slab at surface.</td> <td>Project:       Midas Muffler       Project No: T-8336-3       Date Drillet:       Integration         Client:       Jubilee 95, LLC       Driller:       Boretec       Location:       Seattle, Washington       Depth to Groundwater:N/A       Approx. Elev: 25         Image: Soli Description       Odor/ Sheen       Recovery %       10         Image: Soli Description       No/No/NA       Image: Soli Description       30       Image: Soli Description         Image: Soli Description       Odor Soli Description       No/No/NO       Image: Soli Description       30       Image: Soli Description         Image: Soli Description       Image: Soli Description       No/No/O.0       Image: Soli Description       30       Image: Soli Description         Image: Soli Description       Image: Soli Description       No/No/O</td> <td>Project:       Midas Muffler       Project No: T-8336-3       Date Drilled:       Man         Client:       Jubilee 95, LLC       Driller:       Boretec       Logg         Location:       Seattle, Washington       Depth to Groundwater:N/A       Approx. Elev: 252 F         Image: Solit Description       Odor/ Sheen       Recovery %       Specified         0       30       60       120       10       3         1       6.5 inch concrete slab at surface:       Light gray/brown silty SAND with gravel, fine       No/No/NA       30       1       30       1       30       1       30       1       30       1       1       30       1       1       30       1       1       30       1       1       30       1       1       30       1       1       30       1       1       30       1       <td< td=""><td>Project:       Midas Muffler       Project No: T-8336-3       Date Drillet:       March 4         Client:       Jubilee 95, LLC       Driller:       Boretec       Logged f         Location:       Seattle, Washington       Depth to Groundwater:N/A       Approx. Elev: 252 Feet         Image: Soil Description       Odor/ Sheen       Recovery %       Sprt (n Blows/ 30 60 120       Sprt (n Blows/ 10 30         Image: Soil Description       Odor/ Sheen       No/No/NA       30       10       30         Image: Soil Description       Odor/ Sheen       No/No/NA       30       10       30         Image: Soil Description       Odor/ Sheen       No/No/NA       30       10       30       10         Image: Soil Description       No/No/0.0       Image: Soil Description       No/No/0.0       30       100       100         Image: Gray silly SAND with gravel, fine gravel, fine gravel, fine to medium grained, moise. (SM) (till)       No/No/0.0       100       100       100         Image: Gray silly SAND with gravel, fine to medium grained, moise. (SM) (till)       No/No/0.0       100       100       100       100         Image: Gray silly SAND with gravel, fine to medium grained, moise. (SM) (till)       No/No/0.0       100       100       100       100       100       100</td><td>Project:       Midas Muffler       Project No: T-8336-3       Date Drilled:       March 4, 202         Client:       Jubilee 95, LLC       Driller:       Boretec       Logged By: N         Location:       Seattle, Washington       Depth to Groundwater:N/A       Approx. Elev: 252 Feet         Image: Solid Description       Odor/ Sheen       Recovery %       SPT (N) Blows/it         Image: Solid Description       Odor/ Sheen       Solid Odor       30       Image: Solid Odor         Image: Solid Description       No/No/0.0       100       100       Image: Solid Odor         Image: Solid Description       Moderate/Moderate/0.9       <t< td=""><td>Project No: I-8336-3       Date Drilled: March 4, 2021         Client: Jubilee 95, LLC       Driller: Boretec       Logged By: NRH         Location: Seattle, Washington       Depth to Groundwater:N/A       Approx. Elev: 252 Feet         Image: Soil Description       Odor/ Sheen       Recovery %       SPT (N) Blows/ft         Image: Soil Description       No/No/0.0       30       5         Image: Soil Description       No/No/0.0       30       5         Image: Soil Description       No/No/0.0       30       5         Image: Soil Description       No/No/0.0       100       50 for 3         Image: Soil Description       No/No/0.0       100       50 for 3</td></t<></td></td<></td>	Project:       Midas Muffler       Project No: T-8336-3         Client:       Jubilee 95, LLC       Driller:       Boretec         Location:       Seattle, Washington       Depth to Groundwater:N/A       Image: Comparison of the compar	Project:       Midas Muffler       Project No: T-8336-3       Date Dri         Client:       Jubilee 95, LLC       Driller:       Bornetec         Location:       Seattle, Washington       Depth to Groundwater;NA       Approx.1         Image: the status of the	Project:       Midas Muffler       Project No: T-8336-3       Date Drilled         Client:       Jubilee 95, LLC       Driller:       Boretec         Location:       Seattle, Washington       Depth to Groundwater:N/A       Approx. Elev         Image: Soil Description       Odor/ Sheen       Recovery %       30       60       120       1         Image: Soil Description       Odor/ Sheen       No/No/NA       Image: Soil Description       30       60       120       1         Image: Soil Concrete slab at surface.       Light gray/brown silty SAND with gravel, fine grained, moist. (SM)       No/No/0.0       Image: Soil Concrete slab at surface.       Image: Soil Concrete slab at surface.	Project:       Midas Muffler       Project No: T-8336-3       Date Drillet:       Integration         Client:       Jubilee 95, LLC       Driller:       Boretec       Location:       Seattle, Washington       Depth to Groundwater:N/A       Approx. Elev: 25         Image: Soli Description       Odor/ Sheen       Recovery %       10         Image: Soli Description       No/No/NA       Image: Soli Description       30       Image: Soli Description         Image: Soli Description       Odor Soli Description       No/No/NO       Image: Soli Description       30       Image: Soli Description         Image: Soli Description       Image: Soli Description       No/No/O.0       Image: Soli Description       30       Image: Soli Description         Image: Soli Description       Image: Soli Description       No/No/O	Project:       Midas Muffler       Project No: T-8336-3       Date Drilled:       Man         Client:       Jubilee 95, LLC       Driller:       Boretec       Logg         Location:       Seattle, Washington       Depth to Groundwater:N/A       Approx. Elev: 252 F         Image: Solit Description       Odor/ Sheen       Recovery %       Specified         0       30       60       120       10       3         1       6.5 inch concrete slab at surface:       Light gray/brown silty SAND with gravel, fine       No/No/NA       30       1       30       1       30       1       30       1       30       1       1       30       1       1       30       1       1       30       1       1       30       1       1       30       1       1       30       1       1       30       1 <td< td=""><td>Project:       Midas Muffler       Project No: T-8336-3       Date Drillet:       March 4         Client:       Jubilee 95, LLC       Driller:       Boretec       Logged f         Location:       Seattle, Washington       Depth to Groundwater:N/A       Approx. Elev: 252 Feet         Image: Soil Description       Odor/ Sheen       Recovery %       Sprt (n Blows/ 30 60 120       Sprt (n Blows/ 10 30         Image: Soil Description       Odor/ Sheen       No/No/NA       30       10       30         Image: Soil Description       Odor/ Sheen       No/No/NA       30       10       30         Image: Soil Description       Odor/ Sheen       No/No/NA       30       10       30       10         Image: Soil Description       No/No/0.0       Image: Soil Description       No/No/0.0       30       100       100         Image: Gray silly SAND with gravel, fine gravel, fine gravel, fine to medium grained, moise. (SM) (till)       No/No/0.0       100       100       100         Image: Gray silly SAND with gravel, fine to medium grained, moise. (SM) (till)       No/No/0.0       100       100       100       100         Image: Gray silly SAND with gravel, fine to medium grained, moise. (SM) (till)       No/No/0.0       100       100       100       100       100       100</td><td>Project:       Midas Muffler       Project No: T-8336-3       Date Drilled:       March 4, 202         Client:       Jubilee 95, LLC       Driller:       Boretec       Logged By: N         Location:       Seattle, Washington       Depth to Groundwater:N/A       Approx. Elev: 252 Feet         Image: Solid Description       Odor/ Sheen       Recovery %       SPT (N) Blows/it         Image: Solid Description       Odor/ Sheen       Solid Odor       30       Image: Solid Odor         Image: Solid Description       No/No/0.0       100       100       Image: Solid Odor         Image: Solid Description       Moderate/Moderate/0.9       <t< td=""><td>Project No: I-8336-3       Date Drilled: March 4, 2021         Client: Jubilee 95, LLC       Driller: Boretec       Logged By: NRH         Location: Seattle, Washington       Depth to Groundwater:N/A       Approx. Elev: 252 Feet         Image: Soil Description       Odor/ Sheen       Recovery %       SPT (N) Blows/ft         Image: Soil Description       No/No/0.0       30       5         Image: Soil Description       No/No/0.0       30       5         Image: Soil Description       No/No/0.0       30       5         Image: Soil Description       No/No/0.0       100       50 for 3         Image: Soil Description       No/No/0.0       100       50 for 3</td></t<></td></td<>	Project:       Midas Muffler       Project No: T-8336-3       Date Drillet:       March 4         Client:       Jubilee 95, LLC       Driller:       Boretec       Logged f         Location:       Seattle, Washington       Depth to Groundwater:N/A       Approx. Elev: 252 Feet         Image: Soil Description       Odor/ Sheen       Recovery %       Sprt (n Blows/ 30 60 120       Sprt (n Blows/ 10 30         Image: Soil Description       Odor/ Sheen       No/No/NA       30       10       30         Image: Soil Description       Odor/ Sheen       No/No/NA       30       10       30         Image: Soil Description       Odor/ Sheen       No/No/NA       30       10       30       10         Image: Soil Description       No/No/0.0       Image: Soil Description       No/No/0.0       30       100       100         Image: Gray silly SAND with gravel, fine gravel, fine gravel, fine to medium grained, moise. (SM) (till)       No/No/0.0       100       100       100         Image: Gray silly SAND with gravel, fine to medium grained, moise. (SM) (till)       No/No/0.0       100       100       100       100         Image: Gray silly SAND with gravel, fine to medium grained, moise. (SM) (till)       No/No/0.0       100       100       100       100       100       100	Project:       Midas Muffler       Project No: T-8336-3       Date Drilled:       March 4, 202         Client:       Jubilee 95, LLC       Driller:       Boretec       Logged By: N         Location:       Seattle, Washington       Depth to Groundwater:N/A       Approx. Elev: 252 Feet         Image: Solid Description       Odor/ Sheen       Recovery %       SPT (N) Blows/it         Image: Solid Description       Odor/ Sheen       Solid Odor       30       Image: Solid Odor         Image: Solid Description       No/No/0.0       100       100       Image: Solid Odor         Image: Solid Description       Moderate/Moderate/0.9 <t< td=""><td>Project No: I-8336-3       Date Drilled: March 4, 2021         Client: Jubilee 95, LLC       Driller: Boretec       Logged By: NRH         Location: Seattle, Washington       Depth to Groundwater:N/A       Approx. Elev: 252 Feet         Image: Soil Description       Odor/ Sheen       Recovery %       SPT (N) Blows/ft         Image: Soil Description       No/No/0.0       30       5         Image: Soil Description       No/No/0.0       30       5         Image: Soil Description       No/No/0.0       30       5         Image: Soil Description       No/No/0.0       100       50 for 3         Image: Soil Description       No/No/0.0       100       50 for 3</td></t<>	Project No: I-8336-3       Date Drilled: March 4, 2021         Client: Jubilee 95, LLC       Driller: Boretec       Logged By: NRH         Location: Seattle, Washington       Depth to Groundwater:N/A       Approx. Elev: 252 Feet         Image: Soil Description       Odor/ Sheen       Recovery %       SPT (N) Blows/ft         Image: Soil Description       No/No/0.0       30       5         Image: Soil Description       No/No/0.0       30       5         Image: Soil Description       No/No/0.0       30       5         Image: Soil Description       No/No/0.0       100       50 for 3         Image: Soil Description       No/No/0.0       100       50 for 3



	LOG OF MONITORING WELL NO. MW-1								Figure No.			
	Proj	ect: Midas Muffler	Project N	<b>o:</b> <u>T-83</u>	36-3	Date Dri	lled:	d: March 4, 2021				
	Clie	nt: Jubilee 95, LLC	Driller: Boretec				Lo	ogge	d By:	NRH		
	Loca	ation: <u>Seattle</u> , Washington Depth t	o Groundwater: <u>N/A</u>			Approx. E	Elev: 2	52 Fe	et			
Depth (ft)	Sample Interval	Soil Description	Odor/ Sheen	R 30 6		very % 120	10	SPT Blov 30	/s/ft	50	Observ. Well	
0-						120	10					
	-  -  -	7 inch concrete slab at surface. Rock in sampler tip at 2.5 feet.	No/No/0NA	•		16				43	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
5-	+++++	Light gray/brown silty SAND with gravel, fine	No/No/0.2			100				50		
		grained, moist. (SM) (till)	No/No/0.0			100			•	41		
10 -		4 inch wet lense at 8.5 feet.	No/No/NA			100				33/50 for 4		
15 -			No/No/0.2			100			•	35/50 for 5		
20 -	-	Moist to wet at 20 feet.	No/No/NA			100				50 for 3		
25 -			No/No/NA			100				50 for 2		
30 -	- - - -		No/No/NA			100				50 for 3		
35 -	- - -		No/No/NA	•		100				100		
40 -		Boring terminated at 41.5 feet. 2-inch PVC monitoring well constructed with 0.010 slot	No/No/NA			100				• 100		



	LOG OF MONITORING WELL NO. MW-2									Figure No.		
	Proj	ect: Midas Muffler	Project	No: <u>]</u>	-8336	6-3	_ Date Dri	lled:	March 4, 2021			
	Clie	nt: Jubilee 95, LLC	Driller: Boretec					L	ogged	d By <u>: NR</u>	<u>tH</u>	
	Loca	ation: Seattle, Washington Depth t	to Groundwater: <u>N//</u>	4			_ Approx. I	Elev: 2	52 Fe	et		
Depth (ft)	Sample Interval	Soil Description	Odor/ Sheen		Recovery %			10	SPT (N) Blows/ft			Observ. Well
0-					80 60		120	10	30	50		
	-	6.5-inch concrete slab at surface. Fill: Gray/brown silty SAND with gravel, fine grained, moist to wet. (SM)	No/No/NA	•			16	•			2	
5-			No/No/0.2				16	•			8	
		Gray silty SAND with gravel, fine grained, moist. (SM) (till)	 No/No/0.0		•		100		•		4/50 for 5	
10 -			No/No/NA		•		80				2/50 for 5	
15 -			No/No/0.2		•		100			5	0 for 3	
20 -	-		No/No/NA		•		100				6/50 for 5	
25 -	-		No/No/NA		•		100			5	0 for 3	
30 -	-		No/No/NA		•		100			5	0 for 3	
	]	*Continued on next page										



	LOG OF MONITORING WELL NO. MW-2							Figure No.			
	Proj	ect: Midas Muffler	Project I	No: <u>T-8336-3</u>	Date Dril	led: March	4, 2021				
	Clie	nt: Jubilee 95, LLCC	Driller: Boretec			Logged	By: NRH				
	Loca	ation: <u>Seattle</u> , Washington Depth to	Groundwater: <u>N/A</u>		Approx. Elev: 252 Feet						
Depth (ft)	Sample Interval	Soil Description	Odor/ Sheen	Reco	very %	SPT ( Blows		Observ. Well			
De	Sar			30 60	120	10 30	50				
35 -	-	Gray silty SAND with gravel, fine to medium grained, moist. (SM) (sandy till)	- No/No/NA		100		50 for 3				
40 -			No/No/NA	•	100		50 for 2				
45 -	-		No/No/NA		100		50 for 3				
50 -	-	Gray SAND with gravel, fine to medium grained, wet. (SP)	No/No/NA		100		50 for 3				
55 -	-		No/No/NA	•	100		50 for 3				
60 -	-			•	100		50 for 6				
		Boring terminated at 61.5 feet. 2-inch PVC monitoring well constructed with 0.010 slot screen from 47 to 57 feet.									



	LOG OF MONITORING WELL NO. MW-3							Figure No.		
	Proj	ect: Midas Muffler	Project N	<b>o:</b> <u>T-8336-3</u>	B Date Dri	lled: <u>Ma</u>	rch 4, 2021			
	Clie	nt: Jubilee 95, LLC	Driller: Boretec			Logo	ged By: NRH			
	Loca	ation: Seattle, Washington Depth	o Groundwater: <u>N/A</u>		Approx. I	Elev: 250	Feet			
Depth (ft)	Sample Interval	Soil Description	Odor/ Sheen	Recovery %			PT (N) ows/ft	Observ. Well		
0-	S S	2 in the set of the second set		30 60	120	10 3	30 50			
5-	-	3 inches of asphalt pavement at surface. Light gray/brown silty SAND with gravel, fine grained, moist. (SM) (till)	No/No/0.0				56			
			10/10/0.0		100		45			
10			No/No/0.0		100		• 50 for 2			
15 -			No/No/0.0		50		50 for 6			
20 -		6-inch wet lense at 20 feet	No/No/0.0		100		50 for 4			
25 -			No/No/0.0		100		50 for 5			
30 -		1 to 2 inch thick medium-grained lenses at 30 feet. *Continued on next page	No/No/0.0		100		100			



	LC	G OF MONITORING WELL NO	. MW-3			Figure No.					
	Proj	ect: Midas Muffler	Project N	<b>lo:</b> <u>T-8336-3</u>	Date Dri	illed: <u>Marc</u>	h 4, 2021				
	Clie	nt:Jubilee 95, LLC Dr	iller: Boretec			Logge	ed By: NRH				
	Loc	ation: Seattle, Washington Depth to (	h to Groundwater:N/A		Approx. Elev: 250 Feet						
Depth (ft)	Sample Interval	Soil Description	Odor/ Sheen		very %	Blov	Γ (N) ws/ft	Observ. Well			
35 -		Gray silty SAND with gravel, fine grained, moist. (SM) (till)	No/No/NA	30 60	120		0 50				
40 -	- - - - - - - - -		No/No/NA	•	100		• 100				
45 -			No/No/NA	•	100		. 100				
50 -	-	Gray gravelly SAND and silty SAND with gravel, medium grained, wet. (SP/SM)	No/No/NA	•	100		100				
55 -	- - - - - - -		No/No/NA	•							
60 -	-	Boring terminated at 60 feet. 2-inch PVC monitoring well constructed with 0.010 slot screen from 47 to 57 feet below top of asphalt pavement.									



	LOG OF MONITORING WELL NO. MW-101								Figure No.		
	Proj	ect: Midas Muffler	Project N	lled: <u>I</u>	<u>/arcł</u>	<u>1 4, 2(</u>	)21				
	Clie	nt: Jubilee 95, LLC	Driller: Boretec				Lo	ogge	d By:_	NRH	
	Location: Seattle, Washington Depth to Groundwater:N/A Approx. Elev: 252 Feet										
Depth (ft)	Sample Interval	Soil Description	Odor/ Sheen	R	Recovery %			SPT (N) Blows/ft			Observ. Well
ے 0	Sa			30 6	0	120	10	30	5	0	
-		6-inch concrete slab at surface.									
- - 5		Light gray/brown silty SAND with gravel, fine grained, moist. (SM) (till)	Light/No/0.0			100			•	44	
- - 10 -			No/No/0.0			100				50 for 3	
- - 15 -			No/No/0.0			100				50 for 6	
- 20 — -			No/No/0.0			100				50 for 5	
- 25 — -			No/No/0.0			100				50 for 3	
- 30 — -			No/No/0.0			100				50 for 2	
-		*Continued on next page									



	LO	OG OF MONITORING WELL NO	. MW-101				Figure No.			
	Proj	ect: Midas Muffler	Project N	lo: <u>T-8336-3</u>	Date Dr	illed: Marc	ch 4, 2021			
	Clie	nt: Jubilee 95, LLC D	riller: Boretec			Logg	ed By: NRH			
	Loca	ation: Seattle, Washington Depth to	Groundwater: <u>N/A</u>		Approx.	Approx. Elev: 252 Feet				
Depth (ft)	Sample Interval	Soil Description	Odor/ Sheen	Recov 30 60	very % 120	Blo	T (N) ws/ft	Observ. Well		
35 -		Gray silty SAND with gravel, fine grained, moist. (SM) (till)	- No/No/NA		100		0 50			
40 -	-		No/No/NA		100		50 for			
45 -	-	Becomes medium grained by 45 feet.	No/No/NA				50 for 2			
50 -		Gray gravelly SAND and silty SAND with gravel, fine to medium grained, wet. (SP/SM)	No/No/NA				50 for 4			
55 -			No/No/NA				50 for 4			
60 -	-	Boring terminated at 61.5 feet. 2-inch PVC monitoring well constructed with 0.010 slot screen from 47 to 57 feet.					•			



	LO	G OF BORING NO. MW-201							Figure N	0.
	Proj	ect: Midas Muffler	Project No	<b>o:</b> <u>8336-4</u>		Date Dr	illed:	Octobe	r 5, 2021	
	Clie	nt: Anderson and Associates	Driller: <u>AEC</u>				Lo	ogged	By: EHE	
	Loca	ation: Seattle, Washington Dept	h to Groundwater: <u>54 ft</u>			Approx.	Elev: 2	85 ft		
Depth (ft)	Sample Interval	Soil Description	Odor/ Sheen	Reco 30 60	ecovery % SPT (N) Blows/ft 0 120 10 30 50				Observ. Well	
0_							10	30		
-		(2-inches ASPHALT) Tan to gray silty SAND with gravel, fine to medium sand, fine to coarse gravel, dry to moist. (SM) (Glacial Till)								
5— - -			No/No			100				
  			No/No			100				
- 15 — -			No/No			100				
- 20 — -		*Color changes to gray only* *Continued on next page*	No/No		•	100				



	LO	G OF BORING NO. MW-201			Figure No.						
	Proj	ect: Midas Muffler	Project No	Project No: 8336-4 Date Drilled					October 5, 2021		
	Clie	nt: Anderson and Associates	_Driller: <u>AEC</u>					L	.ogge	d By <u>: EHE</u>	
	Loca	ation: Seattle, Washington Depth	to Groundwater:54 ft			/	Approx.	Elev:_2	285 ft		
Depth (ft)	Sample Interval	Soil Description	Odor/ Sheen	Recovery %			10	SPT Blov 30	Observ. Well		
	1			30		12	<u> </u>			<u> </u>	
- 25 — - - - - 30 —		Gray silty SAND with gravel, fine to medium sand, fine to coarse gravel, moist. (SM) (Glacial Till)	No/No				100				
- 35 - - 40	-		No/No No/No				100				
-		*Continued on next page*									


	LO	G OF BORING NO. MW-201								Fi	gure No	
	Proj	ect: Midas Muffler	Project N	lo: <u>8336</u>	6-4		Date Dr	illed:	Octo	ber 5,	2021	
	Clie	nt: Anderson and Associates [	Driller: <u>AEC</u>						Logge	d By:_	EHE	
	Loc	ation: Seattle, Washington Depth to	o Groundwater: <u>54 ft</u>	t		_ A	Approx.	Elev:_	285 ft			
Depth (ft)	Sample Interval	Soil Description	Odor/ Sheen	F 30	Recove	ery ۹ 12(		10		「 (N) ws/ft ) 5	0	Observ. Well
45 -		Gray silty SAND with gravel, fine to medium sand, fine to coarse gravel, moist. (SM) (Glacial Till)	No/No			•	100					
50	-		No/No			•	100					
▼ . 55 -	-	Tan to gray SAND with silt and gravel, fine to coarse sand, fine to coarse gravel, wet. (SP- SM)	No/No			•	100					
60 -		Test Boring terminated at approximately 60 feet. Boring drilled with sonic drill rig and grab samples were taken at 5 foot intervals.	No/No				100					
65 -	-	Groundwater seepage observed at approximately 54 feet. Boring converted to monitoring well with monument no. BMK 276										

NOTE: This borehole log has been prepared for environmental purposes. This information pertains only to this boring location and should not be interpeted as being indicative of other areas of the site.



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	LO	G OF BORING NO. SB-1							F	Figure No	0.
	Proj	ect: Midas Muffler	Project N	<b>o:</b> <u>8336-</u>	4	Date D	villed:	Octo	ber 6	<u>3, 2021</u>	
	Clie	nt: Anderson and Associates	Driller: <u>AEC</u>				I	ogg	ed By	y <u>: EHE</u>	
	Loca	ation: Seattle, Washington Depth	to Groundwater:NA			_ Approx	. Elev:_2	255 fl	t		
Depth (ft)	Sample Interval	Soil Description	Odor/ Sheen	R 30 6	ecove 0	ry % 120	10	Blo	PT (N) ows/ft 0		Observ. Well
0_											
-		(2-inches ASPHALT) Tan to gray silty SAND with gravel, fine to medium sand, fine to coarse gravel, dry to moist. (SM) (Glacial Till)									
5— - -			No/No			100					
- 10 - -			No/No			100					
- 15 — - -			No/No			100					
- 20 — - - - - 25 —		Test Boring terminated at approximately 20 feet. Boring drilled with sonic drill rig and grab samples were taken at 5 foot intervals. No groundwater seepage observed.	No/No			100					
- 20 — - - 25 —		feet. Boring drilled with sonic drill rig and grab samples were taken at 5 foot intervals.	No/No			100					

NOTE: This borehole log has been prepared for environmental purposes. This information pertains only to this boring location and should not be interpeted as being indicative of other areas of the site.



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# APPENDIX B ANALYTICAL TEST REPORTS - SOIL



October 11, 2021

Chuck Lie Terra Associates, Inc. 12220 113th Avenue NE, Suite 130 Kirkland, WA 98034

Re: Analytical Data for Project 8336-4 Laboratory Reference No. 2110-051

Dear Chuck:

Enclosed are the analytical results and associated quality control data for samples submitted on October 6, 2021.

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

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

Sincerely,

David Baumeister Project Manager

Enclosures



Date of Report: October 11, 2021 Samples Submitted: October 6, 2021 Laboratory Reference: 2110-051 Project: 8336-4

#### **Case Narrative**

Samples were collected on October 5 and 6, 2021 and received by the laboratory on October 6, 2021. They were maintained at the laboratory at a temperature of  $2^{\circ}$ C to  $6^{\circ}$ 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.



OnSite Environmental, Inc. 14648 NE 95<sup>th</sup> Street, Redmond, WA 98052 (425) 883-3881

#### HYDROCARBON IDENTIFICATION NWTPH-HCID

Matrix: Soil Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID: MW-2	201 M <del>W-103</del> 5'			•	<b>*</b>	¥
Laboratory ID:	10-051-01					
Gasoline Range Organics	ND	22	NWTPH-HCID	10-7-21	10-7-21	
<b>Diesel Range Organics</b>	ND	54	NWTPH-HCID	10-7-21	10-7-21	
Lube Oil Range Organics	ND	110	NWTPH-HCID	10-7-21	10-7-21	
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	100	50-150				
Olivert ID: MW 2	201 M <del>W-103</del> 50'					
Client ID: MW-2 Laboratory ID:	10-051-10					
Gasoline Range Organics	ND	21	NWTPH-HCID	10-7-21	10-7-21	
Diesel Range Organics	ND	52	NWTPH-HCID	10-7-21	10-7-21	
Lube Oil Range Organics	ND	100	NWTPH-HCID	10-7-21	10-7-21	
Surrogate:	Percent Recovery	Control Limits		10-7-21	10-7-21	
o-Terphenyl	96	50-150				
0-reiphenyr	30	00-700				
Client ID:	SB-1 5'					
Laboratory ID:	10-051-13					
Gasoline Range Organics	ND	21	NWTPH-HCID	10-7-21	10-7-21	
<b>Diesel Range Organics</b>	ND	53	NWTPH-HCID	10-7-21	10-7-21	
Lube Oil Range Organics	ND	110	NWTPH-HCID	10-7-21	10-7-21	
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	95	50-150				
Client ID:	SB-1 10'					
Laboratory ID:	10-051-14					
Gasoline Range Organics	ND	22	NWTPH-HCID	10-7-21	10-7-21	
Diesel Range Organics	ND	56	NWTPH-HCID	10-7-21	10-7-21	
Lube Oil Range Organics	ND	110	NWTPH-HCID	10-7-21	10-7-21	
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	92	50-150				
Client ID:	SB-1 15'					
Laboratory ID:	10-051-15					
Gasoline Range Organics	ND	22	NWTPH-HCID	10-7-21	10-7-21	
Diesel Range Organics	ND	54	NWTPH-HCID	10-7-21	10-7-21	
Lube Oil Range Organics	ND	110	NWTPH-HCID	10-7-21	10-7-21	
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	94	50-150				



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#### HYDROCARBON IDENTIFICATION NWTPH-HCID

Matrix: Soil Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analvzed	Flags
Client ID:	SB-1 20'	FQL	Wethod	Flepaleu	Analyzeu	Flags
Laboratory ID:	10-051-16					
Gasoline Range Organics	ND	21	NWTPH-HCID	10-7-21	10-7-21	
Diesel Range Organics	ND	54	NWTPH-HCID	10-7-21	10-7-21	
Lube Oil Range Organics	ND	110	NWTPH-HCID	10-7-21	10-7-21	
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	98	50-150				



#### HYDROCARBON IDENTIFICATION NWTPH-HCID QUALITY CONTROL

Matrix: Soil Units: mg/Kg (ppm)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1007S1					
Gasoline Range Organics	ND	20	NWTPH-HCID	10-7-21	10-7-21	
Diesel Range Organics	ND	50	NWTPH-HCID	10-7-21	10-7-21	
Lube Oil Range Organics	ND	100	NWTPH-HCID	10-7-21	10-7-21	
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	97	50-150				



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Date of Report: October 11, 2021 Samples Submitted: October 6, 2021 Laboratory Reference: 2110-051 Project: 8336-4

#### % MOISTURE

Client ID	Lab ID	% Moisture	Date Analyzed
MW-103 5' MW-201	10-051-01	8	10-7-21
MW-103 50' MW-201	10-051-10	4	10-7-21
SB-1 5'	10-051-13	6	10-7-21
SB-1 10'	10-051-14	10	10-7-21
SB-1 15'	10-051-15	8	10-7-21
SB-1 20'	10-051-16	7	10-7-21



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#### **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 methods 8260 & 8270, 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.
- Y1 Negative effects of the matrix from this sample on the instrument caused values for this analyte in the bracketing continuing calibration verification standard (CCVs) to be outside of 20% acceptance criteria. Because of this, quantitation limits and sample concentrations should be considered estimates.

Ζ-

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



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

OnSite Environmental Inc.		Cha	ain o	f	Cu	st	od	у										P	age	1	of	2	
Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052		urnaround Req (in working day			La	abor	rator	y N	uml	ber:	11	0 -	- 0	5	1					1			
Phone: (425) 883-3881 • www.onsite-env.com Company: TAI Project Number: Sampled by: Evan, H. Eachles	San		] 1 Day	Number of Containers	+HCID	NWTPH-Gx/BTEX	NWTPH-Gx NWTPH-Dx (	Volatiles 8260D	Halogenated Volatiles 8260D	EDB EPA 8011 (Waters Only)	Semivolatiles 8270E /SIM (with Iow-level PAHs)	270E/SIM (low-level)	082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270E/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	fetals	HEM (oil and grease) 1664A			Tire
Lab ID Sample Identification	Date Sampled	Time Sampled	Matrix	Numbe	NWTPH-HCID	NWTPI	NWTPH-GX NWTPH-Dx	Volatile	Haloge	EDB EF	Semivo (with lo	PAHs 8	PCBs 8082A	Organo	Organo	Chlorin	Total R	Total M	TCLP Metals	HEM (o			% Maisture
1 MW-103 5'	10-5	9:30	S	5	X																		$\rangle$
2 MW-103 10	1	9:55	1	1																			
3 MW-103 15		10:10																					
4 MW-103 20		10:15																					
5 MW-103 25		11:00																					
6 MW-103 30'		11:10																					
7 MW-103 35		11:45																					
8 MW-103 40°		12:00																					
9 MW-103 45		13,20																					
10 MW-103 50'	V	13:40	V	V	X																		X
Signature		Company			1	Date		-	me		Con	nmer	nts/Sp	ecial	l Instr	uctio	ns						
Relinquished	>	TAT					6-2		14.5	02			No	ite-f	final	de	sion	atio	n fo	or M	<b>W</b> _1	03 is	
Received MBW		OSE				10/	6/2	11	45	0				W-2		ue	51511	uno	11 10	/1 1/1	** 1	0015	
Relinquished									-	_													
Received		_						-	_	_													
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Tonomod/Date		nevieweu/Dai									Chro	omat	ogran	ns w	ith fin	al rep	oort [	Ele	ectron	ic Data	a Delive	arables (F	EDDs) 🗌

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OnSite Environmental Inc.		Cha	ain o	f	Cı	IS	to	dy											F	age	2	of	2	
Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052		naround Requ n working day			L	abo	orat	ory	Nur	nb	er:	10	- (	05	51				_				_	
Phone: (425) 883-3881 · www.onsite-env.com Company: TA-T Project Number: B336 - 4 Project Name: Project Manager: Chuck Lie, Sampled by: Evan H. Eckles	Sam		] 1 Day	Number of Containers	I-HCID	NWTPH-Gx/BTEX	I-Gx	NWTPH-Dx ( Acid / SG Clean-up)	Volatiles 8260D	Halogenated Volatiles 8260D	EDB EPA 8011 (Waters Only)	Semivolatiles 8270E/SIM (with low-level PAHs)	270E/SIM (tow-tevel)	082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270E/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	etals	HEM (oil and grease) 1664A			ure
Lab ID Sample Identification	Date Sampled	Time Sampled	Matrix	Numbe	NWTPH-HCID	NWTPH	NWTPH-Gx	NWTPH	Volatile	Haloger	EDB EF	Sernivo (with lo	PAHs 8	PCBs 8082A	Organo	Organo	Chlorina	Total R(	Total M	TCLP Metals	HEM (o			% Moisture
11 MW-103 55	10-5		5	5																				
12 MW-103 (00)	V	15:00	1	1															1					
13 SB-1 5	10-6	9:40		1	X																			2
14 5B-1 10	1	9:50	_		X								_											>
15 SB-1 15		10:15			X					_				_			_							
16 5B-1 20'		10;30	V	1	*					_														
Signature		ompany				Date	;		Time			Соп	ment	s/Spe	cial	Instr	uctio	ns						
Relinquished Magana		DAT					0-6-		14:	50														
Relinquished																								
Received																								
Relinquished Received				_	_			_							<u> </u>							1.0.1.5		
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# APPENDIX C ANALYTICAL TEST REPORTS - GROUNDWATER



October 18, 2021

Chuck Lie Terra Associates, Inc. 12220 113th Avenue NE, Suite 130 Kirkland, WA 98034

Re: Analytical Data for Project 8336-4 Laboratory Reference No. 2110-101

Dear Chuck:

Enclosed are the analytical results and associated quality control data for samples submitted on October 12, 2021.

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

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

Sincerely,

David Baumeister Project Manager

Enclosures



Date of Report: October 18, 2021 Samples Submitted: October 12, 2021 Laboratory Reference: 2110-101 Project: 8336-4

#### **Case Narrative**

Samples were collected on October 12, 2021 and received by the laboratory on October 12, 2021. They were maintained at the laboratory at a temperature of  $2^{\circ}$ C to  $6^{\circ}$ 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.



2

#### GASOLINE RANGE ORGANICS NWTPH-Gx

Matrix: Water Units: ug/L (ppb)

			Date	Date	
Result	PQL	Method	Prepared	Analyzed	Flags
MW-201					
10-101-01					
ND	100	NWTPH-Gx	10-13-21	10-13-21	
Percent Recovery	Control Limits				
97	66-117				
MW-3					
10-101-02					
ND	100	NWTPH-Gx	10-13-21	10-13-21	
Percent Recovery	Control Limits				
86	66-117				
MW-2					
10-101-03					
ND	100	NWTPH-Gx	10-13-21	10-13-21	
Percent Recovery	Control Limits				
90	66-117				
MW-101					
10-101-04					
ND	100	NWTPH-Gx	10-13-21	10-13-21	
Percent Recovery	Control Limits				
86	66-117				
	MW-201    10-101-01    ND    Percent Recovery    97    MW-3    10-101-02    ND    Percent Recovery    86    MW-2    10-101-03    ND    Percent Recovery    90    MW-101    10-101-04    ND    Percent Recovery    90	MW-201    10-101-01    ND  100    Percent Recovery  Control Limits    97  66-117    MW-3  66-117    MW-3  100    10-101-02  Control Limits    MW-3  100    Percent Recovery  Control Limits    86  66-117    MW-2  Control Limits    10-101-03  Control Limits    90  100    Percent Recovery  Control Limits    90  66-117    MW-101  100    10-101-04  100    Percent Recovery  Control Limits    90  100    Percent Recovery  Control Limits    90  100    Percent Recovery  Control Limits    90  100    ND  100    ND  100    Percent Recovery  Control Limits	MW-201  MW-201    10-101-01  100  NWTPH-Gx    Percent Recovery  Control Limits  66-117    MW-3  66-117  100    MW-3  100  NWTPH-Gx    10-101-02  Control Limits  66-117    MW-3  100  NWTPH-Gx    Percent Recovery  Control Limits  66-117    MW-2  Control Limits  66-117    MW-2  100  NWTPH-Gx    10-101-03  Control Limits  66-117    MW-2  Control Limits  66-117    MW-101  100  NWTPH-Gx    Percent Recovery  Control Limits  90    90  66-117  10    MW-101  100  NWTPH-Gx    10-101-04  V  100    ND  100  NWTPH-Gx    Percent Recovery  Control Limits  10    ND  100  NWTPH-Gx	Result  PQL  Method  Prepared    MW-201  10-101-01  100  NWTPH-GX  10-13-21    10-101-01  Control Limits  10-13-21  10-13-21    Percent Recovery  Control Limits  10-13-21    97  66-117	Result  PQL  Method  Prepared  Analyzed    MW-201  10-101-01



#### GASOLINE RANGE ORGANICS NWTPH-Gx QUALITY CONTROL

Matrix: Water Units: ug/L (ppb)

						Date	Date	)	
Analyte		Result	PQL	Me	ethod	Prepared	Analyz	ed	Flags
METHOD BLANK									
Laboratory ID:		MB1013W1							
Gasoline		ND	100	NW	TPH-Gx	10-13-21	10-13-	21	
Surrogate:	Pe	rcent Recover	y Control Lim	its					
Fluorobenzene		89	66-117						
				Source	Percent	Recovery		RPD	
Analyte	Res	sult	Spike Level	Result	Recover	y Limits	RPD	Limit	Flags
DUPLICATE									
Laboratory ID:	10-10	01-01							
	ORIG	DUP							
Gasoline	ND	ND	NA NA		NA	NA	NA	30	
Surrogate:									
Fluorobenzene					97 92	2 66-117			



4

#### DIESEL AND HEAVY OIL RANGE ORGANICS NWTPH-Dx

Matrix: Water Units: mg/L (ppm)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	MW-201					
Laboratory ID:	10-101-01					
Diesel Range Organics	ND	0.22	NWTPH-Dx	10-14-21	10-14-21	
Lube Oil Range Organics	ND	0.22	NWTPH-Dx	10-14-21	10-14-21	
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	97	50-150				
Client ID:	MW-3					
Laboratory ID:	10-101-02					
Diesel Range Organics	ND	0.22	NWTPH-Dx	10-14-21	10-14-21	
Lube Oil Range Organics	ND	0.22	NWTPH-Dx	10-14-21	10-14-21	
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	98	50-150				
Client ID:	MW-2					
Laboratory ID:	10-101-03					
Diesel Range Organics	ND	0.21	NWTPH-Dx	10-14-21	10-14-21	
Lube Oil Range Organics	ND	0.21	NWTPH-Dx	10-14-21	10-14-21	
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	101	50-150				
Client ID:	MW-101					
Laboratory ID:	10-101-04	0.04		40.44.04	40.44.04	
Diesel Range Organics	ND	0.21	NWTPH-Dx	10-14-21	10-14-21	
Lube Oil Range Organics	ND	0.21	NWTPH-Dx	10-14-21	10-14-21	
0						
Surrogate: o-Terphenyl	Percent Recovery 91	Control Limits 50-150				



Date of Report: October 18, 2021 Samples Submitted: October 12, 2021 Laboratory Reference: 2110-101 Project: 8336-4

#### DIESEL AND HEAVY OIL RANGE ORGANICS NWTPH-Dx QUALITY CONTROL

Matrix: Water Units: mg/L (ppm)

			Date	Date	
Result	PQL	Method	Prepared	Analyzed	Flags
MB1014W1					
ND	0.15	NWTPH-Dx	10-14-21	10-14-21	
ND	0.15	NWTPH-Dx	10-14-21	10-14-21	
Percent Recovery	Control Limits				
104	50-150				
	MB1014W1 ND ND Percent Recovery	MB1014W1ND0.15ND0.15Percent RecoveryControl Limits	MB1014W1ND0.15ND0.15NWTPH-DxPercent RecoveryControl Limits	Result  PQL  Method  Prepared    MB1014W1  -<	Result  PQL  Method  Prepared  Analyzed    MB1014W1

					Source	Percent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Result	Recovery	Limits	RPD	Limit	Flags
DUPLICATE										
Laboratory ID:	10-06	66-01								
	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						106 103	50-150			



#### VOLATILE ORGANICS EPA 8260D page 1 of 2

Matrix: Water Units: ug/L

-				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	MW-201					
Laboratory ID:	10-101-01					
Dichlorodifluoromethane	ND	0.20	EPA 8260D	10-13-21	10-13-21	
Chloromethane	ND	1.0	EPA 8260D	10-13-21	10-13-21	
Vinyl Chloride	ND	0.20	EPA 8260D	10-13-21	10-13-21	
Bromomethane	ND	1.0	EPA 8260D	10-13-21	10-13-21	
Chloroethane	ND	1.0	EPA 8260D	10-13-21	10-13-21	
Trichlorofluoromethane	ND	0.20	EPA 8260D	10-13-21	10-13-21	
1,1-Dichloroethene	ND	0.20	EPA 8260D	10-13-21	10-13-21	
Acetone	ND	5.0	EPA 8260D	10-13-21	10-13-21	
lodomethane	ND	1.0	EPA 8260D	10-13-21	10-13-21	
Carbon Disulfide	ND	0.20	EPA 8260D	10-13-21	10-13-21	
Methylene Chloride	ND	1.0	EPA 8260D	10-13-21	10-13-21	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	10-13-21	10-13-21	
Methyl t-Butyl Ether	ND	0.20	EPA 8260D	10-13-21	10-13-21	
1,1-Dichloroethane	ND	0.20	EPA 8260D	10-13-21	10-13-21	
Vinyl Acetate	ND	1.0	EPA 8260D	10-13-21	10-13-21	
2,2-Dichloropropane	ND	0.20	EPA 8260D	10-13-21	10-13-21	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260D	10-13-21	10-13-21	
2-Butanone	ND	5.0	EPA 8260D	10-13-21	10-13-21	
Bromochloromethane	ND	0.20	EPA 8260D	10-13-21	10-13-21	
Chloroform	ND	0.20	EPA 8260D	10-13-21	10-13-21	
1,1,1-Trichloroethane	ND	0.20	EPA 8260D	10-13-21	10-13-21	
Carbon Tetrachloride	ND	0.20	EPA 8260D	10-13-21	10-13-21	
1,1-Dichloropropene	ND	0.20	EPA 8260D	10-13-21	10-13-21	
Benzene	0.39	0.20	EPA 8260D	10-13-21	10-13-21	
1,2-Dichloroethane	ND	0.20	EPA 8260D	10-13-21	10-13-21	
Trichloroethene	ND	0.20	EPA 8260D	10-13-21	10-13-21	
1,2-Dichloropropane	ND	0.20	EPA 8260D	10-13-21	10-13-21	
Dibromomethane	ND	0.20	EPA 8260D	10-13-21	10-13-21	
Bromodichloromethane	ND	0.20	EPA 8260D	10-13-21	10-13-21	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260D	10-13-21	10-13-21	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260D	10-13-21	10-13-21	
Toluene	ND	1.0	EPA 8260D	10-13-21	10-13-21	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260D	10-13-21	10-13-21	



<b>VOLATILE ORGANICS EPA 8260D</b>	VOLAT
page 2 of 2	

	_			Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	MW-201					
Laboratory ID:	10-101-01					
1,1,2-Trichloroethane	ND	0.20	EPA 8260D	10-13-21	10-13-21	
Tetrachloroethene	ND	0.20	EPA 8260D	10-13-21	10-13-21	
1,3-Dichloropropane	ND	0.20	EPA 8260D	10-13-21	10-13-21	
2-Hexanone	ND	2.0	EPA 8260D	10-13-21	10-13-21	
Dibromochloromethane	ND	0.20	EPA 8260D	10-13-21	10-13-21	
1,2-Dibromoethane	ND	0.20	EPA 8260D	10-13-21	10-13-21	
Chlorobenzene	ND	0.20	EPA 8260D	10-13-21	10-13-21	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260D	10-13-21	10-13-21	
Ethylbenzene	ND	0.20	EPA 8260D	10-13-21	10-13-21	
m,p-Xylene	ND	0.40	EPA 8260D	10-13-21	10-13-21	
o-Xylene	ND	0.20	EPA 8260D	10-13-21	10-13-21	
Styrene	ND	0.20	EPA 8260D	10-13-21	10-13-21	
Bromoform	ND	1.0	EPA 8260D	10-13-21	10-13-21	
Isopropylbenzene	ND	0.20	EPA 8260D	10-13-21	10-13-21	
Bromobenzene	ND	0.20	EPA 8260D	10-13-21	10-13-21	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260D	10-13-21	10-13-21	
1,2,3-Trichloropropane	ND	0.20	EPA 8260D	10-13-21	10-13-21	
n-Propylbenzene	ND	0.20	EPA 8260D	10-13-21	10-13-21	
2-Chlorotoluene	ND	0.20	EPA 8260D	10-13-21	10-13-21	
4-Chlorotoluene	ND	0.20	EPA 8260D	10-13-21	10-13-21	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260D	10-13-21	10-13-21	
tert-Butylbenzene	ND	0.20	EPA 8260D	10-13-21	10-13-21	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260D	10-13-21	10-13-21	
sec-Butylbenzene	0.22	0.20	EPA 8260D	10-13-21	10-13-21	
1,3-Dichlorobenzene	ND	0.20	EPA 8260D	10-13-21	10-13-21	
p-Isopropyltoluene	ND	0.20	EPA 8260D	10-13-21	10-13-21	
1,4-Dichlorobenzene	ND	0.20	EPA 8260D	10-13-21	10-13-21	
1,2-Dichlorobenzene	ND	0.20	EPA 8260D	10-13-21	10-13-21	
n-Butylbenzene	ND	0.20	EPA 8260D	10-13-21	10-13-21	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260D	10-13-21	10-13-21	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260D	10-13-21	10-13-21	
Hexachlorobutadiene	ND	1.0	EPA 8260D	10-13-21	10-13-21	
Naphthalene	ND	1.0	EPA 8260D	10-13-21	10-13-21	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260D	10-13-21	10-13-21	
Surrogate:	Percent Recovery	Control Limits		10-10-21	10-10-21	
Dibromofluoromethane	92	75-127				
Toluene-d8	92 103	80-127				
4-Bromofluorobenzene	101	78-125				



#### **VOLATILE ORGANICS EPA 8260D** QUALITY CONTROL page 1 of 2

Matrix: Water Units: ug/L

METHOD BLANK  MB1013W1    Dichlorodiffluoromethane  ND  0.20  EPA 8260D  10-13-21  10-13-21    Okloromethane  ND  1.0  EPA 8260D  10-13-21  10-13-21    Vinyl Chloride  ND  0.20  EPA 8260D  10-13-21  10-13-21    Bromomethane  ND  1.0  EPA 8260D  10-13-21  10-13-21    Chloromethane  ND  1.0  EPA 8260D  10-13-21  10-13-21    Trichlorofluoromethane  ND  0.20  EPA 8260D  10-13-21  10-13-21    1,1-Dichloroethene  ND  0.20  EPA 8260D  10-13-21  10-13-21    (adomethane  ND  1.0  EPA 8260D  10-13-21  10-13-21    Carbon Disulfide  ND  0.20  EPA 8260D  10-13-21  10-13-21    (trans) 1,2-Dichloroethene  ND  0.20  EPA 8260D  10-13-21  10-13-21    (trans) 1,2-Dichloroethane  ND  0.20  EPA 8260D  10-13-21  10-13-21    (cis) 1,2-Dichloroe					Date	Date	
Laboratory ID:  MB1013W1    Dichlorodifiluoromethane  ND  0.20  EPA 8260D  10-13-21  10-13-21    Chloromethane  ND  1.0  EPA 8260D  10-13-21  10-13-21    Vinyl Chloride  ND  0.20  EPA 8260D  10-13-21  10-13-21    Bromomethane  ND  1.0  EPA 8260D  10-13-21  10-13-21    Chloroethane  ND  0.20  EPA 8260D  10-13-21  10-13-21    1.1-Dichloroethane  ND  0.20  EPA 8260D  10-13-21  10-13-21    1.1-Dichloroethane  ND  0.20  EPA 8260D  10-13-21  10-13-21    Acetone  ND  5.0  EPA 8260D  10-13-21  10-13-21    Idomethane  ND  1.0  EPA 8260D  10-13-21  10-13-21    Idomethane  ND  0.20  EPA 8260D  10-13-21  10-13-21    Idomethane  ND  0.20  EPA 8260D  10-13-21  10-13-21    Idomethane  ND  0.20	Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Dichlorodifluoromethane  ND  0.20  EPA 8260D  10-13-21  10-13-21    Chloromethane  ND  1.0  EPA 8260D  10-13-21  10-13-21    Vinyl Chloride  ND  0.0  EPA 8260D  10-13-21  10-13-21    Bromomethane  ND  1.0  EPA 8260D  10-13-21  10-13-21    Chloroethane  ND  0.20  EPA 8260D  10-13-21  10-13-21    I_1-Dichloroethene  ND  0.20  EPA 8260D  10-13-21  10-13-21    Acetone  ND  5.0  EPA 8260D  10-13-21  10-13-21    Idomethane  ND  1.0  EPA 8260D  10-13-21  10-13-21    Idomethane  ND  0.20  EPA 8260D  10-13-21  10-13-21    Garbon Disulfide  ND  0.20  EPA 8260D  10-13-21  10-13-21    (trans) 1,2-Dichloroethane  ND  0.20  EPA 8260D  10-13-21  10-13-21    (dis) 1,2-Dichloroethane  ND  0.20  EPA 8260D  10-13-21	METHOD BLANK						
Chloromethane  ND  1.0  EPA 8260D  10-13-21  10-13-21    Vinyl Chloride  ND  0.20  EPA 8260D  10-13-21  10-13-21    Bromomethane  ND  1.0  EPA 8260D  10-13-21  10-13-21    Chloroethane  ND  1.0  EPA 8260D  10-13-21  10-13-21    Trichlorofluoromethane  ND  0.20  EPA 8260D  10-13-21  10-13-21    1,1-Dichloroethene  ND  0.20  EPA 8260D  10-13-21  10-13-21    Acetone  ND  1.0  EPA 8260D  10-13-21  10-13-21    Garbon Disulfide  ND  1.0  EPA 8260D  10-13-21  10-13-21    Methylene Chloride  ND  1.0  EPA 8260D  10-13-21  10-13-21    Methylene Chloride  ND  0.20  EPA 8260D  10-13-21  10-13-21    Methylene Chloride  ND  0.20  EPA 8260D  10-13-21  10-13-21    Ithinyl Acetate  ND  0.20  EPA 8260D  10-13-21	Laboratory ID:	MB1013W1					
Vinyl Chloride  ND  0.20  EPA 8260D  10-13-21  10-13-21    Bromomethane  ND  1.0  EPA 8260D  10-13-21  10-13-21    Chloroethane  ND  0.20  EPA 8260D  10-13-21  10-13-21    Trichlorofluoromethane  ND  0.20  EPA 8260D  10-13-21  10-13-21    Acetone  ND  0.20  EPA 8260D  10-13-21  10-13-21    Idomethane  ND  1.0  EPA 8260D  10-13-21  10-13-21    Carbon Disulfide  ND  1.0  EPA 8260D  10-13-21  10-13-21    Methylene Chloride  ND  1.0  EPA 8260D  10-13-21  10-13-21    (trans) 1,2-Dichloroethene  ND  0.20  EPA 8260D  10-13-21  10-13-21    Methyl I-Butyl Ether  ND  0.20  EPA 8260D  10-13-21  10-13-21    1,1-Dichloroethane  ND  0.20  EPA 8260D  10-13-21  10-13-21    2,2-Dichloropropane  ND  0.20  EPA 8260D  10-13-21	Dichlorodifluoromethane						
Bromomethane  ND  1.0  EPA 8260D  10-13-21  10-13-21    Chloroethane  ND  1.0  EPA 8260D  10-13-21  10-13-21    Trichloroethane  ND  0.20  EPA 8260D  10-13-21  10-13-21    1,1-Dichloroethene  ND  0.20  EPA 8260D  10-13-21  10-13-21    lodomethane  ND  5.0  EPA 8260D  10-13-21  10-13-21    lodomethane  ND  1.0  EPA 8260D  10-13-21  10-13-21    Carbon Disulfide  ND  0.20  EPA 8260D  10-13-21  10-13-21    Methylene Chloride  ND  0.20  EPA 8260D  10-13-21  10-13-21    (raras) 1,2-Dichloroethene  ND  0.20  EPA 8260D  10-13-21  10-13-21    Methyl Ebtyl Ether  ND  0.20  EPA 8260D  10-13-21  10-13-21    (rist) Acatate  ND  0.20  EPA 8260D  10-13-21  10-13-21    (cis) 1,2-Dichloroethene  ND  0.20  EPA 8260D  10-13-2							
Chloroethane  ND  1.0  EPA 8260D  10-13-21  10-13-21    Trichlorofluoromethane  ND  0.20  EPA 8260D  10-13-21  10-13-21    1,1-Dichloroethene  ND  0.20  EPA 8260D  10-13-21  10-13-21    Acetone  ND  5.0  EPA 8260D  10-13-21  10-13-21    Idomethane  ND  0.0  EPA 8260D  10-13-21  10-13-21    Carbon Disulfide  ND  0.20  EPA 8260D  10-13-21  10-13-21    Methylene Chloride  ND  0.20  EPA 8260D  10-13-21  10-13-21    Methyl Ether  ND  0.20  EPA 8260D  10-13-21  10-13-21    Methyl Ether  ND  0.20  EPA 8260D  10-13-21  10-13-21    1,1-Dichloroethane  ND  0.20  EPA 8260D  10-13-21  10-13-21    2,2-Dichloropthane  ND  0.20  EPA 8260D  10-13-21  10-13-21    2,2-Dichloroethene  ND  0.20  EPA 8260D  10-13-21	Vinyl Chloride	ND		EPA 8260D			
Trichlorofluoromethane  ND  0.20  EPA 8260D  10-13-21  10-13-21    1,1-Dichloroethene  ND  0.20  EPA 8260D  10-13-21  10-13-21    Acetone  ND  5.0  EPA 8260D  10-13-21  10-13-21    Iodomethane  ND  1.0  EPA 8260D  10-13-21  10-13-21    Carbon Disulfide  ND  1.0  EPA 8260D  10-13-21  10-13-21    Methylene Chloride  ND  1.0  EPA 8260D  10-13-21  10-13-21    (trans) 1,2-Dichloroethene  ND  0.20  EPA 8260D  10-13-21  10-13-21    Methyl Ebtyl Ether  ND  0.20  EPA 8260D  10-13-21  10-13-21    1,1-Dichloroethane  ND  0.20  EPA 8260D  10-13-21  10-13-21    (cis) 1,2-Dichloroethene  ND  0.20  EPA 8260D  10-13-21  10-13-21    2,2-Dichloroethene  ND  0.20  EPA 8260D  10-13-21  10-13-21    2,2-Dichloroethane  ND  0.20  EPA 8260D	Bromomethane	ND	1.0	EPA 8260D	10-13-21	10-13-21	
1,1-Dichloroethene  ND  0.20  EPA 8260D  10-13-21  10-13-21    Acetone  ND  5.0  EPA 8260D  10-13-21  10-13-21    Iodomethane  ND  1.0  EPA 8260D  10-13-21  10-13-21    Carbon Disulfide  ND  0.20  EPA 8260D  10-13-21  10-13-21    Methylene Chloride  ND  1.0  EPA 8260D  10-13-21  10-13-21    Methylene Chloride  ND  0.20  EPA 8260D  10-13-21  10-13-21    Methyl t-Butyl Ether  ND  0.20  EPA 8260D  10-13-21  10-13-21    1,1-Dichloroethane  ND  0.20  EPA 8260D  10-13-21  10-13-21    1,1-Dichloroethane  ND  0.20  EPA 8260D  10-13-21  10-13-21    (ris) 1,2-Dichloroethene  ND  0.20  EPA 8260D  10-13-21  10-13-21    2,2-Dichloroethane  ND  0.20  EPA 8260D  10-13-21  10-13-21    2,2-Dichloroethane  ND  0.20  EPA 8260D  <	Chloroethane	ND	1.0	EPA 8260D	10-13-21	10-13-21	
Acetone  ND  5.0  EPA 8260D  10-13-21  10-13-21    lodomethane  ND  1.0  EPA 8260D  10-13-21  10-13-21    Carbon Disulfide  ND  0.20  EPA 8260D  10-13-21  10-13-21    Methylene Chloride  ND  1.0  EPA 8260D  10-13-21  10-13-21    (trans) 1,2-Dichloroethene  ND  0.20  EPA 8260D  10-13-21  10-13-21    Methyl Ether  ND  0.20  EPA 8260D  10-13-21  10-13-21    1,1-Dichloroethane  ND  0.20  EPA 8260D  10-13-21  10-13-21    Vinyl Acetate  ND  1.0  EPA 8260D  10-13-21  10-13-21    2,2-Dichloropropane  ND  0.20  EPA 8260D  10-13-21  10-13-21    2,2-Dichloroethane  ND  0.20  EPA 8260D  10-13-21  10-13-21    2,2-Dichloropethane  ND  0.20  EPA 8260D  10-13-21  10-13-21    2,2-Dichloroethane  ND  0.20  EPA 8260D  10-13-2	Trichlorofluoromethane	ND	0.20	EPA 8260D	10-13-21	10-13-21	
Iodomethane  ND  1.0  EPA 8260D  10-13-21  10-13-21    Carbon Disulfide  ND  0.20  EPA 8260D  10-13-21  10-13-21    Methylene Chloride  ND  1.0  EPA 8260D  10-13-21  10-13-21    (trans) 1,2-Dichloroethene  ND  0.20  EPA 8260D  10-13-21  10-13-21    Methyl t-Butyl Ether  ND  0.20  EPA 8260D  10-13-21  10-13-21    1,1-Dichloroethane  ND  0.20  EPA 8260D  10-13-21  10-13-21    2,2-Dichloroethane  ND  0.20  EPA 8260D  10-13-21  10-13-21    2,2-Dichloroethene  ND  0.20  EPA 8260D  10-13-21  10-13-21    2,2-Dichloroethene  ND  0.20  EPA 8260D  10-13-21  10-13-21    2,2-Dichloroethane  ND  0.20  EPA 8260D  10-13-21  10-13-21    2,Butanone  ND  0.20  EPA 8260D  10-13-21  10-13-21    2,Butanone  ND  0.20  EPA 8260D <td< td=""><td>1,1-Dichloroethene</td><td>ND</td><td></td><td>EPA 8260D</td><td>10-13-21</td><td>10-13-21</td><td></td></td<>	1,1-Dichloroethene	ND		EPA 8260D	10-13-21	10-13-21	
Carbon Disulfide  ND  0.20  EPA 8260D  10-13-21  10-13-21    Methylene Chloride  ND  1.0  EPA 8260D  10-13-21  10-13-21    (trans) 1,2-Dichloroethene  ND  0.20  EPA 8260D  10-13-21  10-13-21    Methyl t-Butyl Ether  ND  0.20  EPA 8260D  10-13-21  10-13-21    1,1-Dichloroethane  ND  0.20  EPA 8260D  10-13-21  10-13-21    2,2-Dichloropthane  ND  0.20  EPA 8260D  10-13-21  10-13-21    Bromochloromethane  ND  0.20  EPA 8260D  10-13-21  10-13-21    1,1,1-Trichloroethane  ND  0.20 <td< td=""><td>Acetone</td><td>ND</td><td>5.0</td><td>EPA 8260D</td><td>10-13-21</td><td>10-13-21</td><td></td></td<>	Acetone	ND	5.0	EPA 8260D	10-13-21	10-13-21	
Methylene Chloride  ND  1.0  EPA 8260D  10-13-21  10-13-21    (trans) 1,2-Dichloroethene  ND  0.20  EPA 8260D  10-13-21  10-13-21    Methyl t-Butyl Ether  ND  0.20  EPA 8260D  10-13-21  10-13-21    1,1-Dichloroethane  ND  0.20  EPA 8260D  10-13-21  10-13-21    2,2-Dichloroptopane  ND  1.0  EPA 8260D  10-13-21  10-13-21    2,2-Dichloroethene  ND  0.20  EPA 8260D  10-13-21  10-13-21    (cis) 1,2-Dichloroethene  ND  0.20  EPA 8260D  10-13-21  10-13-21    2-Butanone  ND  0.20  EPA 8260D  10-13-21  10-13-21    2-Butanone  ND  0.20  EPA 8260D  10-13-21  10-13-21    Bromochloromethane  ND  0.20  EPA 8260D  10-13-21  10-13-21    1,1,1-Trichloroethane  ND  0.20  EPA 8260D  10-13-21  10-13-21    1,1-Dichloropropene  ND  0.20  EPA 82	lodomethane	ND	1.0	EPA 8260D	10-13-21	10-13-21	
(trans) 1,2-DichloroetheneND0.20EPA 8260D10-13-2110-13-21Methyl t-Butyl EtherND0.20EPA 8260D10-13-2110-13-211,1-DichloroethaneND0.20EPA 8260D10-13-2110-13-21Vinyl AcetateND1.0EPA 8260D10-13-2110-13-212,2-DichloropropaneND0.20EPA 8260D10-13-2110-13-212,2-DichloroetheneND0.20EPA 8260D10-13-2110-13-212,2-DichloroetheneND0.20EPA 8260D10-13-2110-13-212-ButanoneND5.0EPA 8260D10-13-2110-13-21BromochloromethaneND0.20EPA 8260D10-13-2110-13-211,1,1-TrichloroethaneND0.20EPA 8260D10-13-2110-13-211,1-DichloropropaneND0.20EPA 8260D10-13-2110-13-211,1-DichloropropeneND0.20EPA 8260D10-13-2110-13-211,1-DichloropropeneND0.20EPA 8260D10-13-2110-13-211,2-DichloroethaneND0.20EPA 8260D10-13-2110-13-211,2-DichloroethaneND0.20EPA 8260D10-13-2110-13-211,2-DichloroethaneND0.20EPA 8260D10-13-2110-13-211,2-DichloropropaneND0.20EPA 8260D10-13-2110-13-211,2-DichloroethaneND0.20EPA 8260D10-13-2110-13-211,2-Dichlor	Carbon Disulfide	ND	0.20	EPA 8260D	10-13-21	10-13-21	
Methyl EButyl EtherND0.20EPA 8260D10-13-2110-13-211,1-DichloroethaneND0.20EPA 8260D10-13-2110-13-21Vinyl AcetateND1.0EPA 8260D10-13-2110-13-212,2-DichloropropaneND0.20EPA 8260D10-13-2110-13-21(cis) 1,2-DichloroetheneND0.20EPA 8260D10-13-2110-13-212-ButanoneND5.0EPA 8260D10-13-2110-13-21BromochloromethaneND0.20EPA 8260D10-13-2110-13-21(cis) 1,1,1-TrichloroethaneND0.20EPA 8260D10-13-2110-13-211,1,1-TrichloroethaneND0.20EPA 8260D10-13-2110-13-211,1-DichloropropeneND0.20EPA 8260D10-13-2110-13-211,1-DichloropropeneND0.20EPA 8260D10-13-2110-13-211,2-DichloroethaneND0.20EPA 8260D10-13-2110-13-211,2-DichloropropeneND0.20EPA 8260D10-13-2110-13-211,2-DichloropropeneND0.20EPA 8260D10-13-2110-13-211,2-DichloropropaneND0.20EPA 8260D10-13-2110-13-211,2-DichloropropaneND0.20EPA 8260D10-13-2110-13-211,2-DichloropropaneND0.20EPA 8260D10-13-2110-13-211,3-DichloropropaneND0.20EPA 8260D10-13-2110-13-211	Methylene Chloride	ND	1.0	EPA 8260D	10-13-21	10-13-21	
1,1-DichloroethaneND0.20EPA 8260D10-13-2110-13-21Vinyl AcetateND1.0EPA 8260D10-13-2110-13-212,2-DichloropropaneND0.20EPA 8260D10-13-2110-13-21(cis) 1,2-DichloroetheneND0.20EPA 8260D10-13-2110-13-212-ButanoneND5.0EPA 8260D10-13-2110-13-21BromochloromethaneND0.20EPA 8260D10-13-2110-13-21ChloroformND0.20EPA 8260D10-13-2110-13-211,1,1-TrichloroethaneND0.20EPA 8260D10-13-2110-13-211,1,1-TrichloroethaneND0.20EPA 8260D10-13-2110-13-211,1-DichloropropeneND0.20EPA 8260D10-13-2110-13-211,2-DichloroethaneND0.20EPA 8260D10-13-2110-13-211,2-DichloroethaneND0.20EPA 8260D10-13-2110-13-211,2-DichloroethaneND0.20EPA 8260D10-13-2110-13-211,2-DichloroethaneND0.20EPA 8260D10-13-2110-13-211,2-DichloropropaneND0.20EPA 8260D10-13-2110-13-211,2-DichloropropaneND0.20EPA 8260D10-13-2110-13-211,2-DichloropropaneND0.20EPA 8260D10-13-2110-13-211,3-DichloropropeneND0.20EPA 8260D10-13-2110-13-21Ibiromomethane	(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	10-13-21	10-13-21	
Vinyl AcetateND1.0EPA 8260D10-13-2110-13-212,2-DichloropropaneND0.20EPA 8260D10-13-2110-13-21(cis) 1,2-DichloroetheneND5.0EPA 8260D10-13-2110-13-212-ButanoneND5.0EPA 8260D10-13-2110-13-21BromochloromethaneND0.20EPA 8260D10-13-2110-13-21ChloroformND0.20EPA 8260D10-13-2110-13-211,1,1-TrichloroethaneND0.20EPA 8260D10-13-2110-13-212,1,1-TrichloropthaneND0.20EPA 8260D10-13-2110-13-211,1-DichloropropeneND0.20EPA 8260D10-13-2110-13-211,1-DichloropropeneND0.20EPA 8260D10-13-2110-13-211,2-DichloroethaneND0.20EPA 8260D10-13-2110-13-211,2-DichloroethaneND0.20EPA 8260D10-13-2110-13-211,2-DichloropropaneND0.20EPA 8260D10-13-2110-13-211,2-DichloropropaneND0.20EPA 8260D10-13-2110-13-211,2-DichloropropaneND0.20EPA 8260D10-13-2110-13-211,3-DichloropropeneND0.20EPA 8260D10-13-2110-13-211,3-DichloropropeneND0.20EPA 8260D10-13-2110-13-211,3-DichloropropeneND0.20EPA 8260D10-13-2110-13-211,3-Dichloroprope	Methyl t-Butyl Ether	ND	0.20	EPA 8260D	10-13-21	10-13-21	
2.2-DichloropropaneND0.20EPA 8260D10-13-2110-13-21(cis) 1,2-DichloroetheneND5.0EPA 8260D10-13-2110-13-212-ButanoneND5.0EPA 8260D10-13-2110-13-21BromochloromethaneND0.20EPA 8260D10-13-2110-13-21ChloroformND0.20EPA 8260D10-13-2110-13-211,1,1-TrichloroethaneND0.20EPA 8260D10-13-2110-13-21(cis) 1,2-DichloropropeneND0.20EPA 8260D10-13-2110-13-211,1-DichloropropeneND0.20EPA 8260D10-13-2110-13-211,1-DichloroethaneND0.20EPA 8260D10-13-2110-13-211,1-DichloropropeneND0.20EPA 8260D10-13-2110-13-211,2-DichloroethaneND0.20EPA 8260D10-13-2110-13-211,2-DichloroethaneND0.20EPA 8260D10-13-2110-13-211,2-DichloropropaneND0.20EPA 8260D10-13-2110-13-211,2-DichloropropaneND0.20EPA 8260D10-13-2110-13-21DibromomethaneND0.20EPA 8260D10-13-2110-13-21(cis) 1,3-DichloropropeneND0.20EPA 8260D10-13-2110-13-21(cis) 1,3-DichloropropeneND0.20EPA 8260D10-13-2110-13-21(cis) 1,3-DichloropropeneND0.20EPA 8260D10-13-2110-13-21 <t< td=""><td>1,1-Dichloroethane</td><td>ND</td><td>0.20</td><td>EPA 8260D</td><td>10-13-21</td><td>10-13-21</td><td></td></t<>	1,1-Dichloroethane	ND	0.20	EPA 8260D	10-13-21	10-13-21	
(cis) 1,2-DichloroetheneND0.20EPA 8260D10-13-2110-13-212-ButanoneND5.0EPA 8260D10-13-2110-13-21BromochloromethaneND0.20EPA 8260D10-13-2110-13-21ChloroformND0.20EPA 8260D10-13-2110-13-211,1,1-TrichloroethaneND0.20EPA 8260D10-13-2110-13-211,1,1-TrichloroethaneND0.20EPA 8260D10-13-2110-13-211,1-DichloropropeneND0.20EPA 8260D10-13-2110-13-211,1-DichloropropeneND0.20EPA 8260D10-13-2110-13-211,2-DichloroethaneND0.20EPA 8260D10-13-2110-13-211,2-DichloropthaneND0.20EPA 8260D10-13-2110-13-211,2-DichloroethaneND0.20EPA 8260D10-13-2110-13-211,2-DichloropthaneND0.20EPA 8260D10-13-2110-13-211,2-DichloropthaneND0.20EPA 8260D10-13-2110-13-211,2-DichloropthaneND0.20EPA 8260D10-13-2110-13-211,2-DichloropthaneND0.20EPA 8260D10-13-2110-13-211,3-DichloropthaneND0.20EPA 8260D10-13-2110-13-211,3-DichloropthaneND0.20EPA 8260D10-13-2110-13-211,3-DichloropthaneND0.20EPA 8260D10-13-2110-13-211,3-Dichloropthan	Vinyl Acetate	ND	1.0	EPA 8260D	10-13-21	10-13-21	
Z-ButanoneND5.0EPA 8260D10-13-2110-13-21BromochloromethaneND0.20EPA 8260D10-13-2110-13-21ChloroformND0.20EPA 8260D10-13-2110-13-211,1,1-TrichloroethaneND0.20EPA 8260D10-13-2110-13-21Carbon TetrachlorideND0.20EPA 8260D10-13-2110-13-211,1-DichloropropeneND0.20EPA 8260D10-13-2110-13-211,1-DichloropropeneND0.20EPA 8260D10-13-2110-13-211,2-DichloroethaneND0.20EPA 8260D10-13-2110-13-211,2-DichloropthaneND0.20EPA 8260D10-13-2110-13-211,2-DichloropthaneND0.20EPA 8260D10-13-2110-13-211,2-DichloropthaneND0.20EPA 8260D10-13-2110-13-211,2-DichloropthaneND0.20EPA 8260D10-13-2110-13-211,3-DichloropthaneND0.20EPA 8260D10-13-2110-13-211,3-DichloropthaneND0.20EPA 8260D10-13-2110-13-21(cis) 1,3-DichloropthaneND0.20EPA 8260D10-13-2110-13-21(cis) 1,3-DichloropthaneND0.20EPA 8260D10-13-2110-13-21(cis) 1,3-DichloropthaneND0.20EPA 8260D10-13-2110-13-21(cis) 1,3-DichloropthaneND2.0EPA 8260D10-13-2110-13-21(	2,2-Dichloropropane	ND	0.20	EPA 8260D	10-13-21	10-13-21	
BromochloromethaneND0.20EPA 8260D10-13-2110-13-21ChloroformND0.20EPA 8260D10-13-2110-13-211,1,1-TrichloroethaneND0.20EPA 8260D10-13-2110-13-21Carbon TetrachlorideND0.20EPA 8260D10-13-2110-13-211,1-DichloropropeneND0.20EPA 8260D10-13-2110-13-211,1-DichloropropeneND0.20EPA 8260D10-13-2110-13-21BenzeneND0.20EPA 8260D10-13-2110-13-211,2-DichloroethaneND0.20EPA 8260D10-13-2110-13-211,2-DichloropropaneND0.20EPA 8260D10-13-2110-13-211,2-DichloropropaneND0.20EPA 8260D10-13-2110-13-211,2-DichloropropaneND0.20EPA 8260D10-13-2110-13-211,3-DichloropropaneND0.20EPA 8260D10-13-2110-13-211,3-DichloropropeneND0.20EPA 8260D10-13-2110-13-211,3-DichloropropeneND0.20EPA 8260D10-13-2110-13-211,3-DichloropropeneND0.20EPA 8260D10-13-2110-13-211,3-DichloropropeneND0.20EPA 8260D10-13-2110-13-211,3-DichloropropeneND0.20EPA 8260D10-13-2110-13-211,3-DichloropropeneND0.20EPA 8260D10-13-2110-13-211,3-Dichloroprop	(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260D	10-13-21	10-13-21	
ChloroformND0.20EPA 8260D10-13-2110-13-211,1,1-TrichloroethaneND0.20EPA 8260D10-13-2110-13-21Carbon TetrachlorideND0.20EPA 8260D10-13-2110-13-211,1-DichloropropeneND0.20EPA 8260D10-13-2110-13-21BenzeneND0.20EPA 8260D10-13-2110-13-211,2-DichloroethaneND0.20EPA 8260D10-13-2110-13-211,2-DichloropropaneND0.20EPA 8260D10-13-2110-13-211,2-DichloropropaneND0.20EPA 8260D10-13-2110-13-211,2-DichloropropaneND0.20EPA 8260D10-13-2110-13-211,2-DichloropropaneND0.20EPA 8260D10-13-2110-13-211,3-DichloropropeneND0.20EPA 8260D10-13-2110-13-21UibromomethaneND0.20EPA 8260D10-13-2110-13-21Wethyl Isobutyl KetoneND2.0EPA 8260D10-13-2110-13-21TolueneND1.0EPA 8260D10-13-2110-13-21	2-Butanone	ND	5.0	EPA 8260D	10-13-21	10-13-21	
1,1,1-TrichloroethaneND0.20EPA 8260D10-13-2110-13-21Carbon TetrachlorideND0.20EPA 8260D10-13-2110-13-211,1-DichloropropeneND0.20EPA 8260D10-13-2110-13-21BenzeneND0.20EPA 8260D10-13-2110-13-211,2-DichloroethaneND0.20EPA 8260D10-13-2110-13-211,2-DichloropropaneND0.20EPA 8260D10-13-2110-13-211,2-DichloropropaneND0.20EPA 8260D10-13-2110-13-211,2-DichloropropaneND0.20EPA 8260D10-13-2110-13-211,2-DichloropropaneND0.20EPA 8260D10-13-2110-13-211,3-DichloropropaneND0.20EPA 8260D10-13-2110-13-211,3-DichloropropeneND0.20EPA 8260D10-13-2110-13-211,3-DichloropropeneND0.20EPA 8260D10-13-2110-13-211,3-DichloropropeneND2.0EPA 8260D10-13-2110-13-21Methyl Isobutyl KetoneND2.0EPA 8260D10-13-2110-13-21TolueneND1.0EPA 8260D10-13-2110-13-21	Bromochloromethane	ND	0.20	EPA 8260D	10-13-21	10-13-21	
Carbon TetrachlorideND0.20EPA 8260D10-13-2110-13-211,1-DichloropropeneND0.20EPA 8260D10-13-2110-13-21BenzeneND0.20EPA 8260D10-13-2110-13-211,2-DichloroethaneND0.20EPA 8260D10-13-2110-13-21TrichloroetheneND0.20EPA 8260D10-13-2110-13-211,2-DichloropropaneND0.20EPA 8260D10-13-2110-13-211,2-DichloropropaneND0.20EPA 8260D10-13-2110-13-2110bromomethaneND0.20EPA 8260D10-13-2110-13-2110bromomethaneND0.20EPA 8260D10-13-2110-13-21(cis) 1,3-DichloropropeneND0.20EPA 8260D10-13-2110-13-21Methyl Isobutyl KetoneND2.0EPA 8260D10-13-2110-13-21TolueneND1.0EPA 8260D10-13-2110-13-21	Chloroform	ND	0.20	EPA 8260D	10-13-21	10-13-21	
1,1-DichloropropeneND0.20EPA 8260D10-13-2110-13-21BenzeneND0.20EPA 8260D10-13-2110-13-211,2-DichloroethaneND0.20EPA 8260D10-13-2110-13-21TrichloroetheneND0.20EPA 8260D10-13-2110-13-211,2-DichloropropaneND0.20EPA 8260D10-13-2110-13-211,2-DichloropropaneND0.20EPA 8260D10-13-2110-13-21DibromomethaneND0.20EPA 8260D10-13-2110-13-21Gis) 1,3-DichloropropeneND0.20EPA 8260D10-13-2110-13-21Methyl Isobutyl KetoneND2.0EPA 8260D10-13-2110-13-21TolueneND1.0EPA 8260D10-13-2110-13-21	1,1,1-Trichloroethane	ND	0.20	EPA 8260D	10-13-21	10-13-21	
BenzeneND0.20EPA 8260D10-13-2110-13-211,2-DichloroethaneND0.20EPA 8260D10-13-2110-13-21TrichloroetheneND0.20EPA 8260D10-13-2110-13-211,2-DichloropropaneND0.20EPA 8260D10-13-2110-13-211,2-DichloropropaneND0.20EPA 8260D10-13-2110-13-21DibromomethaneND0.20EPA 8260D10-13-2110-13-21BromodichloromethaneND0.20EPA 8260D10-13-2110-13-21(cis) 1,3-DichloropropeneND0.20EPA 8260D10-13-2110-13-21Methyl Isobutyl KetoneND2.0EPA 8260D10-13-2110-13-21TolueneND1.0EPA 8260D10-13-2110-13-21	Carbon Tetrachloride	ND	0.20	EPA 8260D	10-13-21	10-13-21	
1,2-DichloroethaneND0.20EPA 8260D10-13-2110-13-21TrichloroetheneND0.20EPA 8260D10-13-2110-13-211,2-DichloropropaneND0.20EPA 8260D10-13-2110-13-21DibromomethaneND0.20EPA 8260D10-13-2110-13-21BromodichloromethaneND0.20EPA 8260D10-13-2110-13-21(cis) 1,3-DichloropropeneND0.20EPA 8260D10-13-2110-13-21Methyl Isobutyl KetoneND2.0EPA 8260D10-13-2110-13-21TolueneND1.0EPA 8260D10-13-2110-13-21	1,1-Dichloropropene	ND	0.20	EPA 8260D	10-13-21	10-13-21	
TrichloroetheneND0.20EPA 8260D10-13-2110-13-211,2-DichloropropaneND0.20EPA 8260D10-13-2110-13-21DibromomethaneND0.20EPA 8260D10-13-2110-13-21BromodichloromethaneND0.20EPA 8260D10-13-2110-13-21(cis) 1,3-DichloropropeneND0.20EPA 8260D10-13-2110-13-21Methyl Isobutyl KetoneND2.0EPA 8260D10-13-2110-13-21TolueneND1.0EPA 8260D10-13-2110-13-21	Benzene	ND	0.20	EPA 8260D	10-13-21	10-13-21	
1,2-DichloropropaneND0.20EPA 8260D10-13-2110-13-21DibromomethaneND0.20EPA 8260D10-13-2110-13-21BromodichloromethaneND0.20EPA 8260D10-13-2110-13-21(cis) 1,3-DichloropropeneND0.20EPA 8260D10-13-2110-13-21Methyl Isobutyl KetoneND2.0EPA 8260D10-13-2110-13-21TolueneND1.0EPA 8260D10-13-2110-13-21	1,2-Dichloroethane	ND	0.20	EPA 8260D	10-13-21	10-13-21	
DibromomethaneND0.20EPA 8260D10-13-2110-13-21BromodichloromethaneND0.20EPA 8260D10-13-2110-13-21(cis) 1,3-DichloropropeneND0.20EPA 8260D10-13-2110-13-21Methyl Isobutyl KetoneND2.0EPA 8260D10-13-2110-13-21TolueneND1.0EPA 8260D10-13-2110-13-21	Trichloroethene	ND	0.20	EPA 8260D	10-13-21	10-13-21	
Bromodichloromethane  ND  0.20  EPA 8260D  10-13-21  10-13-21    (cis) 1,3-Dichloropropene  ND  0.20  EPA 8260D  10-13-21  10-13-21    Methyl Isobutyl Ketone  ND  2.0  EPA 8260D  10-13-21  10-13-21    Toluene  ND  1.0  EPA 8260D  10-13-21  10-13-21	1,2-Dichloropropane	ND	0.20	EPA 8260D	10-13-21	10-13-21	
(cis) 1,3-DichloropropeneND0.20EPA 8260D10-13-2110-13-21Methyl Isobutyl KetoneND2.0EPA 8260D10-13-2110-13-21TolueneND1.0EPA 8260D10-13-2110-13-21	Dibromomethane	ND	0.20	EPA 8260D	10-13-21	10-13-21	
Methyl Isobutyl Ketone  ND  2.0  EPA 8260D  10-13-21  10-13-21    Toluene  ND  1.0  EPA 8260D  10-13-21  10-13-21	Bromodichloromethane	ND	0.20	EPA 8260D	10-13-21	10-13-21	
Methyl Isobutyl Ketone  ND  2.0  EPA 8260D  10-13-21  10-13-21    Toluene  ND  1.0  EPA 8260D  10-13-21  10-13-21	(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260D	10-13-21	10-13-21	
Toluene  ND  1.0  EPA 8260D  10-13-21  10-13-21	. ,			EPA 8260D	10-13-21	10-13-21	
		ND	1.0	EPA 8260D	10-13-21	10-13-21	
ערמווטי איז דער איז עראין איז איז איז איז איז איז איז איז איז איז	(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260D	10-13-21	10-13-21	



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Date of Report: October 18, 2021 Samples Submitted: October 12, 2021 Laboratory Reference: 2110-101 Project: 8336-4

#### VOLATILE ORGANICS EPA 8260D QUALITY CONTROL page 2 of 2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1013W1					
1,1,2-Trichloroethane	ND	0.20	EPA 8260D	10-13-21	10-13-21	
Tetrachloroethene	ND	0.20	EPA 8260D	10-13-21	10-13-21	
1,3-Dichloropropane	ND	0.20	EPA 8260D	10-13-21	10-13-21	
2-Hexanone	ND	2.0	EPA 8260D	10-13-21	10-13-21	
Dibromochloromethane	ND	0.20	EPA 8260D	10-13-21	10-13-21	
1,2-Dibromoethane	ND	0.20	EPA 8260D	10-13-21	10-13-21	
Chlorobenzene	ND	0.20	EPA 8260D	10-13-21	10-13-21	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260D	10-13-21	10-13-21	
Ethylbenzene	ND	0.20	EPA 8260D	10-13-21	10-13-21	
m,p-Xylene	ND	0.40	EPA 8260D	10-13-21	10-13-21	
o-Xylene	ND	0.20	EPA 8260D	10-13-21	10-13-21	
Styrene	ND	0.20	EPA 8260D	10-13-21	10-13-21	
Bromoform	ND	1.0	EPA 8260D	10-13-21	10-13-21	
Isopropylbenzene	ND	0.20	EPA 8260D	10-13-21	10-13-21	
Bromobenzene	ND	0.20	EPA 8260D	10-13-21	10-13-21	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260D	10-13-21	10-13-21	
1,2,3-Trichloropropane	ND	0.20	EPA 8260D	10-13-21	10-13-21	
n-Propylbenzene	ND	0.20	EPA 8260D	10-13-21	10-13-21	
2-Chlorotoluene	ND	0.20	EPA 8260D	10-13-21	10-13-21	
4-Chlorotoluene	ND	0.20	EPA 8260D	10-13-21	10-13-21	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260D	10-13-21	10-13-21	
tert-Butylbenzene	ND	0.20	EPA 8260D	10-13-21	10-13-21	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260D	10-13-21	10-13-21	
sec-Butylbenzene	ND	0.20	EPA 8260D	10-13-21	10-13-21	
1,3-Dichlorobenzene	ND	0.20	EPA 8260D	10-13-21	10-13-21	
p-Isopropyltoluene	ND	0.20	EPA 8260D	10-13-21	10-13-21	
1,4-Dichlorobenzene	ND	0.20	EPA 8260D	10-13-21	10-13-21	
1,2-Dichlorobenzene	ND	0.20	EPA 8260D	10-13-21	10-13-21	
n-Butylbenzene	ND	0.20	EPA 8260D	10-13-21	10-13-21	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260D	10-13-21	10-13-21	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260D	10-13-21	10-13-21	
Hexachlorobutadiene	ND	1.0	EPA 8260D	10-13-21	10-13-21	
Naphthalene	ND	1.0	EPA 8260D	10-13-21	10-13-21	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260D	10-13-21	10-13-21	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	96	75-127				
Toluene-d8	102	80-127				
4-Bromofluorobenzene	101	78-125				



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#### VOLATILE ORGANICS EPA 8260D QUALITY CONTROL

Matrix: Water Units: ug/L

					Per	cent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Rece	overy	Limits	RPD	Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB10	13W1								
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	11.1	9.70	10.0	10.0	111	97	78-125	13	19	
Benzene	10.8	9.62	10.0	10.0	108	96	80-119	12	16	
Trichloroethene	11.1	9.92	10.0	10.0	111	99	80-121	11	18	
Toluene	11.0	9.79	10.0	10.0	110	98	80-117	12	18	
Chlorobenzene	9.98	8.83	10.0	10.0	100	88	80-117	12	17	
Surrogate:										
Dibromofluoromethane					95	96	75-127			
Toluene-d8					102	103	80-127			
4-Bromofluorobenzene					104	104	78-125			



#### TOTAL METALS EPA 200.8

Matrix: Water Units: ug/L (ppb)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	MW-201					
Laboratory ID:	10-101-01					
Cadmium	ND	4.4	EPA 200.8	10-14-21	10-14-21	
Chromium	46	11	EPA 200.8	10-14-21	10-14-21	
Lead	2.4	1.1	EPA 200.8	10-14-21	10-14-21	
Nickel	40	22	EPA 200.8	10-14-21	10-14-21	
Zinc	46	28	EPA 200.8	10-14-21	10-14-21	



#### TOTAL METALS EPA 200.8 QUALITY CONTROL

Matrix: Water Units: ug/L (ppb)

			Date	Date	
Result	PQL	Method	Prepared	Analyzed	Flags
MB1014WM1					
ND	4.4	EPA 200.8	10-14-21	10-14-21	
ND	11	EPA 200.8	10-14-21	10-14-21	
ND	1.1	EPA 200.8	10-14-21	10-14-21	
ND	22	EPA 200.8	10-14-21	10-14-21	
ND	28	EPA 200.8	10-14-21	10-14-21	
	MB1014WM1 ND ND ND ND ND	MB1014WM1 ND 4.4 ND 11 ND 1.1 ND 22	MB1014WM1    ND  4.4  EPA 200.8    ND  11  EPA 200.8    ND  1.1  EPA 200.8    ND  22  EPA 200.8	ResultPQLMethodPreparedMB1014WM1ND4.4EPA 200.810-14-21ND11EPA 200.810-14-21ND1.1EPA 200.810-14-21ND22EPA 200.810-14-21	ResultPQLMethodPreparedAnalyzedMB1014WM1ND4.4EPA 200.810-14-2110-14-21ND11EPA 200.810-14-2110-14-21ND1.1EPA 200.810-14-2110-14-21ND22EPA 200.810-14-2110-14-21

					Source	Percent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Result	Recovery	Limits	RPD	Limit	Flags
DUPLICATE										
Laboratory ID:	10-08	80-01								
	ORIG	DUP								
Cadmium	ND	ND	NA	NA		NA	NA	NA	20	
Chromium	ND	ND	NA	NA		NA	NA	NA	20	
Lead	3.38	3.27	NA	NA		NA	NA	3	20	
Nickel	ND	ND	NA	NA		NA	NA	NA	20	
Zinc	ND	ND	NA	NA		NA	NA	NA	20	

#### **MATRIX SPIKES**

Laboratory ID:	10-08	80-01									
	MS	MSD	MS	MSD		MS	MSD				
Cadmium	123	120	111	111	ND	111	109	75-125	2	20	
Chromium	113	110	111	111	ND	102	99	75-125	2	20	
Lead	114	113	111	111	3.38	100	99	75-125	1	20	
Nickel	118	115	111	111	ND	106	104	75-125	3	20	
Zinc	117	114	111	111	ND	105	102	75-125	3	20	



#### DISSOLVED METALS EPA 200.8

Matrix: Water Units: ug/L (ppb)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	MW-201					
Laboratory ID:	10-101-01					
Cadmium	ND	4.0	EPA 200.8		10-13-21	
Chromium	ND	10	EPA 200.8		10-13-21	
Lead	ND	1.0	EPA 200.8		10-13-21	
Nickel	ND	20	EPA 200.8		10-13-21	
Zinc	ND	25	EPA 200.8		10-13-21	



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#### DISSOLVED METALS EPA 200.8 QUALITY CONTROL

Matrix: Water Units: ug/L (ppb)

			Date	Date	
Result	PQL	Method	Prepared	Analyzed	Flags
MB1012F1					
ND	4.0	EPA 200.8	10-12-21	10-13-21	
ND	10	EPA 200.8	10-12-21	10-13-21	
ND	1.0	EPA 200.8	10-12-21	10-13-21	
ND	20	EPA 200.8	10-12-21	10-13-21	
ND	25	EPA 200.8	10-12-21	10-13-21	
	MB1012F1 ND ND ND ND	MB1012F1 ND 4.0 ND 10 ND 1.0 ND 20	MB1012F1  EPA 200.8    ND  10  EPA 200.8    ND  10  EPA 200.8    ND  1.0  EPA 200.8    ND  20  EPA 200.8	Result  PQL  Method  Prepared    MB1012F1	ResultPQLMethodPreparedAnalyzedMB1012F1ND4.0EPA 200.810-12-2110-13-21ND10EPA 200.810-12-2110-13-21ND1.0EPA 200.810-12-2110-13-21ND2.0EPA 200.810-12-2110-13-21

					Source	Percent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Result	Recovery	Limits	RPD	Limit	Flags
DUPLICATE										
Laboratory ID:	10-09	94-01								
	ORIG	DUP								
Cadmium	ND	ND	NA	NA		NA	NA	NA	20	
Chromium	ND	ND	NA	NA		NA	NA	NA	20	
Lead	ND	ND	NA	NA		NA	NA	NA	20	
Nickel	ND	ND	NA	NA		NA	NA	NA	20	
Zinc	ND	ND	NA	NA		NA	NA	NA	20	

#### **MATRIX SPIKES**

Laboratory ID:	10-09	94-01									
	MS	MSD	MS	MSD		MS	MSD				
Cadmium	82.0	81.2	80.0	80.0	ND	103	102	75-125	1	20	
Chromium	76.2	76.0	80.0	80.0	ND	95	95	75-125	0	20	
Lead	77.0	77.0	80.0	80.0	ND	96	96	75-125	0	20	
Nickel	76.8	74.6	80.0	80.0	ND	96	93	75-125	3	20	
Zinc	85.8	83.4	80.0	80.0	ND	107	104	75-125	3	20	





#### **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 methods 8260 & 8270, 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.
- Y1 Negative effects of the matrix from this sample on the instrument caused values for this analyte in the bracketing continuing calibration verification standard (CCVs) to be outside of 20% acceptance criteria. Because of this, quantitation limits and sample concentrations should be considered estimates.

Ζ-

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



OnSite Environmental, Inc. 14648 NE 95<sup>th</sup> Street, Redmond, WA 98052 (425) 883-3881

OnSite Environmental Inc.	C	f (	Cu	st	od	y								Page of								
Analytical Laboratory Testing Services 14648 NE 95th Street + Redmond, WA 98052		Turnaround Request (in working days)  Laboratory Number:  10 - 101										_										
Phone: (425) 883-3881 - www.onsite-env.com	(Check (	One)		Г				1	Γ			T	Σ			Γ	Γ	1	Lonium	- INC		
Project Number:	Same Day	1 Day				(an							270E/SI	1A					Lead, Cadmin	4140		
Project Name:	2 Days	X 3 Days				Clean-		DD	(klr		el)	RDR1F	ordes 82	es 815				1A	Chan Chan			
Project Manager;	Standard (7 D	ays)	iners			id / SG		iles 826	aters Or	JE/SIM	iow-lev	sticidae	s Pestic	lerbicid				se) 1664	John			
Sampled by:			Contai	9	VBTEX	( ] Ac	60D	Halogenated Volatiles 8260D	011 (W	es 8270	E/SIM (	A Vrine Pa	sphoru	Acid F	Metals	Metal	8	d greas	DB			
Evan H. Eckles	Date Time	ner)	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWIPH-GX NWTPH-Dx (□ Acid / SG Clean-up)	Volatiles 8260D	genater	EDB EPA 801 1 (Waters Only)	Semivolatiles 8270E/SIM (with Iow-level PAHs)	Is 8270	P.C.BS 8082A Organochlorina Pasticidas 80818	Organophosphorus Pesticides 8270E/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A	Total & Dissolved			% Moisture
Lab ID Sample Identification	Sampled Sampl	ed Matrix	Nun	NN	NZ I	MA A	Vola	Halo	EDE	Ser (with	PAH		Org	Chlo	Tota	Tota	TCL	HEN	F	_	_	⊗ %
1 MW-201	10.12 11:		Z	_		X									_				XI			
2 MW-3	13:0		5			$\times$					_	_		_	_		_			_	_	
3 MW-2	14:		5			$\times$	<													_		
4 MW-10-1	15:	PS V	5			X)	×													_		
	'			_		_			_											_		
		_																				
														_								
Signature	Company				Date		Tin	_	5	Соп	iment	s/Spec	ial Ins	tructi	ons							
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Received				-			-		-													
Relinquished				_		-	-															
Received										Data	Pack	age:	Stand	ard [	Le	evel II	10	Leve				
Reviewed/Date	Reviewe	d/Date			I	10				Chro	mato	grams	with f	inal re	eport	E	ectror	nic Dat	a Delive	rables (I	EDDs)	

# SUMMARY MEMO



**TERRA ASSOCIATES, Inc.** 

Consultants in Geotechnical Engineering, Geology and Environmental Earth Sciences

TO: Mr. Bruce Anderson MBA NW 73<sup>rd</sup> LLC

FROM: Nicolas R. Hoffman, Terra Associates, Inc.

**DATE:** June 1, 2022

RE: Shallow Soil Vapor Sampling Midas Cleanup Seattle, Washington

**Terra Associates Project T-8336-5** 

Mr. Anderson,

This memo summarizes our findings related to shallow soil vapor sampling conducted in April of 2022 at the Midas Muffler site in Seattle, Washington. The purpose of the additional work was to evaluate soil beneath the eastern margin of the building for semi-volatile organic vapors. A small wedge of soil containing elevated concentrations of oil-range hydrocarbons was left in place along the eastern margin of the existing building onsite during recent remedial excavation activities. To close out the soil vapor pathway for the impacted wedge of soil, we advanced two temporary vapor probes to allow for the collection of soil vapor samples from the impacted wedge of soil. A brief narrative of the sampling event is provided below:

On Aprill 11, 2022 TAI observed the advancement of two temporary vapor wells adjacent to the east side of the building to allow for collection of soil vapor samples. The purpose of the samples was to assess for possible vapor migration impacts to the existing building from the wedge of soil left in place impacted by ORH. In the course of our field sampling, we followed guidelines from Ecology Publication No. 09-09-047 *Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action*, dated October 2009, revised March 2022, and the OSWER Technical Guidance for Assessing and Mitigating The Vapor Intrusion Pathway from Subsurface Vapor Sources to Indoor Air, Publication 9200.0-154, June 2015.

The wells were installed using a track mounted Geoprobe rig operated by Cascade Environmental of Woodinville, Washington. The wells were a total of six feet in depth and had a six-inch stainless steel implant screen placed at the base of the hole bedded in clean sand. A hydrated bentonite seal isolated the screens from the ground surface. The bentonite was hydrated with distilled water. A 0.25-inch dedicated tubing connected the screens to surface attachments for sampling. Each well was given approximately two hours to equilibrate prior to sampling. Sampling of each well consisted of attaching

the laboratory provided sample manifold at the surface and then purging approximately three volumes of air from the sample train and well tubing. Shut-in tests were performed at each well prior to sampling to ensure no leakage was occurring. Purging was accomplished by utilizing a small rotary pump at a rate of approximately 150 ml per minute. Once the wells were purged, soil gas samples were collected in Summa cannisters attached to the sample manifold. The Summa cannisters were transported under chain of custody to the lab of Friedman & Bruya in Seattle. The samples were analyzed for APH and naphthalene's. No exceedances of generic Method B screening levels for soil gas were identified in the samples. Sample locations are shown on Figure 1. The lab results are presented in Table 1 attached to this memo. A copy of the analytical laboratory data is also attached to this memo.

# Closure

Low levels of APH were detected in both the soil vapor samples. None of the detections exceeded the generic Method B screening levels for soil gas. It is our opinion that the vapor pathway has been broken. It is our opinion that no further investigation of the vapor pathway is warranted at this time.

We will work with you to enter Ecology's Voluntary Cleanup Program (VCP). The data presented in this memo will be incorporated into our Remedial Investigation/Feasibility Study for the site.

Please call if you have any questions.

### Terra Associates, Inc.

Nicolas R. Hoffman, L.G. Senior Project Geologist

Attachments:Table 1Analytical Test Summary- Soil Vapor Semi volatile organicsFigure 1Sample Location PlanAttachment 1Analytical Laboratory Report

# Table 1Analytical Test ResultsSoil Vapor – APH and Naphthalenes

Test Boring	Date	Naphthalene	APH EC5-8 aliphatics	APH EC9-12 aliphatics	APH EC9-10 aromatics		
SVP-1	4/11/2022	1.6U	1,200	300	150U		
SVP-2	4/11/2022	2.1U	3,800	470	250U		
MTCA Generic Method B		46	4,700				

Notes: All units are in micrograms per cubic meter.

U modifier indicates that the compound was not present at the numerical method detection limit (MDL).



# FRIEDMAN & BRUYA, INC.

# ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D. Yelena Aravkina, M.S. Michael Erdahl, B.S. Vineta Mills, M.S. Eric Young, B.S. 3012 16th Avenue West Seattle, WA 98119-2029 (206) 285-8282 fbi@isomedia.com www.friedmanandbruya.com

April 25, 2022

Nicolas Hoffman, Terra Associates 12220 113<sup>th</sup> Ave NE Suite 130 Kirkland, WA 98034

Dear Mr Hoffman:

Included are the results from the testing of material submitted on April 11, 2022 from the 8336-5, F&BI 204155 project. There are 11 pages included in this report.

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

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl Project Manager

Enclosures c: Terra Assoc A/P NAA0425R.DOC

# FRIEDMAN & BRUYA, INC.

# ENVIRONMENTAL CHEMISTS

# CASE NARRATIVE

This case narrative encompasses samples received on April 11, 2022 by Friedman & Bruya, Inc. from the Terra Associates 8336-5, F&BI 204155 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Terra Associates</u>
204155 -01	SVP-1
204155 -02	SVP-2

Non-petroleum compounds identified in the air phase hydrocarbon (APH) ranges were subtracted per the MA-APH method.

All quality control requirements were acceptable.
# ENVIRONMENTAL CHEMISTS

# Analysis For Volatile Compounds By Method MA-APH

Client Sample ID: Date Received: Date Collected: Date Analyzed: Matrix: Units:	SVP-1 04/11/22 04/11/22 04/20/22 Air ug/m3	Client Projec Lab II Data J Instru Opera	t: D: File: iment:	Terra Associates 8336-5, F&BI 204155 204155-01 1/6.1 041930.D GCMS7 bat
Surrogates: 4-Bromofluoroben:	% Recovery: zene 93	Lower Limit: 70	Upper Limit: 130	
Compounds:	Concentration ug/m3			
APH EC5-8 alipha APH EC9-12 aliph APH EC9-10 arom	atics 300			

# ENVIRONMENTAL CHEMISTS

# Analysis For Volatile Compounds By Method MA-APH

Client Sample ID: Date Received: Date Collected: Date Analyzed: Matrix: Units:	SVP-2 04/11/22 04/11/22 04/20/22 Air ug/m3	Client Projec Lab II Data J Instru Opera	t: D: File: iment:	Terra Associates 8336-5, F&BI 204155 204155-02 1/9.9 041931.D GCMS7 bat
Surrogates: 4-Bromofluoroben:	% Recovery: zene 95	Lower Limit: 70	Upper Limit: 130	
Compounds:	Concentration ug/m3			
APH EC5-8 alipha APH EC9-12 aliph APH EC9-10 arom	atics 470			

# ENVIRONMENTAL CHEMISTS

# Analysis For Volatile Compounds By Method MA-APH

Client Sample ID: Date Received: Date Collected: Date Analyzed: Matrix: Units:	Method Blank Not Applicable 04/19/22 04/19/22 Air ug/m3	Client: Project: Lab ID: Data File: Instrument: Operator:		Terra Associates 8336-5, F&BI 204155 02-0936 MB 041913.D GCMS7 bat
Surrogates: 4-Bromofluoroben:	% Recovery: zene 92	Lower Limit: 70	Upper Limit: 130	
Compounds:	Concentration ug/m3			
APH EC5-8 alipha APH EC9-12 aliph APH EC9-10 arom	atics <25			

# ENVIRONMENTAL CHEMISTS

# Analysis For Volatile Compounds By Method TO-15

Client Sample ID: Date Received: Date Collected: Date Analyzed: Matrix: Units:	SVP-1 04/11/22 04/11/22 04/20/22 Air ug/m3	Client Projec Lab II Data Instru Opera	et: D: File: ument:	Terra Associates 8336-5, F&BI 204155 204155-01 1/6.1 041930.D GCMS7 bat
Surrogates: 4-Bromofluorobenz	% Recovery: ene 93	Lower Limit: 70	Upper Limit: 130	
Compounds:	Concent ug/m3	tration ppbv		
Naphthalene	<1.6	< 0.3		

# ENVIRONMENTAL CHEMISTS

# Analysis For Volatile Compounds By Method TO-15

Client Sample ID: Date Received: Date Collected: Date Analyzed: Matrix: Units:	SVP-2 04/11/22 04/11/22 04/20/22 Air ug/m3	Client Projec Lab II Data Instru Opera	et: D: File: ument:	Terra Associates 8336-5, F&BI 204155 204155-02 1/9.9 041931.D GCMS7 bat
Surrogates: 4-Bromofluorobenz	% Recovery: ene 95	Lower Limit: 70	Upper Limit: 130	
Compounds:	Concent ug/m3	ration ppbv		
Naphthalene	<2.1	< 0.4		

# ENVIRONMENTAL CHEMISTS

# Analysis For Volatile Compounds By Method TO-15

Client Sample ID: Date Received: Date Collected: Date Analyzed: Matrix: Units:	Method Blank Not Applicable 04/19/22 04/19/22 Air ug/m3	Client Projec Lab II Data I Instru Opera	Terra Associates 8336-5, F&BI 204155 02-0936 MB 041913.D GCMS7 bat	
Surrogates: 4-Bromofluorobenz	% Recovery: ene 92	Lower Limit: 70	Upper Limit: 130	
Compounds:	Concent ug/m3	tration ppbv		
Naphthalene	< 0.21	< 0.04		

#### ENVIRONMENTAL CHEMISTS

Date of Report: 04/25/22 Date Received: 04/11/22 Project: 8336-5, F&BI 204155

### QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF AIR SAMPLES FOR VOLATILES BY METHOD MA-APH

Laboratory Code: 204096-01 1/5.7 (Duplicate)

	Reporting	Sample	Duplicate	RPD
Analyte	Units	Result	Result	(Limit 30)
APH EC5-8 aliphatics	ug/m3	<430	<430	nm
APH EC9-12 aliphatics	ug/m3	190	200	5
APH EC9-10 aromatics	ug/m3	<140	<140	nm

Laboratory Code: Laboratory Control Sample

Laboratory Coue. Laboratory Con	cror sumple		Percent	
	Reporting	Spike	Recovery	Acceptance
Analyte	Units	Level	LCS	Criteria
APH EC5-8 aliphatics	ug/m3	67	87	70-130
APH EC9-12 aliphatics	ug/m3	67	121	70-130
APH EC9-10 aromatics	ug/m3	67	95	70-130

### ENVIRONMENTAL CHEMISTS

Date of Report: 04/25/22 Date Received: 04/11/22 Project: 8336-5, F&BI 204155

### QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF AIR SAMPLES FOR VOLATILES BY METHOD TO-15

Laboratory Code: 204096-01 1/5.7 (Duplicate)

	Reporting	Sample	Duplicate	RPD
Analyte	Units	Result	Result	(Limit 30)
Naphthalene	ug/m3	<1.5	<1.5	nm

### ENVIRONMENTAL CHEMISTS

Date of Report: 04/25/22 Date Received: 04/11/22 Project: 8336-5, F&BI 204155

### QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF AIR SAMPLES FOR VOLATILES BY METHOD TO-15

Laboratory Code: Laboratory Control Sample

Laboratory Couc. Laboratory Co	noror sampro		Percent	
	Reporting	Spike	Recovery	Acceptance
Analyte	Units	Level	LCS	Criteria
Naphthalene	ug/m3	71	95	70-130

### ENVIRONMENTAL CHEMISTS

### **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.

 ${\rm J}$  - 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.

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Report To Nicolas He				SAMPI	LERS (sign	iature)	11.	11	N	-	in the second		5			#of	
Report To NICOLAS HT	stra	<u>~~</u>					Ine	-1	V	_	>					NAROUND TIME	
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SAMPLE INFORMATION	×2	±/				1				ANA	LYS	IS R	EQU	JEST	ED		
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Sample Name	ID	ID	ID	(Circle One)	Sampled	("Hg)	Time	("Hg)	Time						~	Notes	
SVP-1	01	224		IA / SG	4/11/22	30	9;53	5	9:58				$\times$		1	SN:2301	
SVP-Z	02	299		LA (SG)	4/4/22	2815	10/12	5	10:18				$\left  \right\rangle$		$\searrow$	SN: 3257	
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				IA / SG										0			
				IA / SG												1	
C .				IA / SG													

Friedman & Bruya, Inc.	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
3012 16th Avenue West	Relinquished by: The Market	Alicolas R. Hoffman	TAI	4/11/22	15:50
Seattle, WA 98119-2029	Received by: follow	Tokala Unisteria	FtB	4/11/22	15:50
Ph. (206) 285-8282	Relinquished by:	- N.		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
Fax (206) 283-5044	Received by:	11	Samples	1	16.0
FORMS\COC\COCTO-15.DOC			Samples	received a	

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Washington State Department of Ecology, Toxics Cleanup Program: Soil Cleanup Level for TPH Sites - Main Data Entry Form and **Calculation Summary** 

### A1 Soil Cleanup Levels: Worksheet for Soil Data Entry: Refer to WAC 173-340-720, 740,745, 747, 750

	1.	Enter	Site	In	formation	
--	----	-------	------	----	-----------	--

Date: 06/01/22 Site Name: Ballard Midas Sample Name: 8336-7-4

Chemical of Concern	Measured Soil Conc	Composition
or Equivalent Carbon Group	dry basis	Ratio
	mg/kg	%
Petroleum EC Fraction		
AL_EC >5-6	1.26	0.01%
AL_EC >6-8	0.76	0.00%
AL_EC >8-10	10.35	0.06%
AL_EC >10-12	5.15	0.03%
AL_EC >12-16	136	0.83%
AL_EC >16-21	1640	9.95%
AL_EC >21-34	12400	75.23%
AR_EC >8-10	10.35	0.06%
AR_EC >10-12	5.15	0.03%
AR_EC >12-16	16.2	0.10%
AR_EC >16-21	717	4.35%
AR_EC >21-34	1540	9.34%
Benzene	0	0.00%
Toluene	0	0.00%
Ethylbenzene	0	0.00%
Total Xylenes	0	0.00%
Naphthalene	0.025	0.00%
I-Methyl Naphthalene	0.025	0.00%
2-Methyl Naphthalene	0.025	0.00%
n-Hexane	0	0.00%
MTBE	0	0.00%
Ethylene Dibromide (EDB)	0	0.00%
1,2 Dichloroethane (EDC)	0	0.00%
Benzo(a)anthracene	0.025	0.00%
Benzo(b)fluoranthene	0.025	0.00%
Benzo(k)fluoranthene	0.025	0.00%
Benzo(a)рутепе	0.025	0.00%
Chrysene	0.053	0.00%
Dibenz(a,h)anthracene	0.025	0.00%
Indeno(1,2,3-cd)pyrene	0.025	0.00%
Sum	16482.498	100.00%
Contract of the second	5 - 5 <b>3</b> 3 -	
3. Enter Site-Specific Hy	drogeological Da	ta
Total soil porosity:	0.43	Unitless
Volumetric water content:	0.3	Unitless
Volumetric air content:	0.13	Unitless
Soil bulk density measured:	1.5	kg/L
Fraction Organic Carbon:	0.26	Unitless
Dilution Factor:	1	Unitless
4. Target TPH Ground Wa	ter Concentation (	if adjusted)
If you adjusted the target TPH gro		
concentration, enter adjusted	500	ug/L
value here:		-

Notes for Data Entry Set Default Hydrogeology **Clear All Soil Concentration Data Entry Cells** 

**Restore All Soil Concentration Data cleared previously** 

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# A2 Soil Cleanup Levels: Calculation and Summary of Results. Refer to WAC 173-340-720, 740, 745, 747, 750 Site Information

Date: 6/1/2022	
Site Name: Ballard Midas	
Sample Name: 8336-7-4	
Measured Soil TPH Concentration, mg/kg:	16,482.498

#### 1. Summary of Calculation Results

European Dothersen	Mathad/Caal	Protective Soil	With Measur	red Soil Conc	Does Measured Soil	
Exposure Pathway	Method/Goal	TPH Conc, mg/kg	RISK @	HI @	Conc Pass or Fail?	
Protection of Soil Direct	Method B	12,218	3.67E-07	1.35E+00	Fail	
Contact: Human Health	Method C	147,132	9.11E-08	1.12E-01	Pass	
Protection of Method B Ground	Potable GW: Human Health Protection	100% NAPL	5.39E-10	1.46E-01	Pass	
Water Quality (Leaching)	Target TPH GW Conc. @ 500 ug/L	100% NAPL	NA	NA	Pass	

Warning! Check to determine if a simplified or site-specific Terrestrial Ecological Evaluation may be required (Refer to WAC 173-340-7490 through ~7494). Warning! Check Residual Saturation (WAC340-747(10)).

#### 2. Results for Protection of Soil Direct Contact Pathway: Human Health

	Method B: Unrestricted Land Use	Method C: Industrial Land Use
Protective Soil Concentration, TPH mg/kg	12,218.39	147,131.60
Most Stringent Criterion	HJ =1	HI =1

	Pro	Protective Soil Concentration @Method C						
Soil Criteria	Most Stringent?	TPH Conc, mg/kg	RISK @	HI @	Most Stringent?	TPH Conc, mg/kg		HI @
HI = 1	YES	1.22E+04	2.72E-07	1.00E+00	YES	1.47E+05	8.13E-07	1.00E+00
Total Risk=1E-5	NO	4.49E+05	1.00E-05	3.68E+01	NO	1.81E+06	1.00E-05	1.23E+01
Risk of Benzene= 1E-6	NA	NA	NA	NA				
Risk of cPAHs mixture= 1E-6	NO	4.49E+04	1.00E-06	3.68E+00		NIA		
EDB	NA	NA	NA	NA	1	NA		
EDC	NA	NA	NA	NA				

#### 3. Results for Protection of Ground Water Quality (Leaching Pathway)

3.1. Protection of Potable Ground Water Quality (Mct	hod B): Human Health Protection
Most Stringent Criterion	NA
Protective Ground Water Concentration, ug/L	NA
Protective Soil Concentration, mg/kg	Soil-to-Ground Water is not a critical pathway!

Ground Water Criteria	Protective	Protective Soil			
Ground water Criteria	Most Stringent?	TPH Conc. ug/L	RISK @	HI @	Conc, mg/kg
HI=1	YES	1.29E+02	5.41E-10	2.52E-01	100% NAPL
Total Risk = 1E-5	YES	1.29E+02	5.41E-10	2.52E-01	100% NAPL
TotalRisk = 1E-6	YES	1.29E+02	5.41E-10	2.52E-01	100% NAPL
Risk of cPAHs mixture= 1E-5	YES	1.29E+02	5.41E-10	2.52E-01	100% NAPL
Benzene MCL = 5 ug/L	NA	NA	NA	NA	NA
MTBE = 20 ug/L	NA	NA	NA	NA	NA

Note: 100% NAPL is 72000 mg/kg TPH.

3.2 Protection of Ground Water Quality for TPH Ground Water Concentration previously adjusted and entered

Ground Water Criteria	Protective (	Protective Soil		
Ground water Criteria	TPH Conc, ug/L	Risk @	HI @	Conc, mg/kg
Target TPH GW Conc = 500 ug/L	1.29E+02	5.41E-10	2.52E-01	100% NAPL



# EXPORT MATERIALS LOG

### Anderson & Associates Midas - Limited Clean-Up

### AA-22-1653

# DATE: February 7, 2022

LOAD	TRUCKING	MANIFEST	DUMP	ESTIMATED	LOCATION		TYPE OF	TONNAGE
NO.	COMPANY	#	TIME	QUANTITY		DATE	MATERIALS	SLIPS
1	Wyser Construction	4680/1003533	9:36 AM	14.85 ton	Regional Disposal	2/7/2022	Class 3 Soil	14.85
	Wyser Construction	4680/1003541	10:53 AM	16.36 ton	Regional Disposal	2/7/2022	Class 3 Soil	16.36
3	Wyser Construction	4680/1003548	12:33 PM	16.39 ton	Regional Disposal	2/7/2022	Class 3 Soil	16.39
4	Wyser Construction	4680/1003559	2:08 PM	18.20 ton	Regional Disposal	2/7/2022	Class 3 Soil	18.20
5						2		
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7								
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12					28 <sup>2</sup>			
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Snohomish, WA 98296	REFERENCE	Y			
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Snohomish, WA 98296	REFERENCE	N-40 WYSER			4
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# EXPORT MATERIALS LOG

### Anderson & Associates Midas - Limited Clean-Up

#### AA-22-1653

### DATE: February 8, 2022

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LOAD	TRUCKING	MANIFEST	DUMP	ESTIMATED	LOCATION		TYPE OF	TONNAGE
NO.	COMPANY	#	TIME	QUANTITY		DATE	MATERIALS	SLIPS
1	Wyser Construction	4681/1003571	8:04 AM	16.59 ton	Regional Disposal	2/8/2022	Class 3 Soil	16.59
2	Wyser Construction	4681/1003579	9:26 AM	17.91 ton	Regional Disposal	2/8/2022	Class 3 Soil	17.91
3	Wyser Construction	4681/1003596	11:00 AM	18.70 ton	Regional Disposal	2/8/2022	Class 3 Soil	18.70
4	Wyser Construction	4681/1003603	12:38 PM	17.67 ton	Regional Disposal	2/8/2022	Class 3 Soil	17.67
5	Wyser Construction	4681/1003607	2:06 PM	19.10 ton	Regional Disposal	2/8/2022	Class 3 Soil	19.10
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	SPOSAL INTERMODAL 42 der Seattle, WA	5-977-4127	SITE 01 WEIGHMA	TICKET # 1003		CEU.		
				IN -	Karyn B	. OUT -		el G.
STOMEP012878			DATEATIM			DATE/TIME C		0.11 mm
19015 10	onstruction 09th Ave SE		VEHICLE	statement of the second s	:06 pm	CONTAINER	3/22	2:14 pm
Snohomis	sh, WA 98296		REFEREN	ICE		1		
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	LE IN GROSS WEIGHT E OUT TARE WEIGHT	and a second second second second second second second second second second second second second second second	19.10 8,200				DUND	
OTY. UNIT		DESCRIPTION		NATE	EXTENS	ION	TAX	COFAL
0.00 YD 19.10 tn	Tracking QTY SW-CONT W/FUEL	Origin:SEATTLE/KING 100%						
	Signature			_	1		(	-21511-44/1010161
						si.		TENDERED
The undersign on the reverse	ned Individual signing this docume e side and that he or she has the a	it on behalf of Customer acknowledges that I ithority to sign this document on behalf of the	ne or she has read e cuslomer.	I and understands the	lerms and co	ardillons		CHANGE
			1917					CHECK#
S-F042UPR (04/19) - -		SIGNATU	MF:					
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### EXPORT MATERIALS LOG

### Anderson & Associates Midas - Limited Clean-Up

### AA-22-1653

# DATE: February 9, 2022

LOAD	TRUCKING	MANIFEST	DUMP	ESTIMATED	LOCATION		TYPE OF	TONNAGE
NO,	COMPANY	#	TIME	QUANTITY		DATE	MATERIALS	SLIPS
1	Wyser Construction	4682/174928	8:02 AM	18.87 ton	Waste Management	2/9/2022	Class 3 Soil	18.87
	Wyser Construction	4682/174946	9:40 AM		Waste Management	2/9/2022	Class 3 Soil	18.14
	Wyser Construction	4682/174954	11:02 AM		Waste Management	2/9/2022	Class 3 Soil	18.45
	Wyser Construction	4682/174965	12:46 PM		Waste Management	2/9/2022	Class 3 Soil	16.52
	Wyser Construction	4682/174978	2:09 PM		Waste Management	2/9/2022	Class 3 Soil	17.81
6		10020113070	·			C 100 P		
7							1	
8		1.		1		1	J	
9		1	11	PT 200 120				
10			1.1	1.		2		
11		1						1
12			- · · · · · · · · · · · · · · · · · · ·				-	
13		1 million (1997)					1	
14		1.		1		1	New York	
15		1	1			1		
16						16	1.1	10000
17					1		1. I	
18					1	(F	19.00	
19					Class	3 Soil	Total Tons	89.79
20						1.	1.7	1
21								
22		1				_		
23		2 - 2 2	1			1		

μ. 70	aska Street ) S Alaska Str attle, WA, 98		Ph: 206 763	Original Ticket# 5025	
Ticket Date 02/09/2022 Payment Type Credit Acco Manual Ticket# Route AK Hauling Ticket# Destination	ount	R CONS Carrier Vehicle# Container Driver Check# Billing# Grid	SELF HAULER * W-40S KURTIS 0000188	Volume	
PO# AA 22 1653/11670 Time In 02/09/2022 08:02:23 Out 02/09/2022 08:02:23 Comments WYSER - LM	Scale SCALE 1	Operator Imercer Imercer	Inbound	Gross Tare Net Tons	66220 lb 28480 lb 37740 lb 18.87
Product	LD%	Qty UOM	Rate Tax	Amount	Origin

Pro	duct	TDS	QEY	UOM	Race	Tax	Amount	Urigin
1	Daily Cover-PCS-Tons-Pet	100	18.87	Tons				KING
2	EVFt-P6-Environmental Fe			8				
3	GONDOLA T-GONDOLA TON	100	18.87	Tons				

Driver's Signature

	street aska St: , WA, 9			Ph	206 763	Original Ticket# 5025	
Customer Name WYSER CONSTRUCTI Ticket Date 02/09/2022 Payment Type Credit Account	ON WYSE		Carrier Vehicle# Container	SELF W-40S	HAULER *	Volume	
Manual Ticket#			Driver	KURTI	S		
Route AK			Check#	00001	0.0		1
Hauling Ticket# Destination			Billing# Grid	00001	00		
PO# AA 22 1653/116766WA			GLIG				
Time Sc	ale LE 1	lme	erator ercer ercer		Inbound	Gross Tare Net Tons	64760 28480 36280 18.
Comments WYSER - LM							
Product	LD%	Qty	UOM	Rate	Tax	Amount	Origi
1 Daily Cover-PCS-Tons-Pet	100	18,14	Tons				KING
2 EVFt-P6-Environmental Fe	100		90				
3 GONDOLA T-GONDOLA TON	100	18.14	Tons				

Total Tax Total Ticket 4

Driver's Signature

MASTE MANAGEMENT Alaska S TO S Alaska S Seattle,	aska St			Ph:	206 763	Original Ticket# 5025	
Customer Name WYSER CONSTRUCTION Ticket Date 02/09/2022 Payment Type Credit Account Manual Ticket# Route AK Hauling Ticket# Destination	on Wysei	R CONS	Carrier Vehicle# Container Driver Check# Billing# Grid	SELF H7 W-40S KURTIS 0000188		Volume	
	ale LE 1	lme	perator ercer ercer		Inbound	Gross Tare Net Tons	65380 lb 28480 lb 36900 lb 18.45
Comments WYSER - LM						10110	20175
Product	LD%	Qty	NOU	Rate	Tax	Amount	Origin
1 Daily Cover-PCS-Tons-Pet	100	18.45	Tons	ad ad ad ini ini ini ini ini ini i	*****		KING
2 EVFt-P6-Environmental Fe 3 GONDOLA T-GONDOLA TON	100	18.45	% Tons				
					Total T	ax	
river's Signature					Total T Total T		
river's Signature Alaska 3 70 S Ala Seattle	aska St			Ph:		icket " Origina: Ticket#	
Alaska 1 70 S Ala	aska St , WA, 9	8134	Vehicle# Container Driver		Total T	icket " Origina: Ticket#	
Alaska 3 70 S Ala vvaste MANAGEMENT Customer Name WYSER CONSTRUCTION Ficket Date 02/09/2022 Payment Type Credit Account Manual Ticket# Route AK Hauling Ticket# Destination	aska St , WA, 9	8134	Vehicle# Container	SELF HA W-40S	Total T 206 763 AULER *	Origina Ticket# 5025	
Alaska 3 70 s Alaska 3 70 s Alaska 4 70 s Al	aska St , WA, 9	8134 R CONS Op Lme	Vehicle# Container Driver Check# Billing#	SELF HA W-40S KURTIS 000018	Total T 206 763 AULER *	Origina Ticket# 5025	174965 61520 11 28480 11 33040 11
Alaska 3 70 S Ala vvaste MANAGEMENT Customer Name WYSER CONSTRUCTION Ficket Date 02/09/2022 Payment Type Credit Account Manual Ticket# Route AK Hauling Ticket# Destination PO# AA 22 1653/116766WA Time Sca In 02/09/2022 12:46:32 SCA	aska St. , WA, 9 ON WYSE ale	8134 R CONS Op Lme	Vehicle# Container Driver Check# Billing# Grid Derator Bercer	SELF HA W-40S KURTIS 000018	Total T 206 763 AULER * 8	Origina Ticket# 5025 Volume Gross Tare Net	174965 61520 lk 28480 lk 33040 lk
Alaska 3 70 S Ala Seattle Customer Name WYSER CONSTRUCTION Ficket Date 02/09/2022 Payment Type Credit Account Manual Ticket# Route AK Hauling Ticket# Destination PO# AA 22 1653/116766WA Time Sca In 02/09/2022 12:46:32 SCA Dut 02/09/2022 12:46:32	aska St. , WA, 9 ON WYSE ale	8134 R CONS Op Lme	Vehicle# Container Driver Check# Billing# Grid Derator Bercer	SELF HA W-40S KURTIS 000018	Total T 206 763 AULER * 8	Origina Ticket# 5025 Volume Gross Tare Net	
Alaska 3 70 S Ala Seattle, Customer Name WYSER CONSTRUCTION Ticket Date 02/09/2022 Payment Type Credit Account Manual Ticket# Route AK Hauling Ticket# Destination PO# AA 22 1653/116766WA Time Sca In 02/09/2022 12:46:32 Dut 02/09/2022 12:46:32 Comments WYSER - LM	aska St , WA, 9 ON WYSE Ale LE 1	8134 R CONS On Ime Ime	Vehicle# Container Driver Check# Billing# Grid Derator ercer ercer	SELF HA W-40S KURTIS 000018	Total T 206 763 AULER * 8 Inbound	icket Origina Ticket# 5025 Volume Gross Tare Net Tons	174965 61520 lH 28480 lH 33040 lH 16.52

Driver`s Signature

	treet ska Street WA, 98134	Ph: 206 763	Original Ticket# 5025	
Customer Name WYSER CONSTRUCTIO Ticket Date 02/09/2022 Payment Type Credit Account Manual Ticket#	Vehicle# Container Driver	SELF HAULER * W-40S KURTIS	Volume	
Route AK Hauling Ticket# Destination PO# AA 22 1653/116766WA	Check# Billing# Grid	0000188		
Time Sca In 02/09/2022 14:09:20 SCAL Out 02/09/2022 14:09:20		Inbound	Gross Tare Net Tons	64100 lb 28480 lb 35620 lb 17.81
Comments WYSER - LM				

Pro	duct	LD%	Qty	UOM	Rate	Tax	Amount	Origin
1 2	Daily Cover-PCS-Tons-Pet EVFt-P6-Environmental Fe	100 100	17.81	Tons %				KING
3	GONDOLA T-GONDOLA TON	100	17.81	Tons				

Driver`s Signature



### EXPORT MATERIALS LOG

### Anderson & Associates Midas - Limited Clean-Up

### AA-22-1653

# DATE: February 10, 2022

LOAD	TRUCKING	MANIFEST	DUMP	ESTIMATED	LOCATION		TYPE OF	TONNAGE
NO.	COMPANY	#	TIME	QUANTITY		DATE	MATERIALS	SLIPS
1	Wyser Construction	4683/174989	8:00 AM	17.92 ton	Waste Management	2/10/2022	Class 3 Soil	17.92
	Wyser Construction	4683/174998	9:49 AM	17.99 ton	Waste Management	2/10/2022	Class 3 Soil	17.99
	Wyser Construction	4683/175034	11:25 AM	19.12 ton	Waste Management	2/10/2022	Class 3 Soil	19.12
	Wyser Construction	4683/175039	12:50 PM	16.92 ton	Waste Management	2/10/2022	Class 3 Soil	16.92
	Wyser Construction	4683/175045	2:26 PM	17.98 ton	Waste Management	2/10/2022	Class 3 Soil	17.98
6	1.					· · · · · · · · · · · · · · · · · · ·		
7		1				1		
8	5							4
9		1					1	
10				17				
11							1	
12			-					
13		11 T T T						
14		1.0						
15		10						
16		1					1	
17		2				1.0		1 I I I I I I I I I I I I I I I I I I I
18								
19			5		Class	3 Soil	Total Tons	89.93
20							1.000	
21								
22								
23						1		

70 :	ska Street 5 Alaska St 5tle, WA, 9		Ph: 206 763	Original Ticket# 5025	, 174989 -
Customer Name WYSER CONSTRU Ticket Date 02/10/2022 Payment Type Credit Accour Manual Ticket#		Vehicle# Container Driver	SELF HAULER * W-40S KURTIS	Volume	
Route AK Hauling Ticket# Destination		Check# Billing# Grid	0000188		
PO# AA 22 1653/116766	NA Scale	Operator	Inbound	Gross	64320 lb
In 02/10/2022 08:00:42 Out 02/10/2022 08:00:42	SCALE 1	lmercer Imercer	Thound	Tare Net Tons	28480 lb 35840 lb 17.92
Comments WYSER - LM					
Product	LD%	Qty UOM	Rate Tax	Amount	Origin

Pro	duct	LD%	Qty	UOM	Rate	Tax	Amount	Origin
1	Daily Cover-PCS-Tons-Pet	100	17.92	Tons				KING
2	EVFt-P6-Environmental Fe	100		00				-
3	GONDOLA T-GONDOLA TON	100	17.92	Tons				

Driver's Signature

	Alaska Street 70 S Alaska Street Seattle, WA, 98134		Ph: 206 763	Origina Ticket# 5025		
Customer Name WYSER CO Ticket Date 02/10/20 Payment Type Credit A Manual Ticket# Route AK Hauling Ticket# Destination PO# AA 22 1653/11	22 ccount	DNS Carrier Vehicle# Container Driver Check# Billing# Grid	SELF HAULER * W-40S KURTIS 0000188	Volume		- V
Time In 02/10/2022 09:49: Out 02/10/2022 09:49: Comments WYSER - LM	Scale 08 SCALE 1 08	Operator Imercer Imercer	Inbound	Gross Tare Net Tons	64460 lb 28480 lb 35980 lb 17.99	T T

Pro	duct	LD%	Qty	NOU	Rate	Tax	Amount	Origin
1	Daily Cover-PCS-Tons-Pet EVFt-P6-Environmental Fe		17.99	Tons				KING KING
3	GONDOLA T-GONDOLA TON	100	17.99	Tons				KING

Total Tax Total Ticket

Driver's Signature

70 S A	Street laska St e, WA, S			Ph:	206 763	and the second second second second second second second second second second second second second second second	175034
Customer Name WYSER CONSTRUCT Ticket Date 02/10/2022 Payment Type Credit Account Manual Ticket# Route AK Hauling Ticket# Destination	ION WYS		Vehicle# Container	SELF HA W-40S KURTIS 0000188		Volume	
	cale CALE 1	lme	erator ercer ercer	Ĩ	nbound	Gross Tare Net Tons	66720 lb 28480 lb 38240 lb 19,12
Product	LD%	Qty	UOM	Rate	Tax	Amount	Origin
1 Daily Cover-PCS-Tons-Pet 2 EVFt-P6-Environmental Fe 3 GONDOLA T-GONDOLA TON		19.12 19.12	Tons % Tons				KING KING KING
					Total T Total T		
river's Signature							
70 S.	a Street Alaska S le, WA,	Street		Ph:	206 763	A. C. M	1 175039
Customer Name WYSER CONSTRUC Ticket Date 02/10/2022 Payment Type Credit Account	TION WYS		Carrier Vehicle# Container	SELF H. W-40S	AULER *	Volume	
Manual Ticket# Route AK			Driver Check#	KURTIS			1

In Out	02/10/2022 12:50:36 SC	ALE 1	lme	erator ercer ercer		Inbound	Gross Tare Net Tons	62320 1b 28480 1b 33840 1b 16.92
Com	ments WYSER - LM							
Pro	duct	LD%	Qty	UOM	Rate	Tax	Amount	Origin
1 2	Daily Cover-PCS-Tons-Pet EVFt-P6-Environmental Fe	100 100	16.92	Tons %				KING

Grid

Operator

Billing# 0000188

3 GONDOLA T-GONDOLA TON 100 16.92 Tons

Scale

tion AA 22 1653/116766WA

Total Tax Total Ticket

Inbound

Gross

ā

62320 lb

Driver's Signature

Hauling Ticket#

Time

Destination

PO#

	Alaska Street 70 S Alaska Str Seattle, WA, 98		Ph: 206 763	Origina Ticket# 5025	
	ONSTRUCTION WYSER		SELF HAULER *		
Ticket Date 02/10/2		Vehicle#	W-40S	Volume	
Payment Type Credit	Account	Container			
Manual Ticket#		Driver	KURTIS		
Route AK		Check#			
Hauling Ticket#		Billing#	0000188		
Destination		Grid			
PO# AA 22 1653/1	16766WA				
Time	Scale	Operator	Inbound	Gross	64440 lb
In 02/10/2022 14:26	:23 SCALE 1	lmercer		Tare	28480 lb
Out 02/10/2022 14:26		lmercer		Net	35960 lb
enter ante de la construcción de la constru				Tons	17.98
Comments WYSER - L	M				
a strategiest and stress					

Pro	duct	LD%	Qty	UOM	Rate	Tax	Amount	Origin
1	Daily Cover-PCS-Tons-Pet	100	17,98	Tons				KING
2	EVFt-P6-Environmental Fe	100		dia				
3	GONDOLA T-GONDOLA TON	100	17.98	Tons				

Driver`s Signature



### EXPORT MATERIALS LOG

## Anderson & Associates Midas - Limited Clean-Up

### AA-22-1653

# DATE: February 11, 2022

LOAD	TRUCKING	MANIFEST	DUMP	ESTIMATED	LOCATION		TYPE OF	TONNAGE
NO.	COMPANY	#	TIME	QUANTITY		DATE	MATERIALS	SLIPS
1	Wyser Construction	4684/175050	7:42 AM	18.56 ton	Waste Management	2/11/2022	Class 3 Soil	18.56
	Wyser Construction	4684/175055	8:55 AM	20.24 ton	Waste Management	2/11/2022	Class 3 Soil	20.24
	Wyser Construction	4684/175058	10:01 AM	14.92 ton	Waste Management	2/11/2022	Class 3 Soil	14.92
4	Wyser Construction	4684/175062	11:05 AM	18.36 ton	Waste Management	2/11/2022	Class 3 Soil	18.36
5	Wyser Construction	4684/175070	12:14 PM	16.96 ton	Waste Management	2/11/2022	Class 3 Soil	16.96
	Wyser Construction	4684/175085	1:21 PM	18.73 ton	Waste Management	2/11/2022	Class 3 Soil	18.73
7			-	1		-		-
8								-
9							(h)	-
10								
11								
12								
13				1		-		
14		10 C						
15		11				11		1
16						G		
17						1		
18				12 1 2 2 2			1-3-1	
19		1.			Class	3 Soil	Total Tons	107.7
20		17				1	1	
21		11				1		19.11 I
22		12		1.1				
23		10.000					1	

70 S	a Street Alaska St le, WA, S			Ph:	206 763	Original Ticket# 5025	
ustomer Name WYSER CONSTRUC icket Date 02/11/2022 ayment Type Credit Account anual Ticket# oute AK auling Ticket# estination			Carrier Vehicle# Container Driver Check# Billing# Grid	SELF H7 W-40S KURTIS 0000188		Volume	
	Scale CALE 1	lme	berator ercer ercer		Inbound	Gross Tare Net Tons	65600 28480 37120 18.
roduct	LD%	Qty	UOM	Rate	Tax	Amount	Origi
Daily Cover-PCS-Tons-Pe EVFt-P6-Environmental F GONDOLA T-GONDOLA TON		18,56 18,56	Tons % Tons				KING KING KING
iver`s Signature					Total Ta Total Ti		
70 S	a Street Alaska S 1e, WA,	treet		Ph:	206 763	Reprint Ticket# 5025	175055
ustomer Name WYSER CONSTRUC icket Date 02/11/2022 ayment Type Credit Account anual Ticket# oute AK auling Ticket# estination	TION WYS		Carrier Vehicle# Container Driver Check# Billing# Grid	W-40S		Volume	
Time	Scale SCALE 1	lm	perator ercer ercer		Inbound	Gross Tare Net Tons	68960 28480 40480 20

Comments

WYSER - LM

Pro	duct	LD%	Qty	UOM	Rate	Tax	Amount	Origin
1 2	Daily Cover-PCS-Tons-Pet EVFt-P6-Environmental Fe	100 100	20.24	Tons %	1252010	e cocess q		KING
3	GONDOLA T-GONDOLA TON	100	20,24	Tons				

Total Tax Total Ticket

Driver's Signature

roduct		LD%	Qty	NOU	Rate	Tax	Amount	Origin
Time 02/11/2022 1 t 02/11/2022 1	Sc 11:05:09 SCA	ale LE 1	lm	perator ercer ercer		Inbound	Gross Tare Net Tons	65200 lb 28480 lb 36720 lb 18.36
uling Ticket# stination	553/116766WA			Billing# Grid	000018	38		ž.
nual Ticket# oute AK				Driver Check#	KURTIS			
yment Type Cre	/11/2022 edit Account			Vehicle# Container			Volume	
stomer Name WYS		ON WYSE	R CONS			HAULER *	Volumo	
	Alaska , 70 S Al Seattle	aska St			Ph :	206 763	Original Ticket# 5025	
ver's Signature						Total T	icket	
						Total Ta		
GONDOLA T-GC	ronmental Fe NDOLA TON	100 100	14.92	Tons				
	PCS-Tons-Pet	100	14.92	Tons			a ana ang ina ang ina pang ina ina ina pang ina ina ina ina ina ina ina ina ina ina	KING
roduct	>	TD%	Qty	NOU	Rate	Tax	Amount	Origin
omments WYSER	L - LM							
estination	0:01:48 SCA	ale LE 1	lme	Grid Derator ercer ercer		Inbound	Gross Tare Net Tons	58320 lb 28480 lb 29840 lb 14.92
nual Ticket# oute AK ouling Ticket#				Check# Billing#				
yment Type Cre	11/2022 dit Account			Vehicle# Container Driver	W-40S KURTIS		Volume	
stomer Name WYS	ER CONSTRUCTIO					AULER *		
		, WA, 9	8134		Ph:	206 763	5025	
ASTE MANAGEMENY	70 S Ala Seattle						Ticket# 1	175058

Driver's Signature

Alaska S 70 S Ala MASTE MANAGEMENT Seattle	aska St			Ph :	206 763	Original Ticket# 1 5025	175070 ''
ustomer Name WYSER CONSTRUCTI icket Date 02/11/2022 ayment Type Credit Account anual Ticket#	ON WYSI		Vehicle# Container Driver	SELF H W-40S KURTIS		Volume	
oute AK auling Ticket# estination			Check# Billing# Grid	000018	8		
D# AA 22 1653/116766WA Time Sc.	ale LE 1	lme	erator ercer ercer		Inbound	Gross Tare Net Tons	62400 11 28480 11 33920 11 16,9
omments WYSER - IM							
roduct	LD%	Qty	UOM	Rate	Tax	Amount	Origin
Daily Cover-PCS-Tons-Pet EVFt-P6-Environmental Fe GONDOLA T-GONDOLA TON	100 100 100	16.96 16.96	Tons % Tons		_		KING
					Total Ta Total T		
iver`s Signature							
Alaska 70 S Al	laska S	Street		Ph	: 206 763	Original Ticket# 5025	
Alaska 70 S Alaska 70 S Alaska Seattle ustomer Name WYSER CONSTRUCT	laska S e, WA,	Street 98134			HAULER *	Ticket# 5025	
Alaska 70 S Al Seattle ustomer Name WYSER CONSTRUCT icket Date 02/11/2022 ayment Type Credit Account anual Ticket#	laska S e, WA,	Street 98134	Vehicle# Container Driver	SELF W-40S	HAULER *	Ticket#	
Alaska 70 S Alaska 70 S Alaska 70 S Alaska vwaste Management ustomer Name WYSER CONSTRUCT icket Date 02/11/2022 ayment Type Credit Account anual Ticket# oute AK auling Ticket# estination	laska S e, WA,	Street 98134	Vehicle# Container	SELF W-40S	HAULER * S	Ticket# 5025	
Alaska 70 S Alaska 70 S Alaska 70 S Alaska vaste Management ustomer Name WYSER CONSTRUCT icket Date 02/11/2022 ayment Type Credit Account anual Ticket# oute AK auling Ticket# estination 0# AA 22 1653/116766WA Time Sc	laska S e, WA,	Street 98134 SER CONS O 1m	Vehicle# Container Driver Check# Billing#	SELF W-40S KURTI	HAULER * S	Ticket# 5025	

Pro	duct	TD%	QEY	UOM	Rate	Tax	Amount	Origin
1 2 3	Daily Cover-PCS-Tons-Pet EVFt-P6-Environmental Fe GONDOLA T-GONDOLA TON	100 100 100	18,73 18,73	Tons % Tons				KING KING KING
						Total Ta		

1

t. T

Driver`s Signature



### EXPORT MATERIALS LOG

## Anderson & Associates Midas - Limited Clean-Up

### AA-22-1653

# DATE: February 14, 2022

LOAD	TRUCKING	MANIFEST	DUMP	ESTIMATED	LOCATION	1	TYPE OF	TONNAGE
NO.	COMPANY	#	TIME	QUANTITY		DATE	MATERIALS	SLIPS
1	Silver Streak # 127	230327/175103	7:56 AM	13.70 ton	Waste Management	2/14/2022	Class 3 Soil	13.70
	Silver Streak # 127	230327/175111	10:06 AM	13.75 ton	Waste Management	2/14/2022	Class 3 Soil	13.75
	Silver Streak # 127	230327/175121	11:59 AM	13.78 ton	Waste Management	2/14/2022	Class 3 Soil	13.78
	Silver Streak # 127	230327/175127	2:06 PM	15.56 ton	Waste Management	2/14/2022	Class 3 Soil	15.56
5		1					-	
6							X	
7								
8					5 ×			
9						1 ·····	12	
10						I		
11					1		· · · · · · · · · · · · · · · · · · ·	1
12			2			1		
13					* · · · · · · · · · · · · · · · · · · ·			
14								
15						1		
16								
17								
18						1	1	
19					Class	3 Soil	Total Tons	56.79
20	4							1
21			1					1
22			1					
23			1					

Driver's Signature

Total Tax Total Ticket

1º

2)

KINC		anoT % anoT	57.51 27,51	00T 00T 00T	<pre>1 Daily Cover-PCS-Tons-Pet 2 EVEt-P6-Environmental Te 3 GONDOLA T-GONDOLA TON</pre>
πέφέτΟ στώσιά	Хате Тах	NOM	δελ	rD#	Product
27.51 snoT					MA - STRK - LM
Tare 26180 11 Net 27500 11		rcer rcer	утше	I EI	
Gross 23680 II	punoquI	rotera	dO	alsc	AW337311\E231 SS AA #09 92 9miT
	8810000	Grid Billing#			iauling Ticket# Belination
	AMAIJJIW NAJON	Check# Container Container			syment Type Credit Account Ianual Ticket# Youte AK
əmulov	SELF HAULER *	Vehicle#	SNOD 83	ISAM NO	USTONEY Name WYSER CONSTRUCT) Licket Date 02/14/2022
6025 Тіске́с# 175111 Отіділаl	s ε94 907 :ча		98134 5194	: Street Laska St AB, S	
					θτυσεπ <u>φ</u> ία ε <sup>γ</sup> τθνί
	xsT IsjoT DiT IsjoT				θτυμεπρίζ ε΄ιθνί
		suoT %	0 <i>L</i> ,EI	00T 00T	БУЕС-Р6-ЕЛУІТОПМЕЛЕЗТ F2 БОИДОLА Т-GONDOLA TON
		suoT ganoT	07.EI 07.EI	100 C C	КОИРОГА Т-GONDOLA ТОИОО
-		enoT 8		OOT	Сомрогд Т-GONDOLA T-GONDOLA T-GONDOLA T-GONDOLA T-GONDOLA TON БУFС-Рб-Елчіголтельд ТОМ Сомрогд Т-GONDOLA TON
RING	xsT lstoT	enoT 8	0 <i>L</i> 'ET	001 001	roduct Baily Cover-PCS-Tons-Pet EVFt-P6-Environmental Fe GONDOLA T-GONDOLA TON
707.£1 20.70 Атоилс Огідіп КІИС	xsT 91s8	NOU ****	73.70 QEY	100 100 100%	omments SS - LM Counct Baily Cover-PCS-Tons-Pet EVFt-P6-Environmental Fe GONDOLA T-GONDOLA TON
Stoss 53580 lb Tare 26180 lb Net 27400 lb Nonat 27400 lb Fona 13.70 KING KING	xsT 91sA	enoT 8	13.70 Ф£У	001 001	Time Sc n 02/14/2022 07:56:37 SCA wt 02/14/2022 08:05:57 SCA Daily Cover-PCS-Tons-Pet EVFt-P6-Environmental Fe GONDOLA T-GONDOLA TON GONDOLA T-GONDOLA TON
Tare 26180 1b Net 27400 1b Amount Origin KING	xsT 91s8	#prillia stid rator coer toer * anoT * *	13.70 Тте Орс Орс	100 100 108 108 108 109 109 109 109 109 109 109 109 109 109	Gondord Ticket# setination Time AA 22 1653/116766WA at 02/14/2022 08:05:57 5CA at 02/14/2022 08:05 at 02/14/2022 08:
Stoss 53580 lb Rare 26180 lb Net 27400 lb Amount Origin KING	bnuodnī xsT 91sA xsT 1stoT	Tiver Jriver Jrick# Jrid Jrotor Cet Toor foor foor foor foor foor foor foor	13.70 деу деу орс орс орс 1	100 100 108 108 108 109 109 109 109 109 109 109 109 109 109	EVFC-P6-Environmental Ficket# auling Ticket# estination 0# AA 22 1653/116766WA aut 02/14/2022 07:56:37 5CA ut 02/14/2022 08:05:57 5CA aut 02/14/2022 08:05:57 5CA SCA aut 02/14/2022 08:05:57 5CA SCA aut 02/14/2022 08:05:57 5CA aut 02/14/2022 08:05:57 5CA SCA aut 02/14/2022 08:05:57 5CA SCA aut 02/14/2022 08:05:57 5CA aut 02/14/2022 08:05:57 5CA SCA aut 02/14/2022 08:05:57 5CA SCA SCA aut 02/14/2022 08:05:57 5CA SCA aut 02/14/2022 08:05:57 5CA SCA aut 02/14/2022 08:05:57 5CA SCA aut 02/14/2022 08:05:57 5CA aut 02/14/5022 08:052 5CA aut 02/14/5022 5CA aut 02/14/5022 5CA aut 02/14/5022 5CA aut 02/14/5022 5CA aut 02/14
Stoss 53580 lb Rare 26180 lb Net 27400 lb Fona 13,70 Amount Origin KING	8810000 bnuodn1 xsT 9459 xsT 1570T	Vehicle# Sontainer Sineck# Silling# Srid Sreer Sreer Sreer Sreer Scer Stoa Stoa Stoa Stoa Stoa Stoa Stoa Stoa	13.70 деу деу орб орб орб орб орб орб орб орб орб орб	100 100 ID <i>%</i> I'E J 976	anual Ticket# buling Ticket# suling Ticket# setination 0# AA 22 1653/116766WA Time n 02/14/2022 07:56:37 5CA Time n 02/14/2022 08:05:57 5CA SCA onments 55 - LM roduct EVFt-P6-Environmental Fe EVFt-P6-Environmental Fe GONDOLA T-GONDOLA TON

Alaska Street 70 S Alaska St Seattle, WA, 9		Ph: 206 763	Origina Ticket# 5025	
Customer Name WYSER CONSTRUCTION WYSE Ticket Date 02/14/2022 Payment Type Credit Account Manual Ticket# Route AK Hauling Ticket# Destination	Vehicle# Container Driver 1 Check#	SELF HAULER * SS127S NOLAN WILLIAMS 0000188	Volume	
PO# AA 22 1653/116766WA Time Scale In 02/14/2022 11:59:34 SCALE 1 Out 02/14/2022 11:59:34 Comments SLVR STRK - LM	Operator Imercer Imercer	Inbound	Gross Tare Net Tons	53740 lb 26180 lb 27560 lb 13.78

Pro	duct	LD%	Qty	NOU	Rate	Tax	Amount	Origin
1	Daily Cover-PCS-Tons-Pet	100	13.78	Tons				KING
2	EVFt-P6-Environmental Fe	100		90				KING
3	GONDOLA T-GONDOLA TON	100	13.78	Tons				KING

Driver's Signature



Alaska Street 70 S Alaska Street Seattle, WA, 98134

Original Ticket# 175127

#### Ph: 206 763 5025

Customer Name WYSER CONSTRUCTION WYSER Ticket Date 02/14/2022 Payment Type Credit Account	CONS Carrier Vehicle# Container	SELF HAULER * SS127S	Volume	
Manual Ticket# Route AK	Driver Check#	NOLAN WILLIAMS		
Hauling Ticket# Destination PO# AA 22 1653/116766WA	Billing# Grid	0000188		
Time Scale In 02/14/2022 14:06:32 SCALE 1 Out 02/14/2022 14:06:32 Comments SLVR STRK - LM	Operator 1mercer 1mercer	Inbound	Gross Tare Net Tons	57300 1b 26180 1b 31120 1b 15.56

Pro	duct	LD%	Qty	UOM	Rate	Tax	Amount	Origin
1 2 3	Daily Cover-PCS-Tons-Pet EVFt-P6-Environmental Fe GONDOLA T-GONDOLA TON		15.56 15.56	8				KING KING KING

Total Tax Total Ticket

Driver's Signature


### EXPORT MATERIALS LOG

AA-22-1653

### Anderson & Associates Midas - Limited Clean-Up

#### TYPE OF TONNAGE LOCATION ESTIMATED DUMP LOAD TRUCKING MANIFEST MATERIALS DATE SLIPS TIME COMPANY # QUANTITY NO. **JEV Recycling** 2/15/2022 Concrete 12.0 cy 2:26 PM 12.0 CY 1 Wyser Construction 4688/39365 2 14.55 2/15/2022 Class 3 Soil 7:26 AM 14.55 ton 3 Silver Streak #127 230328/175129 Waste Management 14.05 Class 3 Soil 9:32 AM 14.05 ton Waste Management 2/15/2022 230328/175148 4 Silver Streak #127 13.39 2/15/2022 Class 3 Soil 11:11 AM 13.39 ton 5 Silver Streak #127 Waste Management 230328/175160 12.46 54.45 2/15/2022 1:50 PM 12.46 ton Waste Management Class 3 Soil 6 Silver Streak #127 230328/175177 2/15/2022 13.18 Class 3 Soil 220140/175130 7:44 AM 13.18 ton Waste Management 7 Silver Streak #167 14.46 ton Waste Management 2/15/2022 Class 3 Soil 14.46 9:53 AM 220140/175151 8 Silver Streak #167 2/15/2022 Class 3 Soil 14.21 41.85 Waste Management 11:48 AM 220140/175167 14.21 ton 9 Silver Streak #167 10 11 12 13 14 15 16 17 18 12.0 cy Concrete Total Yards 19 Total Tons 96.30 Class 3 Soil 20 21 22 23

### DATE: February 15, 2022

100 12 ·\*\*<u>i</u> 15.1 - · · · ×.  ${\cal N}$ - 20.2 Sizio ä., 522 1 ł 1 ; 1 1 1 CONCECTE REMOVAC 10 ÷. \*

Original Alaska Street Ticket# 175129 70 S Alaska Street Ph: 206 763 5025 Seattle, WA, 98134 MASTE MANAGEMENT Customer Name WYSER CONSTRUCTION WYSER CONS Carrier SELF HAULER \* Ticket Date 02/15/2022 Vehicle# SS127S Volume Ticket Date 02/15/2022 Payment Type Credit Account Container Driver NOLAN WILLIAMS Manual Ticket# Check# Route AK Hauling Ticket# Billing# 0000188 Grid Destination AA 22 1653/116766WA PO# 55280 lb Inbound Gross Scale Operator Time 26180 lb 29100 lb Tare In 02/15/2022 07:26:23 lmercer SCALE 1 lmercer Net Out 02/15/2022 07:26:23 14.55 Tons Comments SLVR STRK - LM

Pro	duct	LD%	Qty	MOU	Rate	Tax	Amount	Origin
1 2 3	Daily Cover-PCS-Tons-Pet EVFt-P6-Environmental Fe GONDOLA T-GONDOLA TON		14.55 14.55	Tons % Tons				KING

Total Tax Total Ticket

Original

Driver's Signature

Aleska Chucat

VUAS	Alaska 70 S Al STE MANAGEMENT Seattle	aska St			Ph:	206 763	Ticket#	
Tick Paym Manu Rout Haul Dest	ing Ticket# ination	ON WYSE		Carrier Vehicle# Container Driver Check# Billing# Grid	SS127S NOLAN	WILLIAMS	Volume	
PO# In Out Comr		ale LE l	1 me	berator ercer ercer		Inbound	Gross Tare Net Tons	54280 lb 26180 lb 28100 lb 14.05
Prod	duct	LD%	Qty	UOM	Rate	Тах	Amount	Origin
1 2 3	Daily Cover-PCS-Tons-Pet EVFt-P6-Environmental Fe GONDOLA T-GONDOLA TON	100 100 100	14.05 14.05	Tons % Tons	, tara ( anna 1997) ann, bhail Ann			KING

Total Tax Total Ticket

WASTE MANAGEMENT Alaska Street 70 S Alaska Street Seattle, WA, 90		Ph: 206 763		1 175160
Ticket Date 02/15/2022 Payment Type Credit Account Manual Ticket# Route AK Hauling Ticket# Destination	R CONS Carrier Vehicle# Container Driver Check# Billing# Grid	SELF HAULER * SS127S NOLAN WILLIAMS 0000188	Volume	
PO# AA 22 1653/116766WA Time Scale In 02/15/2022 11:11:37 SCALE 1 Out 02/15/2022 11:11:37 Comments SS - LM	Operator 1mercer 1mercer	Inbound	Gross Tare Net Tons	52960 lb 26180 lb 26780 lb 13.39

Pro	duct	LD%	Qty	MOU	Rate	Tax	Amount	Origin
1 2 3	Daily Cover-PCS-Tons-Pet EVFt-P6-Environmental Fe GONDOLA T-GONDOLA TON		13.39 13.39	Tons % Tons				KING KING KING

Total Tax Total Ticket  +



Alaska Street 70 S Alaska Street Seattle, WA, 98134

Original Ticket# 175177 Ph: 206 763 5025

1.0

Customer Name WYSER CONSTRUCTION WYSER CONS Carrier Ticket Date 02/15/2022 Vehicle# Payment Type Credit Account Containe: Manual Ticket# Driver SELF HAULER \* Vehicle# SS127S Volume Container NOLAN WILLIAMS Driver Route AK Check# Hauling Ticket# Billing# 0000188 Destination Grid PO# AA 22 1653/116766WA Time Scale Operator Inbound In 02/15/2022 13:50:02 Out 02/15/2022 13:50:02 Gross 51100 lb SCALE 1 lmercer Tare 26180 lb lmercer Net 24920 lb Tons 12.46 Comments SS - LM

Pro	duct	LD%	Qty	NON	Rate	Tax	Amount	Origin
1 2 3	Daily Cover-PCS-Tons-Pet EVFt-P6-Environmental Fe GONDOLA T-GONDOLA TON	100 100 100	12.46	Tons % Tons				KING

Total Tax Total Ticket

MASTE MANAGEMENT Alaska 70 S Al Seattle	aska Si			Ph: 2	06 763	Original Ticket# 5025	
Customer Name WYSER CONSTRUCTI Ticket Date 02/15/2022 Payment Type Credit Account Manual Ticket# Route AK	ON WYSI		Carrier Vehicle# Container Driver Check#	SELF HAU SS167S CAMERON		Volume	
Hauling Ticket# Destination PO# AA 22 1653/116766WA			Billing# Grid	0000188			
Time Sc In 02/15/2022 07:44:04 SCA	LE 1 LE 1	lme	erator ercer ercer	In	bound	Gross Tare Net	52640 26280 26360
Comments SLVR STRK - LM						Tons	13.3
Product	LD%	Qty	UOM	Rate	Tax	Amount	Origi
1 Daily Cover-PCS-Tons-Pet 2 EVFt-P6-Environmental Fe 3 GONDOLA T-GONDOLA TON	100 100 100	13.18 13.18	Tons % Tons				KING
					4.1.5		
					otal Ta otal Ti		
river`s Signature							
river`s Signature							
river's Signature Alaska 70 S Al Seattle	aska St			Ţ		Cket Original Ticket#	
Alaska 70 S Al WASTE MANAGEMENT Customer Name WYSER CONSTRUCTI Ticket Date 02/15/2022	aska St a, WA, S	98134	Vehicle#	Ph: 2 SELF HAU SS167S	otal Ti 06 763	Cket Original Ticket#	
Alaska 70 S Al WASTE MANAGEMENT Customer Name WYSER CONSTRUCTI Ticket Date 02/15/2022 Payment Type Credit Account Manual Ticket#	aska St a, WA, S	98134	Vehicle# Container Driver	Ph: 2 SELF HAU SS167S	otal Ti 06 763 NLER *	Original Ticket# 5025	
Alaska 70 S Al WASTE MANAGEMENT Customer Name WYSER CONSTRUCTI Ticket Date 02/15/2022 Payment Type Credit Account Manual Ticket# Route AK Hauling Ticket# Destination	aska St a, WA, S	98134	Vehicle# Container	Ph: 2 SELF HAU SS167S CAMERON	otal Ti 06 763 NLER *	Original Ticket# 5025	
Alaska 70 S Al WASTE MANAGEMENT Customer Name WYSER CONSTRUCTI Ticket Date 02/15/2022 Payment Type Credit Account Manual Ticket# Route AK Hauling Ticket# Destination PO# AA 22 1653/116766WA Time Sc	aska St a, WA, S	98134 ER CONS Or lme	Vehicle# Container Driver Check# Billing#	Ph: 2 SELF HAU SS167S CAMERON 0000188	otal Ti 06 763 NLER *	Cket Original Ticket# 5025 Volume Gross Tare Net	175151 55200 26280 28920
Alaska 70 S Al Seattle Customer Name WYSER CONSTRUCTI Ticket Date 02/15/2022 Payment Type Credit Account Manual Ticket# Route AK Hauling Ticket# Destination PO# AA 22 1653/116766WA Time Sc In 02/15/2022 09:53:42 SCA	cale	98134 ER CONS Or lme	Vehicle# Container Driver Check# Billing# Grid Derator Ercer	Ph: 2 SELF HAU SS167S CAMERON 0000188	OG 763 LER * PHELAN	Original Ticket# 5025 Volume Gross Tare	175151 55200 26280 28920
Alaska 70 S Al Seattle Customer Name WYSER CONSTRUCTI Ticket Date 02/15/2022 Payment Type Credit Account Manual Ticket# Route AK Hauling Ticket# Destination PO# AA 22 1653/116766WA Time Sc In 02/15/2022 09:53:42 SCA Out 02/15/2022 09:53:42	cale	98134 ER CONS Or lme	Vehicle# Container Driver Check# Billing# Grid Derator Ercer	Ph: 2 SELF HAU SS167S CAMERON 0000188	OG 763 LER * PHELAN	Cket Original Ticket# 5025 Volume Gross Tare Net	

Total Tax Total Ticket

70	ska Street S Alaska Str ttle, WA, 98		Ph: 206 763		175167
Customer Name WYSER CONSTF Ticket Date 02/15/2022 Payment Type Credit Accou Manual Ticket# Route AK Hauling Ticket# Destination		CONS Carrier Vehicle# Container Driver Check# Billing# Grid	SELF HAULER * SS167S CAMERON PHELAN 0000188	Volume	
PO# AA 22 1653/116766 Time In 02/15/2022 11:48:24 Out 02/15/2022 11:48:24 Comments SS - LM	WA Scale SCALE 1	Operator Imercer Imercer	Inbound	Gross Tare Net Tons	54700 lb 26280 lb 28420 lb 14,21

Pro	duct	LD%	Qty	UOM	Rate	Tax	Amount	Origin
1 2 3	Daily Cover-PCS-Tons-Pet EVFt-P6-Environmental Fe GONDOLA T-GONDOLA TON	100 100 100	14.21 14.21	Tons % Tons				KING

Total Tax Total Ticket а

### **APPENDIX B**

### FIELD SAMPLING

All sampling tools were cleaned prior to and in between samples to reduce the potential for cross contamination. New nitrile gloves were donned for each individual sample. An excavator operated by Wyser Construction was used to collect samples where the excavation could not be entered and maintain OHSA safety regulations.

A representative of our firm continuously monitored the excavation and kept a detailed record of each sample location and depth. Samples recovered during the site explorations were logged by our representative and placed into laboratory-prepared glassware. All samples were refrigerated pending delivery to Onsite Environmental Inc. in Redmond, Washington. We followed chain of custody protocols for all samples.

Samples were screened in the field using PID headspace readings, visual, and odor observations. All soils with an incidental odor, were excavated and hauled offsite from the remedial excavation that took place in March of 2021.

The above methods describe sampling for the remedial excavation only. Refer to Phase II reports attached in Appendix A for sampling procedures related to initial site investigation sampling.

### APPENDIX C

### LABORATORY ANALYTICAL DATA

### ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D. Yelena Aravkina, M.S. Michael Erdahl, B.S. Vineta Mills, M.S. Eric Young, B.S. 3012 16th Avenue West Seattle, WA 98119-2029 (206) 285-8282 fbi@isomedia.com www.friedmanandbruya.com

February 16, 2022

Chuck Lie, Project Manager Terra Associates 12220 113<sup>th</sup> Ave NE Suite 130 Kirkland, WA 98034

Dear Mr Lie:

Included are the results from the testing of material submitted on February 7, 2022 from the 8336-5, F&BI 202101 project. There are 7 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 should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl Project Manager

Enclosures c: Carol Jones (AP) NAA0216R.DOC

## ENVIRONMENTAL CHEMISTS

# CASE NARRATIVE

This case narrative encompasses samples received on February 7, 2022 by Friedman & Bruya, Inc. from the Terra Associates 8336-5, F&BI 202101 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Terra Associates</u>
202101 -01	8336-7-1
202101 -02	8336-7-2
202101 -03	8336-7-3
202101 -04	8336-7-4
202101 -05	8336-7-5
202101 -06	8336-7-6

Sample 8336-7-4 was sent to Fremont Analytical for EPH and VPH analysis. The report is enclosed.

All quality control requirements were acceptable.

### ENVIRONMENTAL CHEMISTS

Date of Report: 02/16/22 Date Received: 02/07/22 Project: 8336-5, F&BI 202101 Date Extracted: 02/07/22 Date Analyzed: 02/07/22

### RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx

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

<u>Sample ID</u> Laboratory ID	Diesel Range (C10-C25)	Motor Oil Range (C25-C36)	Surrogate <u>(% Recovery)</u> (Limit 53-144)
8336-7-1 202101-01	<50	<250	92
8336-7-2 202101-02	<50	<250	93
8336-7-3 202101-03	<50	<250	93
8336-7-4 202101-04	5,900 x	8,700	80
8336-7-5 202101-05	5,800 x	5,900	86
8336-7-6 202101-06	<50	<250	93
Method Blank 02-377 MB	<50	<250	91

# ENVIRONMENTAL CHEMISTS

# Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID: Date Received: Date Extracted: Date Analyzed: Matrix: Units:	8336-7-4 02/07/22 02/08/22 02/09/22 Soil mg/kg (ppm	) Dry Weight	Client: Project: Lab ID: Data File: Instrument: Operator:	Terra Associates 8336-5, F&BI 202101 202101-04 1/25 020912.D GCMS9 VM
Surrogates: 2-Fluorophenol Phenol-d6 Nitrobenzene-d5 2-Fluorobiphenyl 2,4,6-Tribromopher Terphenyl-d14	nol	% Recovery: 64 d 73 d 78 d 89 d 75 d 101 d	Lower Limit: 24 37 38 45 11 50	Upper Limit: 111 116 117 117 158 124
		Concentration		
Compounds:		mg/kg (ppm)		
Naphthalene		< 0.05		
2-Methylnaphthale		< 0.05		
1-Methylnaphthale		< 0.05		
Benz(a)anthracene		< 0.05		
Chrysene		0.053		
Benzo(a)pyrene		< 0.05		
Benzo(b)fluoranthe		< 0.05		
Benzo(k)fluoranthe		< 0.05		
Indeno(1,2,3-cd)py		< 0.05		
Dibenz(a,h)anthrac	cene	< 0.05		

# ENVIRONMENTAL CHEMISTS

# Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID: Date Received: Date Extracted: Date Analyzed: Matrix: Units:	Method Blank Not Applicable 02/08/22 02/08/22 Soil mg/kg (ppm) Dry Weight	Client: Project: Lab ID: Data File: Instrument: Operator:	Terra Associates 8336-5, F&BI 202101 02-389 mb 1/5 020810.D GCMS9 VM
Surrogates: 2-Fluorophenol Phenol-d6 Nitrobenzene-d5 2-Fluorobiphenyl 2,4,6-Tribromopher Terphenyl-d14	% Recovery: 81 86 89 88 nol 78 92	Lower Limit: 24 37 38 45 11 50	Upper Limit: 111 116 117 117 158 124
	Concentration	L	
Compounds:	mg/kg (ppm)		
Naphthalene	< 0.01		
2-Methylnaphthale	ene <0.01		
1-Methylnaphthale	ene <0.01		
Benz(a)anthracene	< 0.01		
Chrysene	< 0.01		
Benzo(a)pyrene	< 0.01		
Benzo(b)fluoranthe			
Benzo(k)fluoranthe			
Indeno(1,2,3-cd)pyr			
Dibenz(a,h)anthrac	cene <0.01		

## ENVIRONMENTAL CHEMISTS

Date of Report: 02/16/22 Date Received: 02/07/22 Project: 8336-5, F&BI 202101

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

Laboratory Code: 2	202088-01 (Matri	x Spike)					
			Sample	Percent	Percent		
	Reporting	Spike	Result	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	(Wet Wt)	MS	MSD	Criteria	(Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	43,000	0 b	0 b	64-133	nm b
Laboratory Code: I	Laboratory Contr	ol Sampl	le				
			Percent				
	Reporting	Spike	Recover	y Accept	tance		
Analyte	Units	Level	LCS	Crite	eria		
Diesel Extended	mg/kg (ppm)	5,000	86	58-1	47		

### ENVIRONMENTAL CHEMISTS

Date of Report: 02/16/22 Date Received: 02/07/22 Project: 8336-5, F&BI 202101

## QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR SEMIVOLATILES BY EPA METHOD 8270E

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Laboratory Code: 202043-01 1/5 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Naphthalene	mg/kg (ppm)	0.83	< 0.01	72	75	34-118	4
2-Methylnaphthalene	mg/kg (ppm)	0.83	< 0.01	72	77	29-130	7
1-Methylnaphthalene	mg/kg (ppm)	0.83	< 0.01	72	77	37-119	7
Benz(a)anthracene	mg/kg (ppm)	0.83	< 0.01	80	82	50 - 150	2
Chrysene	mg/kg (ppm)	0.83	< 0.01	84	85	50 - 150	1
Benzo(a)pyrene	mg/kg (ppm)	0.83	< 0.01	80	83	50 - 150	4
Benzo(b)fluoranthene	mg/kg (ppm)	0.83	< 0.01	83	87	50 - 150	5
Benzo(k)fluoranthene	mg/kg (ppm)	0.83	< 0.01	82	89	50 - 150	8
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.83	< 0.01	79	77	41-134	3
Dibenz(a,h)anthracene	mg/kg (ppm)	0.83	< 0.01	84	78	44-130	7

### Laboratory Code: Laboratory Control Sample 1/5

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Naphthalene	mg/kg (ppm)	0.83	84	58-108
2-Methylnaphthalene	mg/kg (ppm)	0.83	86	67-108
1-Methylnaphthalene	mg/kg (ppm)	0.83	86	66-107
Benz(a)anthracene	mg/kg (ppm)	0.83	93	70-130
Chrysene	mg/kg (ppm)	0.83	96	70-130
Benzo(a)pyrene	mg/kg (ppm)	0.83	91	68-120
Benzo(b)fluoranthene	mg/kg (ppm)	0.83	91	69-125
Benzo(k)fluoranthene	mg/kg (ppm)	0.83	95	70-130
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.83	94	67-129
Dibenz(a,h)anthracene	mg/kg (ppm)	0.83	98	67-128

### ENVIRONMENTAL CHEMISTS

# **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.

 ${\rm J}$  - 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.



3600 Fremont Ave. N. Seattle, WA 98103 T: (206) 352-3790 F: (206) 352-7178 info@fremontanalytical.com

Friedman & Bruya Michael Erdahl 3012 16th Ave. W. Seattle, WA 98119

RE: 202101 Work Order Number: 2202182

February 15, 2022

### Attention Michael Erdahl:

Fremont Analytical, Inc. received 1 sample(s) on 2/8/2022 for the analyses presented in the following report.

### Extractable Petroleum Hydrocarbons by NWEPH Volatile Petroleum Hydrocarbons by NWVPH

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Brianna Barnes Project Manager

**CC:** Chuck Lie Nick Hoffman

DoD-ELAP Accreditation #79636 by PJLA, ISO/IEC 17025:2017 and QSM 5.3 for Environmental Testing ORELAP Certification: WA 100009 (NELAP Recognized) for Environmental Testing Washington State Department of Ecology Accredited for Environmental Testing, Lab ID C910



CLIENT: Project: Work Order:	Friedman & Bruya 202101 2202182	Work Order S	Sample Summary
Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received 02/08/2022 10:37 AM
2202182-001	8336-7-4	02/07/2022 12:20 PM	

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned



**Case Narrative** 

WO#: **2202182** Date: **2/15/2022** 

CLIENT:Friedman & BruyaProject:202101

I. SAMPLE RECEIPT:

Samples receipt information is recorded on the attached Sample Receipt Checklist.

### II. GENERAL REPORTING COMMENTS:

Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

### **III. ANALYSES AND EXCEPTIONS:**

Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

# **Qualifiers & Acronyms**



WO#: **2202182** Date Reported: **2/15/2022** 

### Qualifiers:

- \* Flagged value is not within established control limits
- B Analyte detected in the associated Method Blank
- D Dilution was required
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- I Analyte with an internal standard that does not meet established acceptance criteria
- J Analyte detected below Reporting Limit
- N Tentatively Identified Compound (TIC)
- Q Analyte with an initial or continuing calibration that does not meet established acceptance criteria
- S Spike recovery outside accepted recovery limits
- ND Not detected at the Reporting Limit
- R High relative percent difference observed

Acronyms:

%Rec - Percent Recovery CCB - Continued Calibration Blank CCV - Continued Calibration Verification **DF** - Dilution Factor **DUP** - Sample Duplicate HEM - Hexane Extractable Material **ICV** - Initial Calibration Verification LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate MCL - Maximum Contaminant Level MB or MBLANK - Method Blank MDL - Method Detection Limit MS/MSD - Matrix Spike / Matrix Spike Duplicate PDS - Post Digestion Spike Ref Val - Reference Value **REP - Sample Replicate** RL - Reporting Limit **RPD** - Relative Percent Difference SD - Serial Dilution SGT - Silica Gel Treatment SPK - Spike Surr - Surrogate



# **Analytical Report**

 Work Order:
 2202182

 Date Reported:
 2/15/2022

Client: Friedman & Bruya Project: 202101				Collection	Date:	2/7/2022 12:20:00 PM
Lab ID: 2202182-001				Matrix: Sc	oil	
Client Sample ID: 8336-7-4	Desult	Ы	Qual	Unite		Date Analyzad
Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Extractable Petroleum Hydrocar	bons by NWE	<u>PH</u>		Batch	ID: 3	5225 Analyst: MM
Aliphatic Hydrocarbon (C8-C10)	ND	20.7		mg/Kg-dry	1	2/14/2022 4:29:58 PM
Aliphatic Hydrocarbon (C10-C12)	ND	10.3		mg/Kg-dry	1	2/14/2022 4:29:58 PM
Aliphatic Hydrocarbon (C12-C16)	136	10.3		mg/Kg-dry	1	2/14/2022 4:29:58 PM
Aliphatic Hydrocarbon (C16-C21)	1,640	10.3		mg/Kg-dry	1	2/14/2022 4:29:58 PM
Aliphatic Hydrocarbon (C21-C34)	12,400	103	D	mg/Kg-dry	10	2/14/2022 3:35:54 PM
Aromatic Hydrocarbon (C8-C10)	ND	20.7		mg/Kg-dry	1	2/14/2022 7:10:03 PM
Aromatic Hydrocarbon (C10-C12)	ND	10.3		mg/Kg-dry	1	2/14/2022 7:10:03 PM
Aromatic Hydrocarbon (C12-C16)	16.2	10.3		mg/Kg-dry	1	2/14/2022 7:10:03 PM
Aromatic Hydrocarbon (C16-C21)	717	10.3		mg/Kg-dry	1	2/14/2022 7:10:03 PM
Aromatic Hydrocarbon (C21-C34)	1,540	10.3		mg/Kg-dry	1	2/14/2022 7:10:03 PM
Surr: 1-Chlorooctadecane	92.2	60 - 140		%Rec	1	2/14/2022 4:29:58 PM
Surr: o-Terphenyl	68.4	60 - 140		%Rec	1	2/14/2022 7:10:03 PM
Volatile Petroleum Hydrocarbon	<u>s by NWVPH</u>			Batch	ID: 3	5309 Analyst: SG
Aliphatic Hydrocarbon (C5-C6)	ND	2.58		mg/Kg-dry	1	2/9/2022 8:13:00 AM
Aliphatic Hydrocarbon (C6-C8)	ND	1.55		mg/Kg-dry	1	2/9/2022 8:13:00 AM
Aliphatic Hydrocarbon (C8-C10)	ND	2.58		mg/Kg-dry	1	2/9/2022 8:13:00 AM
Aliphatic Hydrocarbon (C10-C12)	ND	0.516		mg/Kg-dry	1	2/9/2022 8:13:00 AM
Aromatic Hydrocarbon (C8-C10)	ND	3.10		mg/Kg-dry	1	2/9/2022 8:13:00 AM
Aromatic Hydrocarbon (C10-C12)	3.30	0.516		mg/Kg-dry	1	2/9/2022 8:13:00 AM
Aromatic Hydrocarbon (C12-C13)	15.3	0.516		mg/Kg-dry	1	2/9/2022 8:13:00 AM
Surr: 1,4-Difluorobenzene	74.9	65 - 140		%Rec	1	2/9/2022 8:13:00 AM
Surr: Bromofluorobenzene	93.2	65 - 140		%Rec	1	2/9/2022 8:13:00 AM



Date: 2/15/2022

### Work Order: 2202182

CLIENT: Friedman & Bruya

### QC SUMMARY REPORT

### Extractable Petroleum Hydrocarbons by NWEPH

Project: 202101						Extra	ctable I	Petroleum F	lydrocarb	ons by N	IVVEF
Sample ID: MB-35225	SampType: MBLK			Units: mg/Kg		Prep Date	: 2/2/202	22	RunNo: 732	251	
Client ID: MBLKS	Batch ID: 35225					Analysis Date	: 2/14/20	)22	SeqNo: 149	97194	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit I	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qua
Aliphatic Hydrocarbon (C8-C10)	ND	20.0									
Aliphatic Hydrocarbon (C10-C12)	ND	10.0									
Aliphatic Hydrocarbon (C12-C16)	ND	10.0									
Aliphatic Hydrocarbon (C16-C21)	ND	10.0									
Aliphatic Hydrocarbon (C21-C34)	ND	10.0									
Surr: 1-Chlorooctadecane	82.4		100.0		82.4	60	140				
Sample ID: LCS-35225	SampType: LCS			Units: mg/Kg		Prep Date	: 2/2/202	22	RunNo: 732	251	
Client ID: LCSS	Batch ID: 35225					Analysis Date	: 2/14/20	)22	SeqNo: 149	97195	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit I	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qua
Aliphatic Hydrocarbon (C8-C10)	104	20.0	250.0	0	41.7	15.7	130				
Aliphatic Hydrocarbon (C10-C12)	88.3	10.0	125.0	0	70.7	70	130				
Aliphatic Hydrocarbon (C12-C16)	104	10.0	125.0	0	83.3	70	130				
Aliphatic Hydrocarbon (C16-C21)	106	10.0	125.0	0	85.2	70	130				
Aliphatic Hydrocarbon (C21-C34)	154	10.0	125.0	0	123	70	130				
Surr: 1-Chlorooctadecane	91.4		100.0		91.4	60	140				
Sample ID: LCS-35225	SampType: LCS			Units: mg/Kg		Prep Date	: 2/2/202	22	RunNo: 733	302	
Client ID: LCSS	Batch ID: 35225					Analysis Date	: 2/14/20	22	SeqNo: 149	97335	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit I	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qua
Aromatic Hydrocarbon (C8-C10)	171	20.0	250.0	0	68.3	16.9	130				
Aromatic Hydrocarbon (C10-C12)	87.6	10.0	125.0	0	70.1	70	130				
Aromatic Hydrocarbon (C12-C16)	91.0	10.0	125.0	0	72.8	70	130				
Aromatic Hydrocarbon (C16-C21)	96.2	10.0	125.0	0	76.9	70	130				
Aromatic Hydrocarbon (C21-C34)	137	10.0	125.0	0	109	70	130				
Surr: o-Terphenyl	84.1		100.0		84.1	60	140				

Original



Date: 2/15/2022

### Work Order: 2202182

CLIENT: Friedman & Bruya Project: 202101

## QC SUMMARY REPORT

### Extractable Petroleum Hydrocarbons by NWEPH

Sample ID: MB-35225	SampType: MBLK			Units: mg/Kg		Prep Da	te: 2/2/202	22	RunNo: 733	802		
Client ID: MBLKS	Batch ID: 35225					Analysis Date: 2/14/2022				SeqNo: 1497398		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Aromatic Hydrocarbon (C8-C10)	ND	20.0										
Aromatic Hydrocarbon (C10-C12)	ND	10.0										
Aromatic Hydrocarbon (C12-C16)	ND	10.0										
Aromatic Hydrocarbon (C16-C21)	ND	10.0										
Aromatic Hydrocarbon (C21-C34)	ND	10.0										
Surr: o-Terphenyl	75.5		100.0		75.5	60	140					

Sample ID: 2201372-004AMS	SampType: MS			Units: mg/	Kg-dry	Prep Da	te: 2/2/202	22	RunNo: 733	802	
Client ID: BATCH	Batch ID: 35225					Analysis Da	te: 2/15/20	)22	SeqNo: 149	7313	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aromatic Hydrocarbon (C8-C10)	148	20.9	261.3	10.00	52.7	11.8	130				
Aromatic Hydrocarbon (C10-C12)	246	10.5	130.7	139.0	81.9	70	130				
Aromatic Hydrocarbon (C12-C16)	753	10.5	130.7	609.8	109	70	130				
Aromatic Hydrocarbon (C16-C21)	1,010	10.5	130.7	852.4	117	70	130				
Aromatic Hydrocarbon (C21-C34)	251	10.5	130.7	111.9	106	70	130				
Surr: o-Terphenyl	96.2		104.5		92.0	60	140				

Sample ID: 2201372-004AMSD	SampType: MSD			Units: mg/K	(g-dry	Prep Da	te: 2/2/202	2	RunNo: 73	302		
Client ID: BATCH	Batch ID: 35225					Analysis Da	te: 2/15/20	22	SeqNo: 149	No: 1497336		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Aromatic Hydrocarbon (C8-C10)	208	21.3	265.8	10.00	74.6	11.8	130	147.7	34.0	30	R	
Aromatic Hydrocarbon (C10-C12)	296	10.6	132.9	139.0	118	70	130	245.9	18.5	30		
Aromatic Hydrocarbon (C12-C16)	737	10.6	132.9	609.8	95.5	70	130	752.7	2.13	30		
Aromatic Hydrocarbon (C16-C21)	958	10.6	132.9	852.4	79.4	70	130	1,006	4.86	30		
Aromatic Hydrocarbon (C21-C34)	307	10.6	132.9	111.9	147	70	130	250.8	20.3	30	S	
Surr: o-Terphenyl	96.8		106.3		91.1	60	140		0			

Original



2202182

Date: 2/15/2022

### **QC SUMMARY REPORT**

### CLIENT: Friedman & Bruya

Work Order:

Project:	202101	Didya					Extractable Petroleum	Hydrocarbons by NWEPH
Sample ID: 220	1372-004AMSD	SampType: MSD			Units: mg/Kg	dry	Prep Date: 2/2/2022	RunNo: 73302
Client ID: BAT	тсн	Batch ID: 35225					Analysis Date: 2/15/2022	SeqNo: 1497336
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual

### NOTES:

S - Analyte concentration was too high for accurate spike recovery(ies).

R - High RPD observed, spike recovery is within range for Aromatic (C8-C10).

Sample ID: 2201372-004AMS	SampType: <b>MS</b>			Units: mg/Kg-dry		Prep Date: 2/2/2022		2	RunNo: 73251		
Client ID: BATCH	Batch ID: 35225			Analysis Date: 2/15/2022					SeqNo: 1497239		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C8-C10)	171	20.9	261.3	71.83	38.1	10.3	130				
Aliphatic Hydrocarbon (C10-C12)	571	10.5	130.7	408.5	124	70	130				
Aliphatic Hydrocarbon (C12-C16)	1,550	10.5	130.7	1,377	134	70	130				S
Aliphatic Hydrocarbon (C16-C21)	1,050	10.5	130.7	857.5	147	70	130				S
Aliphatic Hydrocarbon (C21-C34)	333	10.5	130.7	134.3	152	70	130				S
Surr: 1-Chlorooctadecane NOTES:	100		104.5		95.8	60	140				

S - Analyte concentration was too high for accurate spike recovery(ies).

Sample ID: 2201372-004AMSD	SampType: <b>MSD</b>		Units: mg/Kg-dry			Prep Da	te: 2/2/202	2	RunNo: 732	251	
Client ID: BATCH	Batch ID: 35225			Analysis Date: 2/15/2022 SeqNo: 1497241							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C8-C10)	130	21.3	265.8	71.83	22.0	10.3	130	171.4	27.2	30	
Aliphatic Hydrocarbon (C10-C12)	509	10.6	132.9	408.5	75.9	70	130	571.2	11.4	30	
Aliphatic Hydrocarbon (C12-C16)	1,490	10.6	132.9	1,377	87.4	70	130	1,551	3.84	30	
Aliphatic Hydrocarbon (C16-C21)	966	10.6	132.9	857.5	82.0	70	130	1,049	8.22	30	
Aliphatic Hydrocarbon (C21-C34)	251	10.6	132.9	134.3	87.5	70	130	332.5	28.1	30	
Surr: 1-Chlorooctadecane	100		106.3		94.3	60	140		0		



### Work Order: 2202182

Friedman & Bruya CLIENT: Project 202101

Date: 2/15/2022

### **QC SUMMARY REPORT**

### Volatile Petroleum Hydrocarbons by NWVPH

<b>Project:</b> 202101						Volut		lydrocarbolis	
Sample ID: MB-35309	SampType: MBLK			Units: mg/Kg		Prep Date: 2/8	3/2022	RunNo: 73228	
Client ID: MBLKS	Batch ID: 35309					Analysis Date: 2/9	0/2022	SeqNo: 1495995	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit HighL	imit RPD Ref Val	%RPD RPD	Limit Qual
Aliphatic Hydrocarbon (C5-C6)	ND	2.50		0	0				
Aliphatic Hydrocarbon (C6-C8)	ND	1.50		0	0				
Aliphatic Hydrocarbon (C8-C10)	ND	2.50		0	0				
Aliphatic Hydrocarbon (C10-C12)	ND	0.500		0	0				
Aromatic Hydrocarbon (C8-C10)	ND	3.00		0	0				
Aromatic Hydrocarbon (C10-C12)	ND	0.500		0	0				
Aromatic Hydrocarbon (C12-C13)	ND	0.500		0	0				
Surr: 1,4-Difluorobenzene	1.94		2.500		77.8	65	140		
Surr: Bromofluorobenzene	2.39		2.500		95.4	65	140		
Sample ID: LCS-35309	SampType: LCS			Units: mg/Kg		Prep Date: 2/8	3/2022	RunNo: 73228	
Client ID: LCSS	Batch ID: 35309					Analysis Date: 2/9	0/2022	SeqNo: 1495937	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit HighL	imit RPD Ref Val	%RPD RPD	Limit Qual

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C5-C6)	33.4	2.50	30.00	0	111	70	130				
Aliphatic Hydrocarbon (C6-C8)	9.77	1.50	10.00	0	97.7	70	130				
Aliphatic Hydrocarbon (C8-C10)	24.6	2.50	10.00	0	246	70	130				S
Aliphatic Hydrocarbon (C10-C12)	8.95	0.500	10.00	0	89.5	70	130				
Aromatic Hydrocarbon (C8-C10)	43.4	3.00	40.00	0	108	70	130				
Aromatic Hydrocarbon (C10-C12)	10.3	0.500	10.00	0	103	70	130				
Aromatic Hydrocarbon (C12-C13)	9.17	0.500	10.00	0	91.7	70	130				
Surr: 1,4-Difluorobenzene	2.30		2.500		91.9	65	140				
Surr: Bromofluorobenzene	2.45		2.500		97.9	65	140				
NOTES:											

NOTES: S - Outlying spike recovery observed (high bias). Samples are non-detect; result meets QC requirements.



#### Work Order: 2202182

CLIENT: Friedman & Bruya 202101

Date: 2/15/2022

### **QC SUMMARY REPORT**

### Volatile Petroleum Hydrocarbons by NWVPH

<b>Project:</b> 202101						N	/olatile I	Petroleum H	lydrocarb	ons by N	WVPH
Sample ID: LCSD-35309	SampType: LCSD			Units: mg/Kg		Prep Dat	te: 2/8/202	2	RunNo: 732	228	
Client ID: LCSS02	Batch ID: 35309					Analysis Dat	te: 2/9/202	2	SeqNo: 149	95938	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C5-C6)	31.3	2.50	30.00	0	104	70	130	33.35	6.37	20	
Aliphatic Hydrocarbon (C6-C8)	9.70	1.50	10.00	0	97.0	70	130	9.774	0.744	20	
Aliphatic Hydrocarbon (C8-C10)	24.3	2.50	10.00	0	243	70	130	24.63	1.34	20	S
Aliphatic Hydrocarbon (C10-C12)	7.12	0.500	10.00	0	71.2	70	130	8.954	22.9	20	R
Aromatic Hydrocarbon (C8-C10)	42.0	3.00	40.00	0	105	70	130	43.39	3.35	20	
Aromatic Hydrocarbon (C10-C12)	10.7	0.500	10.00	0	107	70	130	10.30	3.68	20	
Aromatic Hydrocarbon (C12-C13)	11.1	0.500	10.00	0	111	70	130	9.172	19.0	20	
Surr: 1,4-Difluorobenzene	2.23		2.500		89.1	65	140		0		
Surr: Bromofluorobenzene	2.39		2.500		95.8	65	140		0		
NOTES:											

S - Outlying spike recovery observed (high bias). Samples are non-detect; result meets QC requirements. R - High RPD observed, spike recovery is within range.



# Sample Log-In Check List

Cl	lient Name: <b>FB</b>	Work Order Numb	er: 2202182	
Lc	ogged by: Gabrielle Coeuille	Date Received:	2/8/2022	10:37:00 AM
<u>Cha</u>	in of Custody			
1.	Is Chain of Custody complete?	Yes 🗹	No 🗌	Not Present
2.	How was the sample delivered?	Client		
Log	In			
_	Coolers are present?	Yes 🗹	No 🗌	
4.	Shipping container/cooler in good condition?	Yes 🖌	No 🗌	
5.	Custody Seals present on shipping container/cooler? (Refer to comments for Custody Seals not intact)	Yes	No 🗌	Not Present
6.	Was an attempt made to cool the samples?	Yes 🖌	No 🗌	
7.	Were all items received at a temperature of $>2^{\circ}C$ to $6^{\circ}C$ *	Yes 🗸	No 🗌	
8.	Sample(s) in proper container(s)?	Yes	No 🔽	
9.	Sufficient sample volume for indicated test(s)?	Yes 🖌	No 🗌	
10.	Are samples properly preserved?	Yes 🗹	No 🗌	
11.	Was preservative added to bottles?	Yes	No 🗹	NA 🗌
12.	Is there headspace in the VOA vials?	Yes	No 🗌	NA 🔽
13.	Did all samples containers arrive in good condition(unbroken)?	Yes 🖌	No 🗌	
14.	Does paperwork match bottle labels?	Yes 🗹	No 🗌	
15.	Are matrices correctly identified on Chain of Custody?	Yes 🖌	No 🗌	
16.	Is it clear what analyses were requested?	Yes 🖌	No 🗌	
17.	Were all holding times able to be met?	Yes 🖌	No 🗌	
<u>Spe</u>	cial Handling (if applicable)			
-	Was client notified of all discrepancies with this order?	Yes	No 🗌	NA 🔽
	Person Notified: Da	ate:		
	By Whom: Via		one 🗌 Fax	In Person
	Regarding:			
	Client Instructions:			

### Item Information

Item #	Temp °C
Sample 1	3.1

\* Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C

SUBCONTRACT	SAMPLE	CHAIN	OF	CUSTODY

Send Report <u>To</u>	Michae	l Erdahl			SUBCONTRACTER Fremont										Z2021012 1 Page # of TURNAROUND TIME					
Company	Friedma	an and Bruya	, Inc.		PROJECT NAME/NO. PO #								Standard TAT RUSH 3-Day TAF							
Address	3012 16	th Ave W		_	202101 C-51									Rush cha	rges authorized by:					
City, State, ZIP Phone #_(206) 283			dmąnandbruy	a.com	REM	IARKS									<ul> <li>Dispos</li> <li>Return</li> </ul>	AMPLE DISP se after 30 days n samples all with instruc				
				-						ANAL	YSES	S RE	QUES	STED						
Sample ID	Lab ID	Date Sampled	Time Sampled	Mat	rix	# of jars	Dioxins/Furans	EPH	НЧЛ							N 4. 5.	lotes Irds			
8336-7-4		2/7/72	1220	501	1	1		x	×				-			90	%			
																3				
Friedman & Bruy			SIGNATURE	1					NAM	E	_			I OMPA		DATE	TIME			
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### ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D. Yelena Aravkina, M.S. Michael Erdahl, B.S. Vineta Mills, M.S. Eric Young, B.S. 3012 16th Avenue West Seattle, WA 98119-2029 (206) 285-8282 fbi@isomedia.com www.friedmanandbruya.com

February 11, 2022

Chuck Lie, Project Manager Terra Associates 12220 113<sup>th</sup> Ave NE Suite 130 Kirkland, WA 98034

Dear Mr Lie:

Included are the results from the testing of material submitted on February 9, 2022 from the 8336-5, F&BI 202143 project. There are 4 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 should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl Project Manager

Enclosures c: Carol Jones (AP), Nick Hoffman NAA0211R.DOC

### ENVIRONMENTAL CHEMISTS

## CASE NARRATIVE

This case narrative encompasses samples received on February 9, 2022 by Friedman & Bruya, Inc. from the Terra Associates 8336-5, F&BI 202143 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Terra Associates</u>
202143 -01	8336-9-1
202143 -02	8336-9-2

All quality control requirements were acceptable.

### ENVIRONMENTAL CHEMISTS

Date of Report: 02/11/22 Date Received: 02/09/22 Project: 8336-5, F&BI 202143 Date Extracted: 02/09/22 Date Analyzed: 02/09/22

## RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx

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

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C <sub>10</sub> -C <sub>25</sub> )	<u>Motor Oil Range</u> (C <sub>25</sub> -C <sub>36</sub> )	Surrogate <u>(% Recovery)</u> (Limit 53-144)
8336-9-1 202143-01	<50	<250	91
8336-9-2 202143-02	840	780	94
Method Blank 02-408 MB	<50	<250	92

### ENVIRONMENTAL CHEMISTS

Date of Report: 02/11/22 Date Received: 02/09/22 Project: 8336-5, F&BI 202143

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

Laboratory Code:	202106-16 (Matri	x Spike)					
			Sample	Percent	Percent		
	Reporting	Spike	Result	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	(Wet Wt)	MS	MSD	Criteria	(Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	<50	86	86	64-133	0
Laboratory Code:	Laboratory Contr	ol Sampl	le				
			Percent	5			
	Reporting	Spike	Recover	y Accep	tance		
Analyte	Units	Level	LCS	Crite	orio		
1 mary te	Units	Devei	LOD	OIIt	erra		

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## ENVIRONMENTAL CHEMISTS

# **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.

 ${\rm J}$  - 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.

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8336-9-1	01	2/ghz	7:30	50.1	1	X											
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#### ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D. Yelena Aravkina, M.S. Michael Erdahl, B.S. Vineta Mills, M.S. Eric Young, B.S. 3012 16th Avenue West Seattle, WA 98119-2029 (206) 285-8282 fbi@isomedia.com www.friedmanandbruya.com

February 11, 2022

Chuck Lie, Project Manager Terra Associates 12220 113<sup>th</sup> Ave NE Suite 130 Kirkland, WA 98034

Dear Mr Lie:

Included are the results from the testing of material submitted on February 10, 2022 from the 8336-5, F&BI 202190 project. There are 4 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 should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl Project Manager

Enclosures c: Carol Jones (AP) NAA0211R.DOC

## ENVIRONMENTAL CHEMISTS

## CASE NARRATIVE

This case narrative encompasses samples received on February 10, 2022 by Friedman & Bruya, Inc. from the Terra Associates 8336-5 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Terra Associates</u>
202190 -01	8336-10-1
202190 -02	8336-10-2

All quality control requirements were acceptable.

## ENVIRONMENTAL CHEMISTS

Date of Report: 02/11/22 Date Received: 02/10/22 Project: 8336-5, F&BI 202190 Date Extracted: 02/10/22 Date Analyzed: 02/10/22

## RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx

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

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C10-C25)	<u>Motor Oil Range</u> (C <sub>25</sub> -C <sub>36</sub> )	Surrogate <u>(% Recovery)</u> (Limit 53-144)
8336-10-1 202190-01	<50	<250	92
8336-10-2 202190-02	<50	<250	91
Method Blank 02-414 MB	<50	<250	92

## ENVIRONMENTAL CHEMISTS

Date of Report: 02/11/22 Date Received: 02/10/22 Project: 8336-5, F&BI 202190

-

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

Laboratory Code: 2	202016-22 (Matri	x Spike)							
			Sample	Percent	Percent				
	Reporting	Spike	Result	Recovery	Recovery	Acceptance	$\operatorname{RPD}$		
Analyte	Units	Level	(Wet Wt)	MS	MSD	Criteria	(Limit 20)		
Diesel Extended	mg/kg (ppm)	5,000	<50	86	86	64-133	0		
Laboratory Code: Laboratory Control Sample									
			Percent	5					
	Reporting	Spike	Recover	y Accept	tance				
Analyte	Units	Level	LCS	Crite	eria				
Diesel Extended	mg/kg (ppm)	5,000	86	58-1	47				

3

## ENVIRONMENTAL CHEMISTS

## **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.

 ${\rm J}$  - 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.

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Ph. (206) 285-8282

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#### ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D. Yelena Aravkina, M.S. Michael Erdahl, B.S. Vineta Mills, M.S. Eric Young, B.S. 3012 16th Avenue West Seattle, WA 98119-2029 (206) 285-8282 fbi@isomedia.com www.friedmanandbruya.com

February 15, 2022

Chuck Lie, Project Manager Terra Associates 12220 113<sup>th</sup> Ave NE Suite 130 Kirkland, WA 98034

Dear Mr Lie:

Included are the results from the testing of material submitted on February 11, 2022 from the 8336-5, F&BI 202218 project. There are 4 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 should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl Project Manager

Enclosures c: Carol Jones (AP), Nick Hoffman NAA0215R.DOC

## ENVIRONMENTAL CHEMISTS

## CASE NARRATIVE

This case narrative encompasses samples received on February 11, 2022 by Friedman & Bruya, Inc. from the Terra Associates 8336-5, F&BI 202218 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Terra Associates</u>
202218 -01	8336-11-1
202218 -02	8336-11-2
202218 -03	8336-11-3
202218 -04	8336-11-4
202218 -05	8336-11-5
202218 -06	8336-11-6

All quality control requirements were acceptable.

#### ENVIRONMENTAL CHEMISTS

Date of Report: 02/15/22 Date Received: 02/11/22 Project: 8336-5, F&BI 202218 Date Extracted: 02/11/22 Date Analyzed: 02/11/22

## RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx

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

<u>Sample ID</u> Laboratory ID	Diesel Range (C10-C25)	Motor Oil Range (C25-C36)	Surrogate <u>(% Recovery)</u> (Limit 53-144)
8336-11-1 <sup>202218-01</sup>	<50	<250	92
8336-11-2 <sup>202218-02</sup>	1,300 x	1,700	80
8336-11-3 202218-03	5,500 x	12,000	62
8336-11-4 202218-04	<50	<250	91
8336-11-5 <sup>202218-05</sup>	<50	<250	92
8336-11-6 202218-06	<50	<250	91
Method Blank <sup>02-421 MB</sup>	<50	<250	93

## ENVIRONMENTAL CHEMISTS

Date of Report: 02/15/22 Date Received: 02/11/22 Project: 8336-5, F&BI 202218

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

Laboratory Code:	202199-02 (Matri	x Spike)					
			Sample	Percent	Percent		
	Reporting	Spike	Result	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	(Wet Wt)	MS	MSD	Criteria	(Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	<50	90	86	64-133	5
Laboratory Code:	Laboratory Contr	ol Sampl	le				
			Percent				
		C1					
	Reporting	Spike	Recover	y Accept	tance		
Analyte	Reporting Units	Spike Level	Recover LCS	y Accept Crite			

## ENVIRONMENTAL CHEMISTS

## **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.

 ${\rm J}$  - 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.

Report To Chuck	Lic		SAMPLI	ERS (signo	ature)_	W	ŀ,	K	1				:		Page TUR	#	of UND T!
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Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260 DAHS FEDA 8970		<b>B</b> FA			-		Note
8336-11-1	01	2/11/22	8:30	Soil		Х											
8336-11-2	02		9:00			X											
8336-11-3	03	· · ·	9:30			X											
8336-11-4	04		10:00			X										1	
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#### ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D. Yelena Aravkina, M.S. Michael Erdahl, B.S. Vineta Mills, M.S. Eric Young, B.S. 3012 16th Avenue West Seattle, WA 98119-2029 (206) 285-8282 fbi@isomedia.com www.friedmanandbruya.com

February 16, 2022

Chuck Lie, Project Manager Terra Associates 12220 113<sup>th</sup> Ave NE Suite 130 Kirkland, WA 98034

Dear Mr Lie:

Included are the results from the testing of material submitted on February 14, 2022 from the 8336-5, F&BI 202234 project. There are 4 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 should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl Project Manager

Enclosures c: Carol Jones (AP), Nick Hoffman NAA0216R.DOC

## ENVIRONMENTAL CHEMISTS

## CASE NARRATIVE

This case narrative encompasses samples received on February 14, 2022 by Friedman & Bruya, Inc. from the Terra Associates 8336-5, F&BI 202234 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Terra Associates</u>
202234 -01	14-1
202234 -02	14-2
202234 -03	14-3

All quality control requirements were acceptable.

### ENVIRONMENTAL CHEMISTS

Date of Report: 02/16/22 Date Received: 02/14/22 Project: 8336-5, F&BI 202234 Date Extracted: 02/14/22 Date Analyzed: 02/14/22

## RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx

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

<u>Sample ID</u> Laboratory ID	Diesel Range (C10-C25)	<u>Motor Oil Range</u> (C <sub>25</sub> -C <sub>36</sub> )	Surrogate <u>(% Recovery)</u> (Limit 53-144)
14-1 202234-01	<50	<250	97
14-2 202234-02	<50	<250	95
14-3 202234-03	<50	<250	96
Method Blank 02-429 MB	<50	<250	92

## ENVIRONMENTAL CHEMISTS

Date of Report: 02/16/22 Date Received: 02/14/22 Project: 8336-5, F&BI 202234

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

Laboratory Code:	202231-01 (Matri	x Spike)					
			Sample	Percent	Percent		
	Reporting	Spike	Result	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	(Wet Wt)	MS	MSD	Criteria	(Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	<50	88	88	64-133	0
Laboratory Code:	Laboratory Contr	ol Samp	le				
			Percent	,			
	Reporting	Spike	Recover	y Accep	tance		
Analyte	Units	Level	LCS	Crite	eria		
Diesel Extended	mg/kg (ppm)	5,000	88	58-1	47		

## ENVIRONMENTAL CHEMISTS

## **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.

 ${\rm J}$  - 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.

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Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars		BTEX EPA 8021	NWTPH-HCID	s EPA 826	PAHs EPA 8270	PCBs EPA 8082						Notes	
						NN	BTE	NW	VOC	PAH	PCB		· · ·					
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#### ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D. Yelena Aravkina, M.S. Michael Erdahl, B.S. Vineta Mills, M.S. Eric Young, B.S. 3012 16th Avenue West Seattle, WA 98119-2029 (206) 285-8282 fbi@isomedia.com www.friedmanandbruya.com

February 17, 2022

Chuck Lie, Project Manager Terra Associates 12220 113<sup>th</sup> Ave NE Suite 130 Kirkland, WA 98034

Dear Mr Lie:

Included are the results from the testing of material submitted on February 15, 2022 from the 8336-3, F&BI 202266 project. There are 4 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 should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl Project Manager

Enclosures c: Carol Jones (AP), Nick Hoffman NAA0217R.DOC

## ENVIRONMENTAL CHEMISTS

## CASE NARRATIVE

This case narrative encompasses samples received on February 15, 2022 by Friedman & Bruya, Inc. from the Terra Associates 8336-3, F&BI 202266 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Terra Associates</u>
202266 -01	15-1
202266 -02	15-2
202266 -03	15-3

All quality control requirements were acceptable.

### ENVIRONMENTAL CHEMISTS

Date of Report: 02/17/22 Date Received: 02/15/22 Project: 8336-3, F&BI 202266 Date Extracted: 02/15/22 Date Analyzed: 02/15/22

## RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx

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

<u>Sample ID</u> Laboratory ID	Diesel Range (C10-C25)	<u>Motor Oil Range</u> (C <sub>25</sub> -C <sub>36</sub> )	Surrogate <u>(% Recovery)</u> (Limit 53-144)
15-1 202266-01	130 x	370	95
15-2 202266-02	<50	<250	92
15-3 202266-03	<50	<250	92
Method Blank 02-432 MB	<50	<250	94

## ENVIRONMENTAL CHEMISTS

Date of Report: 02/17/22 Date Received: 02/15/22 Project: 8336-3, F&BI 202266

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

Laboratory Code:	202241-01 (Matri	x Spike)					
			Sample	Percent	Percent		
	Reporting	Spike	Result	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	(Wet Wt)	MS	MSD	Criteria	(Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	9400	67 b	48 b	64-133	33 b
Laboratory Code:	Laboratory Contr	ol Samp	le				
			Percent	,			
	Reporting	Spike	Recover	y Accep	tance		
Analyte	Units	Level	LCS	Crit	eria		
Diesel Extended	mg/kg (ppm)	5,000	88	58-1	147		

## ENVIRONMENTAL CHEMISTS

## **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.

 ${\rm J}$  - 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.

202266			SAMPLE	E CHAIN	OF	CUS	STO	DY	: (	02	15	-2	2						BOI
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Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID		PAHs EPA 8270	PCBs EPA 8082						Notes	
15-1	01	2.15.22	9:00	5	. <b>1</b> /	$\overline{\mathbf{v}}$													
15-2	02	1210-22	9:15			$\overline{\mathbf{v}}$							(						
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Friedman & Bruya, Inc.	SI Relinquished by:	GNATURE		E.m.A				G						PAN	Y		DAT		ME
Ph. (206) 285-8282	Evan H. Eckles				TAT. 2.15.22														
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3600 Fremont Ave. N. Seattle, WA 98103 T: (206) 352-3790 F: (206) 352-7178 info@fremontanalytical.com

Friedman & Bruya Michael Erdahl 3012 16th Ave. W. Seattle, WA 98119

RE: 202101 Work Order Number: 2202182

February 15, 2022

#### **Attention Michael Erdahl:**

Fremont Analytical, Inc. received 1 sample(s) on 2/8/2022 for the analyses presented in the following report.

#### Extractable Petroleum Hydrocarbons by NWEPH Volatile Petroleum Hydrocarbons by NWVPH

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Brianna Barnes Project Manager

**CC:** Chuck Lie Nick Hoffman

DoD-ELAP Accreditation #79636 by PJLA, ISO/IEC 17025:2017 and QSM 5.3 for Environmental Testing ORELAP Certification: WA 100009 (NELAP Recognized) for Environmental Testing Washington State Department of Ecology Accredited for Environmental Testing, Lab ID C910



CLIENT: Project: Work Order:	Friedman & Bruya 202101 2202182	Work Order S	Sample Summary
Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received 02/08/2022 10:37 AM
2202182-001	8336-7-4	02/07/2022 12:20 PM	

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned



**Case Narrative** 

WO#: **2202182** Date: **2/15/2022** 

CLIENT:Friedman & BruyaProject:202101

I. SAMPLE RECEIPT:

Samples receipt information is recorded on the attached Sample Receipt Checklist.

#### II. GENERAL REPORTING COMMENTS:

Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

#### **III. ANALYSES AND EXCEPTIONS:**

Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

# **Qualifiers & Acronyms**



WO#: **2202182** Date Reported: **2/15/2022** 

### Qualifiers:

- \* Flagged value is not within established control limits
- B Analyte detected in the associated Method Blank
- D Dilution was required
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- I Analyte with an internal standard that does not meet established acceptance criteria
- J Analyte detected below Reporting Limit
- N Tentatively Identified Compound (TIC)
- Q Analyte with an initial or continuing calibration that does not meet established acceptance criteria
- S Spike recovery outside accepted recovery limits
- ND Not detected at the Reporting Limit
- R High relative percent difference observed

Acronyms:

%Rec - Percent Recovery CCB - Continued Calibration Blank CCV - Continued Calibration Verification **DF** - Dilution Factor **DUP - Sample Duplicate** HEM - Hexane Extractable Material **ICV** - Initial Calibration Verification LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate MCL - Maximum Contaminant Level MB or MBLANK - Method Blank MDL - Method Detection Limit MS/MSD - Matrix Spike / Matrix Spike Duplicate PDS - Post Digestion Spike Ref Val - Reference Value **REP - Sample Replicate** RL - Reporting Limit **RPD** - Relative Percent Difference SD - Serial Dilution SGT - Silica Gel Treatment SPK - Spike Surr - Surrogate



# **Analytical Report**

 Work Order:
 2202182

 Date Reported:
 2/15/2022

Client: Friedman & Bruya Project: 202101				Collection	Date:	2/7/2022 12:20:00 PM
Lab ID: 2202182-001				Matrix: Sc	oil	
Client Sample ID: 8336-7-4	Desult	Ы	Qual	Unite		Date Analyzad
Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Extractable Petroleum Hydrocar	bons by NWE	<u>PH</u>		Batch	ID: 3	5225 Analyst: MM
Aliphatic Hydrocarbon (C8-C10)	ND	20.7		mg/Kg-dry	1	2/14/2022 4:29:58 PM
Aliphatic Hydrocarbon (C10-C12)	ND	10.3		mg/Kg-dry	1	2/14/2022 4:29:58 PM
Aliphatic Hydrocarbon (C12-C16)	136	10.3		mg/Kg-dry	1	2/14/2022 4:29:58 PM
Aliphatic Hydrocarbon (C16-C21)	1,640	10.3		mg/Kg-dry	1	2/14/2022 4:29:58 PM
Aliphatic Hydrocarbon (C21-C34)	12,400	103	D	mg/Kg-dry	10	2/14/2022 3:35:54 PM
Aromatic Hydrocarbon (C8-C10)	ND	20.7		mg/Kg-dry	1	2/14/2022 7:10:03 PM
Aromatic Hydrocarbon (C10-C12)	ND	10.3		mg/Kg-dry	1	2/14/2022 7:10:03 PM
Aromatic Hydrocarbon (C12-C16)	16.2	10.3		mg/Kg-dry	1	2/14/2022 7:10:03 PM
Aromatic Hydrocarbon (C16-C21)	717	10.3		mg/Kg-dry	1	2/14/2022 7:10:03 PM
Aromatic Hydrocarbon (C21-C34)	1,540	10.3		mg/Kg-dry	1	2/14/2022 7:10:03 PM
Surr: 1-Chlorooctadecane	92.2	60 - 140		%Rec	1	2/14/2022 4:29:58 PM
Surr: o-Terphenyl	68.4	60 - 140		%Rec	1	2/14/2022 7:10:03 PM
Volatile Petroleum Hydrocarbon	<u>s by NWVPH</u>			Batch	ID: 3	5309 Analyst: SG
Aliphatic Hydrocarbon (C5-C6)	ND	2.58		mg/Kg-dry	1	2/9/2022 8:13:00 AM
Aliphatic Hydrocarbon (C6-C8)	ND	1.55		mg/Kg-dry	1	2/9/2022 8:13:00 AM
Aliphatic Hydrocarbon (C8-C10)	ND	2.58		mg/Kg-dry	1	2/9/2022 8:13:00 AM
Aliphatic Hydrocarbon (C10-C12)	ND	0.516		mg/Kg-dry	1	2/9/2022 8:13:00 AM
Aromatic Hydrocarbon (C8-C10)	ND	3.10		mg/Kg-dry	1	2/9/2022 8:13:00 AM
Aromatic Hydrocarbon (C10-C12)	3.30	0.516		mg/Kg-dry	1	2/9/2022 8:13:00 AM
Aromatic Hydrocarbon (C12-C13)	15.3	0.516		mg/Kg-dry	1	2/9/2022 8:13:00 AM
Surr: 1,4-Difluorobenzene	74.9	65 - 140		%Rec	1	2/9/2022 8:13:00 AM
Surr: Bromofluorobenzene	93.2	65 - 140		%Rec	1	2/9/2022 8:13:00 AM



Date: 2/15/2022

#### Work Order: 2202182

CLIENT: Friedman & Bruya

## QC SUMMARY REPORT

#### Extractable Petroleum Hydrocarbons by NWEPH

Project: 202101						Extra	ctable I	Petroleum F	lydrocarb	ons by N	IVVEF
Sample ID: MB-35225	SampType: MBLK			Units: mg/Kg		Prep Date	: 2/2/202	22	RunNo: 732	251	
Client ID: MBLKS	Batch ID: 35225					Analysis Date	: 2/14/20	)22	SeqNo: 149	97194	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit I	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qua
Aliphatic Hydrocarbon (C8-C10)	ND	20.0									
Aliphatic Hydrocarbon (C10-C12)	ND	10.0									
Aliphatic Hydrocarbon (C12-C16)	ND	10.0									
Aliphatic Hydrocarbon (C16-C21)	ND	10.0									
Aliphatic Hydrocarbon (C21-C34)	ND	10.0									
Surr: 1-Chlorooctadecane	82.4		100.0		82.4	60	140				
Sample ID: LCS-35225	SampType: LCS			Units: mg/Kg		Prep Date	: 2/2/202	22	RunNo: 732	251	
Client ID: LCSS	Batch ID: 35225					Analysis Date	: 2/14/20	)22	SeqNo: 149	97195	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit I	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qua
Aliphatic Hydrocarbon (C8-C10)	104	20.0	250.0	0	41.7	15.7	130				
Aliphatic Hydrocarbon (C10-C12)	88.3	10.0	125.0	0	70.7	70	130				
Aliphatic Hydrocarbon (C12-C16)	104	10.0	125.0	0	83.3	70	130				
Aliphatic Hydrocarbon (C16-C21)	106	10.0	125.0	0	85.2	70	130				
Aliphatic Hydrocarbon (C21-C34)	154	10.0	125.0	0	123	70	130				
Surr: 1-Chlorooctadecane	91.4		100.0		91.4	60	140				
Sample ID: LCS-35225	SampType: LCS			Units: mg/Kg		Prep Date	: 2/2/202	22	RunNo: 733	302	
Client ID: LCSS	Batch ID: 35225					Analysis Date	: 2/14/20	22	SeqNo: 149	97335	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit I	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qua
Aromatic Hydrocarbon (C8-C10)	171	20.0	250.0	0	68.3	16.9	130				
Aromatic Hydrocarbon (C10-C12)	87.6	10.0	125.0	0	70.1	70	130				
Aromatic Hydrocarbon (C12-C16)	91.0	10.0	125.0	0	72.8	70	130				
Aromatic Hydrocarbon (C16-C21)	96.2	10.0	125.0	0	76.9	70	130				
Aromatic Hydrocarbon (C21-C34)	137	10.0	125.0	0	109	70	130				
Surr: o-Terphenyl	84.1		100.0		84.1	60	140				

Original



Date: 2/15/2022

#### Work Order: 2202182

CLIENT: Friedman & Bruya Project: 202101

## QC SUMMARY REPORT

#### Extractable Petroleum Hydrocarbons by NWEPH

Sample ID: MB-35225	SampType: MBLK			Units: mg/Kg		Prep Da	te: 2/2/202	22	RunNo: 733	802	
Client ID: MBLKS	Batch ID: 35225					Analysis Da	te: 2/14/20	)22	SeqNo: 149	7398	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aromatic Hydrocarbon (C8-C10)	ND	20.0									
Aromatic Hydrocarbon (C10-C12)	ND	10.0									
Aromatic Hydrocarbon (C12-C16)	ND	10.0									
Aromatic Hydrocarbon (C16-C21)	ND	10.0									
Aromatic Hydrocarbon (C21-C34)	ND	10.0									
Surr: o-Terphenyl	75.5		100.0		75.5	60	140				

Sample ID: 2201372-004AMS	SampType: MS			Units: mg/	Kg-dry	Prep Da	te: 2/2/202	22	RunNo: 733	802	
Client ID: BATCH	Batch ID: 35225					Analysis Da	te: 2/15/20	)22	SeqNo: 149	7313	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aromatic Hydrocarbon (C8-C10)	148	20.9	261.3	10.00	52.7	11.8	130				
Aromatic Hydrocarbon (C10-C12)	246	10.5	130.7	139.0	81.9	70	130				
Aromatic Hydrocarbon (C12-C16)	753	10.5	130.7	609.8	109	70	130				
Aromatic Hydrocarbon (C16-C21)	1,010	10.5	130.7	852.4	117	70	130				
Aromatic Hydrocarbon (C21-C34)	251	10.5	130.7	111.9	106	70	130				
Surr: o-Terphenyl	96.2		104.5		92.0	60	140				

Sample ID: 2201372-004AMSD	SampType: MSD			Units: mg/K	(g-dry	Prep Da	te: 2/2/202	2	RunNo: 73	302	
Client ID: BATCH	Batch ID: 35225					Analysis Da	te: 2/15/20	22	SeqNo: 149	97336	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aromatic Hydrocarbon (C8-C10)	208	21.3	265.8	10.00	74.6	11.8	130	147.7	34.0	30	R
Aromatic Hydrocarbon (C10-C12)	296	10.6	132.9	139.0	118	70	130	245.9	18.5	30	
Aromatic Hydrocarbon (C12-C16)	737	10.6	132.9	609.8	95.5	70	130	752.7	2.13	30	
Aromatic Hydrocarbon (C16-C21)	958	10.6	132.9	852.4	79.4	70	130	1,006	4.86	30	
Aromatic Hydrocarbon (C21-C34)	307	10.6	132.9	111.9	147	70	130	250.8	20.3	30	S
Surr: o-Terphenyl	96.8		106.3		91.1	60	140		0		

Original



2202182

Date: 2/15/2022

## **QC SUMMARY REPORT**

#### CLIENT: Friedman & Bruya

Work Order:

Project:	202101	Didya					Extractable Petroleum	Hydrocarbons by NWEPH
Sample ID: 220	1372-004AMSD	SampType: MSD			Units: mg/Kg	dry	Prep Date: 2/2/2022	RunNo: 73302
Client ID: BAT	тсн	Batch ID: 35225					Analysis Date: 2/15/2022	SeqNo: 1497336
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual

#### NOTES:

S - Analyte concentration was too high for accurate spike recovery(ies).

R - High RPD observed, spike recovery is within range for Aromatic (C8-C10).

Sample ID: 2201372-004AMS	SampType: <b>MS</b>			Units: mg/l	Kg-dry	Prep Da	te: 2/2/202	2	RunNo: 732			
Client ID: BATCH	Batch ID: 35225		Analysis Date: 2/15/2022						SeqNo: 1497239			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Aliphatic Hydrocarbon (C8-C10)	171	20.9	261.3	71.83	38.1	10.3	130					
Aliphatic Hydrocarbon (C10-C12)	571	10.5	130.7	408.5	124	70	130					
Aliphatic Hydrocarbon (C12-C16)	1,550	10.5	130.7	1,377	134	70	130				S	
Aliphatic Hydrocarbon (C16-C21)	1,050	10.5	130.7	857.5	147	70	130				S	
Aliphatic Hydrocarbon (C21-C34)	333	10.5	130.7	134.3	152	70	130				S	
Surr: 1-Chlorooctadecane NOTES:	100		104.5		95.8	60	140					

S - Analyte concentration was too high for accurate spike recovery(ies).

Sample ID: 2201372-004AMSD	SampType: <b>MSD</b>			Units: mg/l	Inits: mg/Kg-dry Prep Date: 2/2/2022				RunNo: 73251			
Client ID: BATCH	Batch ID: 35225				Analysis Date: 2/15/2022 SeqNo: 1497241							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Aliphatic Hydrocarbon (C8-C10)	130	21.3	265.8	71.83	22.0	10.3	130	171.4	27.2	30		
Aliphatic Hydrocarbon (C10-C12)	509	10.6	132.9	408.5	75.9	70	130	571.2	11.4	30		
Aliphatic Hydrocarbon (C12-C16)	1,490	10.6	132.9	1,377	87.4	70	130	1,551	3.84	30		
Aliphatic Hydrocarbon (C16-C21)	966	10.6	132.9	857.5	82.0	70	130	1,049	8.22	30		
Aliphatic Hydrocarbon (C21-C34)	251	10.6	132.9	134.3	87.5	70	130	332.5	28.1	30		
Surr: 1-Chlorooctadecane	100		106.3		94.3	60	140		0			



#### Work Order: 2202182

Friedman & Bruya CLIENT: Project 202101

Date: 2/15/2022

## **QC SUMMARY REPORT**

#### Volatile Petroleum Hydrocarbons by NWVPH

<b>Project:</b> 202101						Voluti	e i cuoicami	nyarocarboi	15 59 14	
Sample ID: MB-35309	SampType: MBLK			Units: mg/Kg		Prep Date: 2/8	2022	RunNo: 73228	;	
Client ID: MBLKS	Batch ID: 35309					Analysis Date: 2/9	2022	SeqNo: 14959	95	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit HighLi	mit RPD Ref Val	%RPD F	RPDLimit	Qual
Aliphatic Hydrocarbon (C5-C6)	ND	2.50		0	0					
Aliphatic Hydrocarbon (C6-C8)	ND	1.50		0	0					
Aliphatic Hydrocarbon (C8-C10)	ND	2.50		0	0					
Aliphatic Hydrocarbon (C10-C12)	ND	0.500		0	0					
Aromatic Hydrocarbon (C8-C10)	ND	3.00		0	0					
Aromatic Hydrocarbon (C10-C12)	ND	0.500		0	0					
Aromatic Hydrocarbon (C12-C13)	ND	0.500		0	0					
Surr: 1,4-Difluorobenzene	1.94		2.500		77.8	65 1	40			
Surr: Bromofluorobenzene	2.39		2.500		95.4	65 1	40			
Sample ID: LCS-35309	SampType: LCS			Units: mg/Kg		Prep Date: 2/8	2022	RunNo: 73228	;	
Client ID: LCSS	Batch ID: 35309					Analysis Date: 2/9	2022	SeqNo: 14959	37	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit HighLi	mit RPD Ref Val	%RPD F	RPDLimit	Qual

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C5-C6)	33.4	2.50	30.00	0	111	70	130				
Aliphatic Hydrocarbon (C6-C8)	9.77	1.50	10.00	0	97.7	70	130				
Aliphatic Hydrocarbon (C8-C10)	24.6	2.50	10.00	0	246	70	130				S
Aliphatic Hydrocarbon (C10-C12)	8.95	0.500	10.00	0	89.5	70	130				
Aromatic Hydrocarbon (C8-C10)	43.4	3.00	40.00	0	108	70	130				
Aromatic Hydrocarbon (C10-C12)	10.3	0.500	10.00	0	103	70	130				
Aromatic Hydrocarbon (C12-C13)	9.17	0.500	10.00	0	91.7	70	130				
Surr: 1,4-Difluorobenzene	2.30		2.500		91.9	65	140				
Surr: Bromofluorobenzene	2.45		2.500		97.9	65	140				
NOTES:											

NOTES: S - Outlying spike recovery observed (high bias). Samples are non-detect; result meets QC requirements.



#### Work Order: 2202182

CLIENT: Friedman & Bruya 202101

Date: 2/15/2022

## **QC SUMMARY REPORT**

#### Volatile Petroleum Hydrocarbons by NWVPH

<b>Project:</b> 202101						N	/olatile I	Petroleum H	lydrocarb	ons by N	WVPH
Sample ID: LCSD-35309	SampType: LCSD			Units: mg/Kg		Prep Dat	te: 2/8/202	2	RunNo: 732	228	
Client ID: LCSS02	Batch ID: 35309					Analysis Dat	te: 2/9/202	2	SeqNo: 149	95938	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C5-C6)	31.3	2.50	30.00	0	104	70	130	33.35	6.37	20	
Aliphatic Hydrocarbon (C6-C8)	9.70	1.50	10.00	0	97.0	70	130	9.774	0.744	20	
Aliphatic Hydrocarbon (C8-C10)	24.3	2.50	10.00	0	243	70	130	24.63	1.34	20	S
Aliphatic Hydrocarbon (C10-C12)	7.12	0.500	10.00	0	71.2	70	130	8.954	22.9	20	R
Aromatic Hydrocarbon (C8-C10)	42.0	3.00	40.00	0	105	70	130	43.39	3.35	20	
Aromatic Hydrocarbon (C10-C12)	10.7	0.500	10.00	0	107	70	130	10.30	3.68	20	
Aromatic Hydrocarbon (C12-C13)	11.1	0.500	10.00	0	111	70	130	9.172	19.0	20	
Surr: 1,4-Difluorobenzene	2.23		2.500		89.1	65	140		0		
Surr: Bromofluorobenzene	2.39		2.500		95.8	65	140		0		
NOTES:											

S - Outlying spike recovery observed (high bias). Samples are non-detect; result meets QC requirements. R - High RPD observed, spike recovery is within range.



# Sample Log-In Check List

С	lient Name: FB	Work Order Numb	oer: 2202182	
L	ogged by: Gabrielle Coeuille	Date Received:	2/8/2022	10:37:00 AM
<u>Cha</u>	ain of Custody			
1.	Is Chain of Custody complete?	Yes 🖌	No 🗌	Not Present
2.	How was the sample delivered?	<u>Client</u>		
Log	a In			
-	Coolers are present?	Yes 🖌	No 🗌	
4.	Shipping container/cooler in good condition?	Yes 🖌	No 🗌	
5.	Custody Seals present on shipping container/cooler? (Refer to comments for Custody Seals not intact)	Yes	No 🗌	Not Present 🗹
6.	Was an attempt made to cool the samples?	Yes 🖌	No 🗌	
7.	Were all items received at a temperature of $>2^{\circ}C$ to $6^{\circ}C$ *	Yes 🔽	No 🗌	
8.	Sample(s) in proper container(s)?	Yes	No 🔽	
9.	Sufficient sample volume for indicated test(s)?	Yes 🖌	No 🗌	
10.	Are samples properly preserved?	Yes 🖌	No 🗌	
11.	Was preservative added to bottles?	Yes	No 🗹	NA 🗌
12.	Is there headspace in the VOA vials?	Yes	No 🗌	NA 🔽
13.	Did all samples containers arrive in good condition(unbroken)?	Yes 🗹	No 🗌	
14.	Does paperwork match bottle labels?	Yes 🗹	No 🗌	
15.	Are matrices correctly identified on Chain of Custody?	Yes 🖌	No 🗌	
16.	ls it clear what analyses were requested?	Yes 🖌	No 🗌	
17.	. Were all holding times able to be met?	Yes 🖌	No 🗌	
<u>Spe</u>	ecial Handling (if applicable)			
-	. Was client notified of all discrepancies with this order?	Yes	No 🗌	NA 🖌
	Person Notified: Dat	e:		
	By Whom: Via:		one 🗌 Fax	In Person
	Regarding:			
	Client Instructions:			

#### Item Information

Item #	Temp °C
Sample 1	3.1

\* Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C

SUBCONTRACT	SAMPLE	CHAIN	OF	CUSTODY

Send Report <u>To</u>	Michae	l Erdahl			SUB	CONT	RACT	ER f	Frimo	t					P	URNAROUND	_ of TIME
Company	Friedma	an and Bruya	, Inc.		PROJECT NAME/NO. PO #							RUSH	ard TAT 3-Day T	AF			
Address	3012 16	th Ave W		_	202101 C-51							Rush charges authorized by:					
City, State, ZIP Phone #_(206) 283			dmąnandbruy	a.com	REM	IARKS									<ul> <li>Dispos</li> <li>Return</li> </ul>	AMPLE DISP se after 30 day n samples all with instruc	5
				-						ANAL	YSE	SRE	QUES	STED			
Sample ID	Lab ID	Date Sampled	Time Sampled	Mat	rix	# of jars	Dioxins/Furans	EPH	НЧЛ							1 4. 5.	Notes Notes
8336-7-4		2/7/72	1220	501	1	1		x	×				-			90	%
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Friedman & Bruy			SIGNATURE	1					NAM	E				I OMPA		DATE	TIME
3012 16th Avenue West Seattle, WA 98119-2029 Received by:			-	Micha			14	_		Fr	-	in & B	Bruya	2/8/22	0954		
Ph. (206) 285-8282		Relinquished b	<del>y:</del>	1			0	Aug	er f			-	13	17		218/2	1.17
Fax (206) 283-504	4	Received by:										-					
#### ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D. Yelena Aravkina, M.S. Michael Erdahl, B.S. Vineta Mills, M.S. Eric Young, B.S. 3012 16th Avenue West Seattle, WA 98119-2029 (206) 285-8282 fbi@isomedia.com www.friedmanandbruya.com

April 25, 2022

Nicolas Hoffman, Terra Associates 12220 113<sup>th</sup> Ave NE Suite 130 Kirkland, WA 98034

Dear Mr Hoffman:

Included are the results from the testing of material submitted on April 11, 2022 from the 8336-5, F&BI 204155 project. There are 11 pages included in this report.

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

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl Project Manager

Enclosures c: Terra Assoc A/P NAA0425R.DOC

#### ENVIRONMENTAL CHEMISTS

#### CASE NARRATIVE

This case narrative encompasses samples received on April 11, 2022 by Friedman & Bruya, Inc. from the Terra Associates 8336-5, F&BI 204155 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Terra Associates</u>
204155 -01	SVP-1
204155 -02	SVP-2

Non-petroleum compounds identified in the air phase hydrocarbon (APH) ranges were subtracted per the MA-APH method.

All quality control requirements were acceptable.

# ENVIRONMENTAL CHEMISTS

# Analysis For Volatile Compounds By Method MA-APH

Client Sample ID: Date Received: Date Collected: Date Analyzed: Matrix: Units:	SVP-1 04/11/22 04/11/22 04/20/22 Air ug/m3	Client Projec Lab II Data I Instru Opera	et: D: File: ument:	Terra Associates 8336-5, F&BI 204155 204155-01 1/6.1 041930.D GCMS7 bat
Surrogates: 4-Bromofluorobenz	% Recovery: zene 93	Lower Limit: 70	Upper Limit: 130	
Compounds:	Concentration ug/m3			
APH EC5-8 aliphatics1,200APH EC9-12 aliphatics300APH EC9-10 aromatics<150				

# ENVIRONMENTAL CHEMISTS

# Analysis For Volatile Compounds By Method MA-APH

Client Sample ID: Date Received: Date Collected: Date Analyzed: Matrix: Units:	SVP-2 04/11/22 04/11/22 04/20/22 Air ug/m3	Client Projec Lab II Data J Instru Opera	et: D: File: ument:	Terra Associates 8336-5, F&BI 204155 204155-02 1/9.9 041931.D GCMS7 bat
Surrogates: 4-Bromofluoroben:	% Recovery: zene 95	Lower Limit: 70	Upper Limit: 130	
Compounds:	Concentration ug/m3			
APH EC5-8 aliphatics3,800APH EC9-12 aliphatics470APH EC9-10 aromatics<250				

# ENVIRONMENTAL CHEMISTS

# Analysis For Volatile Compounds By Method MA-APH

Client Sample ID: Date Received: Date Collected: Date Analyzed: Matrix: Units:	Method Blank Not Applicable 04/19/22 04/19/22 Air ug/m3	Client Projec Lab II Data I Instru Opera	t: D: File: .ment:	Terra Associates 8336-5, F&BI 204155 02-0936 MB 041913.D GCMS7 bat
Surrogates: 4-Bromofluoroben:	% Recovery: zene 92	Lower Limit: 70	Upper Limit: 130	
Compounds:	Concentration ug/m3			
APH EC5-8 aliphatics<75APH EC9-12 aliphatics<25				

# ENVIRONMENTAL CHEMISTS

# Analysis For Volatile Compounds By Method TO-15

Client Sample ID: Date Received: Date Collected: Date Analyzed: Matrix: Units:	SVP-1 04/11/22 04/11/22 04/20/22 Air ug/m3	Client Projec Lab II Data I Instru Opera	et: D: File: ument:	Terra Associates 8336-5, F&BI 204155 204155-01 1/6.1 041930.D GCMS7 bat
Surrogates: 4-Bromofluorobenz	% Recovery: ene 93	Lower Limit: 70	Upper Limit: 130	
Compounds:	Concent ug/m3	tration ppbv		
Naphthalene	<1.6	< 0.3		

# ENVIRONMENTAL CHEMISTS

# Analysis For Volatile Compounds By Method TO-15

Client Sample ID: Date Received: Date Collected: Date Analyzed: Matrix: Units:	SVP-2 04/11/22 04/11/22 04/20/22 Air ug/m3	Client Projec Lab II Data Instru Opera	et: D: File: ument:	Terra Associates 8336-5, F&BI 204155 204155-02 1/9.9 041931.D GCMS7 bat
Surrogates: 4-Bromofluorobenz	% Recovery: ene 95	Lower Limit: 70	Upper Limit: 130	
Compounds:	Concent ug/m3	cration ppbv		
Naphthalene	<2.1	< 0.4		

# ENVIRONMENTAL CHEMISTS

# Analysis For Volatile Compounds By Method TO-15

Client Sample ID: Date Received: Date Collected: Date Analyzed: Matrix: Units:	Method Blank Not Applicable 04/19/22 04/19/22 Air ug/m3	Client Projec Lab II Data I Instru Opera	et: D: File: ument:	Terra Associates 8336-5, F&BI 204155 02-0936 MB 041913.D GCMS7 bat
Surrogates: 4-Bromofluorobenz	% Recovery: ene 92	Lower Limit: 70	Upper Limit: 130	
Compounds:	Concent ug/m3	tration ppbv		
Naphthalene	< 0.21	< 0.04		

#### ENVIRONMENTAL CHEMISTS

Date of Report: 04/25/22 Date Received: 04/11/22 Project: 8336-5, F&BI 204155

#### QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF AIR SAMPLES FOR VOLATILES BY METHOD MA-APH

Laboratory Code: 204096-01 1/5.7 (Duplicate)

	Reporting	Sample	Duplicate	RPD
Analyte	Units	Result	Result	(Limit 30)
APH EC5-8 aliphatics	ug/m3	<430	<430	nm
APH EC9-12 aliphatics	ug/m3	190	200	5
APH EC9-10 aromatics	ug/m3	<140	<140	nm

Laboratory Code: Laboratory Control Sample

Laboratory Coue. Laboratory Con	uoi sumpio		Percent	
	Reporting	Spike	Recovery	Acceptance
Analyte	Units	Level	LCS	Criteria
APH EC5-8 aliphatics	ug/m3	67	87	70-130
APH EC9-12 aliphatics	ug/m3	67	121	70-130
APH EC9-10 aromatics	ug/m3	67	95	70-130

#### ENVIRONMENTAL CHEMISTS

Date of Report: 04/25/22 Date Received: 04/11/22 Project: 8336-5, F&BI 204155

#### QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF AIR SAMPLES FOR VOLATILES BY METHOD TO-15

Laboratory Code: 204096-01 1/5.7 (Duplicate)

	Reporting	Sample	Duplicate	RPD
Analyte	Units	Result	Result	(Limit 30)
Naphthalene	ug/m3	<1.5	<1.5	nm

#### ENVIRONMENTAL CHEMISTS

Date of Report: 04/25/22 Date Received: 04/11/22 Project: 8336-5, F&BI 204155

#### QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF AIR SAMPLES FOR VOLATILES BY METHOD TO-15

Laboratory Code: Laboratory Control Sample

	and of Sampro		Percent	
	Reporting	Spike	Recovery	Acceptance
Analyte	Units	Level	LCS	Criteria
Naphthalene	ug/m3	71	95	70-130

#### ENVIRONMENTAL CHEMISTS

### **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.

 ${\rm J}$  - 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.

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Sample Name	Lab ID	Canister ID	Flow Cont. ID	IA=Indoor Air SG=Soil Gas	Date	Initial Vac.	Initial	1	Final	T015.	TO15	T015	A	He	Va Phith			
_			<u>ID</u>	(Circle One)	Sampled	1	1	("Hg)							-		Notes	
SVP-1	01	224	A	IA / SG	4/11/22	30	9:53	5	9:58				X		X	SN: 21	501	
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Friedman & Bruya, Inc.	SIGNATURE				÷.
3012 16th Avenue West	Relinquished by:	PRINT NAME	COMPANY	DATE	TIME
	The IV	Alicolas R. Hoffman	TAT	4/11/22	1:5:50
Seattle, WA 98119-2029	Received by:			.1	12.20
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Ph. (206) 285-8282	Relinquished by:			-++	
Fax (206) 283-5044	Received by:	1			
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#### APPENDIX D

#### TEE FORM



# **Voluntary Cleanup Program**

# Washington State Department of Ecology Toxics Cleanup Program

# TERRESTRIAL ECOLOGICAL EVALUATION FORM

Under the Model Toxics Control Act (MTCA), a terrestrial ecological evaluation is necessary if hazardous substances are released into the soils at a Site. In the event of such a release, you must take one of the following three actions as part of your investigation and cleanup of the Site:

- 1. Document an exclusion from further evaluation using the criteria in WAC 173-340-7491.
- 2. Conduct a simplified evaluation as set forth in WAC 173-340-7492.
- 3. Conduct a site-specific evaluation as set forth in WAC 173-340-7493.

When requesting a written opinion under the Voluntary Cleanup Program (VCP), you must complete this form and submit it to the Department of Ecology (Ecology). The form documents the type and results of your evaluation.

# Completion of this form is not sufficient to document your evaluation. You still need to document your analysis and the basis for your conclusion in your cleanup plan or report.

If you have questions about how to conduct a terrestrial ecological evaluation, please contact the Ecology site manager assigned to your Site. For additional guidance, please refer to <u>https://ecology.wa.gov/Regulations-Permits/Guidance-technical-assistance/Terrestrial-ecological-evaluation</u>.

#### Step 1: IDENTIFY HAZARDOUS WASTE SITE

Please identify below the hazardous waste site for which you are documenting an evaluation.

Facility/Site Name: Midas Muffler

Facility/Site Address: 7055 15th Avenue Northwest

Facility/Site No:

VCP Project No.:

#### Step 2: IDENTIFY EVALUATOR

Please identify below the person who conducted the evaluation and their contact information.

Name: Nicolas R. Hoffman			Title: Senior Project Geologist		
Organization: Terra Associates, Inc.					
Mailing address: 12220 113 <sup>th</sup> Avenue Northeast, Suite 130					
City: Kirkland		State: WA		Zip code: 98034	
Phone: 425 821-7777	Fax:		E-mail: NHoffman@terra-associates.com		

Step 3: DOCUMENT EVALUATION TYPE AND RESULTS					
A. Exclusion from further evaluation.					
1.	1. Does the Site qualify for an exclusion from further evaluation?				
	$\boxtimes$	Yes If you answered "YES," then answer Question 2.			
	□ Un	No or <i>If you answered "<b>NO" or "UNKNOWN,"</b> then skip to <b>Step 3B</b> of this form.</i>			
2.	What is t	the basis for the exclusion? Check all that apply. Then skip to Step 4 of this form.			
	Point of (	Compliance: WAC 173-340-7491(1)(a)			
		All soil contamination is, or will be,* at least 15 feet below the surface.			
		All soil contamination is, or will be,* at least 6 feet below the surface (or alternative depth if approved by Ecology), and institutional controls are used to manage remaining contamination.			
	Barriers	to Exposure: WAC 173-340-7491(1)(b)			
	$\boxtimes$	All contaminated soil, is or will be,* covered by physical barriers (such as buildings or paved roads) that prevent exposure to plants and wildlife, and institutional controls are used to manage remaining contamination.			
	Undevelo	oped Land: WAC 173-340-7491(1)(c)			
		There is less than 0.25 acres of contiguous <sup>#</sup> undeveloped <sup>±</sup> land on or within 500 feet of any area of the Site and any of the following chemicals is present: chlorinated dioxins or furans, PCB mixtures, DDT, DDE, DDD, aldrin, chlordane, dieldrin, endosulfan, endrin, heptachlor, heptachlor epoxide, benzene hexachloride, toxaphene, hexachlorobenzene, pentachlorophenol, or pentachlorobenzene.			
		For sites not containing any of the chemicals mentioned above, there is less than 1.5 acres of contiguous <sup>#</sup> undeveloped <sup>±</sup> land on or within 500 feet of any area of the Site.			
	Backgrou	und Concentrations: WAC 173-340-7491(1)(d)			
		Concentrations of hazardous substances in soil do not exceed natural background levels as described in WAC 173-340-200 and 173-340-709.			
ace ± " pre # "	ceptable to 'Undevelop event wildlit 'Contiguou	on based on future land use must have a completion date for future development that is becology. bed land" is land that is not covered by building, roads, paved areas, or other barriers that would fe from feeding on plants, earthworms, insects, or other food in or on the soil. s" undeveloped land is an area of undeveloped land that is not divided into smaller areas of tensive paving, or similar structures that are likely to reduce the potential use of the overall area			

В.	8. Simplified evaluation.				
1.	1. Does the Site qualify for a simplified evaluation?				
	🗌 Ye	es If you answered "YES," then answer Question 2 below.			
	🗌 No Unkno	o or wn If you answered " <b>NO</b> " or " <b>UNKNOWN</b> ," then skip to <b>Step 3C</b> of this form.			
2.	Did you cor	nduct a simplified evaluation?			
	🗌 Ye	es If you answered "YES," then answer Question 3 below.			
	🗌 No	If you answered " <b>NO,</b> " then skip to <b>Step 3C</b> of this form.			
3.	Was furthe	r evaluation necessary?			
	🗌 Ye	es If you answered "YES," then answer Question 4 below.			
	🗌 No	lf you answered "NO," then answer Question 5 below.			
4.	If further ev	aluation was necessary, what did you do?			
		Used the concentrations listed in Table 749-2 as cleanup levels. <i>If so, then skip to</i> <b>Step 4</b> of this form.			
		Conducted a site-specific evaluation. If so, then skip to Step 3C of this form.			
5.	If no furthe to Step 4 of	r evaluation was necessary, what was the reason? Check all that apply. Then skip this form.			
	Exposure A	nalysis: WAC 173-340-7492(2)(a)			
		Area of soil contamination at the Site is not more than 350 square feet.			
		Current or planned land use makes wildlife exposure unlikely. Used Table 749-1.			
	Pathway An	alysis: WAC 173-340-7492(2)(b)			
		No potential exposure pathways from soil contamination to ecological receptors.			
	Contaminar	nt Analysis: WAC 173-340-7492(2)(c)			
		No contaminant listed in Table 749-2 is, or will be, present in the upper 15 feet at concentrations that exceed the values listed in Table 749-2.			
		No contaminant listed in Table 749-2 is, or will be, present in the upper 6 feet (or alternative depth if approved by Ecology) at concentrations that exceed the values listed in Table 749-2, and institutional controls are used to manage remaining contamination.			
		No contaminant listed in Table 749-2 is, or will be, present in the upper 15 feet at concentrations likely to be toxic or have the potential to bioaccumulate as determined using Ecology-approved bioassays.			
		No contaminant listed in Table 749-2 is, or will be, present in the upper 6 feet (or alternative depth if approved by Ecology) at concentrations likely to be toxic or have the potential to bioaccumulate as determined using Ecology-approved bioassays, and institutional controls are used to manage remaining contamination.			

<ul> <li>the problem, and (2) selecting the methods for addressing the identified problem. Both steps require consultation with and approval by Ecology. See WAC 173-340-7493(1)(c).</li> <li><b>1. Was there a problem?</b> See WAC 173-340-7493(2).</li> <li>Yes If you answered "YES," then answer Question 2 below.</li> </ul>						
<ul> <li>Yes If you answered "YES," then answer Question 2 below.</li> <li>If you answered "NO," then identify the reason here and then skip to Question below:</li> <li>No issues were identified during the problem formulation step.</li> <li>While issues were identified, those issues were addressed by the cleanup actions for protecting human health.</li> <li>What did you do to resolve the problem? See WAC 173-340-7493(3).</li> <li>Used the concentrations listed in Table 749-3 as cleanup levels. If so, then skip to Question 5 below.</li> <li>Used one or more of the methods listed in WAC 173-340-7493(3) to evaluate and address the identified problem. If so, then answer Questions 3 and 4 below.</li> <li>If you conducted further site-specific evaluations, what methods did you use? Check all that apply. See WAC 173-340-7493(3).</li> <li>Literature surveys.</li> <li>Soil bioassays.</li> <li>Wildlife exposure model.</li> <li>Biomarkers.</li> <li>Site-specific field studies.</li> <li>Weight of evidence.</li> <li>Other methods approved by Ecology. If so, please specify:</li> <li>What was the result of those evaluations?</li> <li>Confirmed there was a problem and established site-specific cleanup levels.</li> <li>Have you already obtained Ecology's approval of both your problem formulation and problem resolution steps?</li> </ul>	C.					
If you answered "NO," then identify the reason here and then skip to Question .         Image: No issues were identified during the problem formulation step.         Image: While issues were identified, those issues were addressed by the cleanup actions for protecting human health.         Image: What did you do to resolve the problem? See WAC 173-340-7493(3).         Image: Used the concentrations listed in Table 749-3 as cleanup levels. If so, then skip to Question 5 below.         Image: Used one or more of the methods listed in WAC 173-340-7493(3) to evaluate and address the identified problem. If so, then answer Questions 3 and 4 below.         Image: Used one or more of the methods listed in WAC 173-340-7493(3) to evaluate and address the identified problem. If so, then answer Questions 3 and 4 below.         Image: Used one or more of the methods listed in WAC 173-340-7493(3) to evaluate and address the identified problem. If so, then answer Questions 3 and 4 below.         Image: Used one or more of the methods listed in WAC 173-340-7493(3).         Image: Literature surveys.         Image: Soil bioassays.         Image: Wildlife exposure model.         Image: Biomarkers.         Image: Site-specific field studies.         Image: Weight of evidence.         Image: Other methods approved by Ecology. If so, please specify:         Image: What was the result of those evaluations?         Image: Confirmed there was a problem and established site-specific cleanup levels.         Image: Here was a problem and establishe	1.	Was there	a problem? See WAC 173-340-7493(2).			
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<ul> <li>Biomarkers.</li> <li>Site-specific field studies.</li> <li>Weight of evidence.</li> <li>Other methods approved by Ecology. If so, please specify:</li> <li>4. What was the result of those evaluations?</li> <li>Confirmed there was no problem.</li> <li>Confirmed there was a problem and established site-specific cleanup levels.</li> <li>5. Have you already obtained Ecology's approval of both your problem formulation and problem resolution steps?</li> </ul>			Soil bioassays.			
<ul> <li>Site-specific field studies.</li> <li>Weight of evidence.</li> <li>Other methods approved by Ecology. If so, please specify:</li> <li>4. What was the result of those evaluations?</li> <li>Confirmed there was no problem.</li> <li>Confirmed there was a problem and established site-specific cleanup levels.</li> <li>5. Have you already obtained Ecology's approval of both your problem formulation and problem resolution steps?</li> </ul>			Wildlife exposure model.			
<ul> <li>Weight of evidence.</li> <li>Other methods approved by Ecology. If so, please specify:</li> <li>4. What was the result of those evaluations?</li> <li>Confirmed there was no problem.</li> <li>Confirmed there was a problem and established site-specific cleanup levels.</li> <li>5. Have you already obtained Ecology's approval of both your problem formulation and problem resolution steps?</li> </ul>			Biomarkers.			
<ul> <li>Other methods approved by Ecology. If so, please specify:</li> <li>4. What was the result of those evaluations?         <ul> <li>Confirmed there was no problem.</li> <li>Confirmed there was a problem and established site-specific cleanup levels.</li> </ul> </li> <li>5. Have you already obtained Ecology's approval of both your problem formulation and problem resolution steps?</li> </ul>			Site-specific field studies.			
<ul> <li>4. What was the result of those evaluations?</li> <li>Confirmed there was no problem.</li> <li>Confirmed there was a problem and established site-specific cleanup levels.</li> <li>5. Have you already obtained Ecology's approval of both your problem formulation and problem resolution steps?</li> </ul>			Weight of evidence.			
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5. Have you already obtained Ecology's approval of both your problem formulation and problem resolution steps?			Confirmed there was no problem.			
problem resolution steps?			Confirmed there was a problem and established site-specific cleanup levels.			
Yes If so, please identify the Ecology staff who approved those steps:	5.					
			If so, please identify the Ecology staff who approved those steps:			
□ No						
	-					

#### Step 4: SUBMITTAL

Please mail your completed form to the Ecology site manager assigned to your Site. If a site manager has not yet been assigned, please mail your completed form to the Ecology regional office for the County in which your Site is located.



If you need this publication in an alternate format, please call the Toxics Cleanup Program at 360-407-7170. People with hearing loss can call 711 for Washington Relay Service. People with a speech disability can call 877-833-6341.

#### **APPENDIX E**

DISPROPORTIONATE COST ANALYSIS (DCA)

Disproportionate Cost Analysis

Prepared for:

Anderson & Associates 7420 Southeast 24th Street, Suite 4 Mercer Island, WA 98040

Midas Muffler Building 7055 15th Avenue Northwest Seattle, Washington 98117

Project No. T-8336-5

Prepared by:

Nicolas R. Hoffman, L.G. Senior Project Geologist

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#### ACRONYMS

bgs	below ground surface
CAO	Cleanup Action Objective
CAP	Cleanup Action Plan
COCs	Chemicals of Concern
cPAHs	carcinogenic Polycyclic Aromatic Hydrocarbons
DCA	Disproportionate Cost Analysis
Ecology	Washington State Department of Ecology
EPA	U.S. Environmental Protection Agency
EPH	Extractable Petroleum Hydrocarbon
MTCA	Model Toxics Control Act
NFA	No Further Action
O & M	Operations and Maintenance
ORH	Oil Range Hydrocarbons
PAHs	Polycyclic Aromatic Hydrocarbons
PCB's	Polychlorinated Biphenyls
Site	Midas Muffler Property
TAI	Terra Associates, Inc.
TPH-Dx	Total Petroleum Hydrocarbons in the Diesel range
VCP	Voluntary Cleanup Program
VPH	Volatile Petroleum Hydrocarbon
WAC	Washington Administrative Code

#### 1.0 INTRODUCTION

Terra Associates, Inc., has prepared this Disproportionate Cost Analysis (DCA) on behalf of MBA NW 73rd, LLC, for the Midas Muffler property (Site), located at 7055 15th Avenue Northwest in Seattle, Washington. The Site and vicinity are shown on Figure 1. This DCA was prepared for submittal to the Washington State Department of Ecology (Ecology), and developed to select a cleanup action based on the remedy selection criteria and requirements as defined by the Washington State Model Toxics Control Act (MTCA) Regulation in Chapters 173-340-350 through 173-340-390 of the Washington Administrative Code (WAC).

Per WAC 173-340-200, the Site is defined by the full lateral and vertical extent of contamination in soil that has resulted from the historic operation of an auto repair shop on the property. Based on the information gathered to date, the Site contains oil-range hydrocarbon-contaminated soil within and immediately adjacent to the eastern margin of the existing building footprint on the property.

The purpose of this DCA is to address the soil contamination underlying the property.

#### 2.0 SELECTION AND DESCRIPTION OF CLEANUP ALTERNATIVES

The purpose of this DCA is to recommend a cleanup action that meets the requirements of MTCA, specifically WAC 173-340-350(8). Typical DCAs include extensive development, screening, and evaluation for several remedial alternatives. Due to the relatively simple site-specific conditions, this evaluation focused on a limited number of feasible remedial options and alternatives, capable of meeting the remedial objectives.

Remedial components were evaluated with respect to the degree which they comply with MTCA. Components were evaluated with respect to the following criteria:

- Evaluation of alternatives that protect human health and the environment by eliminating, reducing, or controlling risks.
- Evaluation of a reasonable number of alternatives, taking into account the current site conditions, characteristics, and physical properties.
- Evaluation of alternatives that have the standard point of compliance for all affected media, unless the alternatives are not technically possible or are disproportionately costly for the benefit obtained.
- Evaluation of at least one permanent cleanup alternative, unless it is not technically possible or is disproportionately costly for the benefit obtained.

Using these criteria, we identified the following three options:

- Excavation and land disposal of accessible soil with Oil Range Hydrocarbons (ORH), leaving in place a small wedge of ORH impacted soil beneath the southeast footings of the existing building on the Site.
- Excavation and land disposal of all soil impacted with ORH with foundation underpinning.
- Leave all contaminated soil in place and remodel the existing building for a new tenant.

#### 2.1 Cleanup Action Objectives

WAC (173-340) identifies several Cleanup Action Objectives (CAOs) to consider when preparing a DCA. The purpose of the CAOs is to provide remedial alternatives for the site that protect human health and environment. A list of applicable CAOs for the site is provided below:

- Protect human health and environment.
- Comply with cleanup levels.
- Provide for compliance monitoring.
- Provide a reasonable restoration time frame.
- Comply with applicable state and federal laws.
- Consideration of public concerns.
- Use permanent solutions to the extent practical.

The objectives are to mitigate the risk to human health and environment and obtain a No Further Action (NFA) determination with environmental covenant from Ecology. The NFA will facilitate the remodeling of the existing building onsite.

The cleanup standards for the site are defined in the RI/FS study prepared for the site.

#### 2.2 Cleanup Action Alternatives

This evaluation of technically feasible alternatives considered the practical remediation components confirmed to be effective at treating the Chemicals of Concern (COC's) in the affected media of concern (soil). We also considered whether site constraints would result in substantial costs without proportional benefits for both alternatives.

# 2.2.1 Cleanup Action Alternative #1, Excavation and Land Disposal of Accessible Soil with ORH, Leaving in Place a Small Wedge of ORH Impacted Soil beneath the Southeast Footings of the Existing Building on the Site. (This alternative was completed in the winter and spring of 2022)

Excavation and removal of the contaminated soils located beneath the building is the most definitive way to ensure all contaminated soil exceeding applicable MTCA concentrations is adequately removed from the site. Approximately 425 cubic yards of contaminated soil was removed and hauled offsite for disposal. The eastern margin of contaminated soil extends beneath two column footings providing foundation support for the existing building. We have estimated roughly 100 yards of ORH contaminated soil is present beneath and adjacent to the column footings. All soil that could safely be removed from beneath the building without jeopardizing the structural integrity of the eastern column footings was removed and hauled offsite to an appropriate waste facility. Confirmation sidewall samples were collected approximately every 20 linear feet and confirmation base samples were collected approximately every 400 square feet per Ecology Publication No. 10-09-057 *Guidance for Remediation of Petroleum Contaminated Sites (2016)*. Shallow soil gas samples were collected above to the wedge of ORH contaminated soil to assess the vapor migration pathway. The vapor samples were collected to assess whether vapor concentrations in the remaining ORH contaminated soil exceed generic Method B cleanup values for shallow soil vapor screening.

This alternative will likely result in an NFA from Ecology. A restrictive environmental covenant will likely need to be created to address the small wedge of contaminated soil left in place. The costs to complete Alternative #1 are presented in Attachment A. This alternative was completed in the winter and spring of 2022.

# 2.2.2 Cleanup Action Alternative #2, Excavation and Land Disposal of all ORH Contaminated Soil Onsite with Foundation Underpinning.

To access all the ORH contaminated soil on site, the southeastern portion of the existing building would need to be partially demolished or temporarily underpinned. Approximately 100 additional cubic yards of contaminated soil would be hauled offsite for disposal. This alternative is similar to Alternative #1 but would remove all ORH from the site. The current plan for future site use is to remodel the existing building for a new tenant. Although this alternative is the most protective of human health and environment, the cost is roughly twice that of Alternative #1. This alternative would also likely result in an NFA from Ecology with no need for a restrictive covenant. The additional costs consist of permits, installing pin piles to support the existing building foundations, and additional consultant costs for soil sampling and report preparation. The City of Seattle DCI is currently backlogged on permit applications. This would lead to additional down time before the remodel for a new tenant could occur. The costs to complete Alternative #2 are presented in Attachment A.

# 2.2.3 Cleanup Action Alternative #3, Remodel the Existing Building with No Cleanup Action to Address the ORH Contaminated Soil.

For this option, the building would be remodeled and occupied by a new tenant without addressing the contaminated soil beneath the building. This option would be out of compliance with MTCA regulations and likely not protective of human health and environment. The property would be available to lease and generate revenue in the short term. This alternative was not feasible for the property owner and was not pursued further.

#### 3.0 DETAILED ALTERNATIVE EVALUATIONS

The following section provides a detailed evaluation of the 3 alternatives presented for this analysis using the following criteria established in MTCA:

- Protect human health and environment.
- Comply with MTCA cleanup standards.
- Comply with state and federal laws.
- Provide for compliance monitoring.
- The use of permanent solutions to the maximum possible extent.
- Provide a reasonable restoration time frame.

#### 3.1 Alternative Comparison with Threshold Criteria

**Protection:** Alternative #2 provides complete protection of human health and environment. Alternative # 1 provides a high degree of protection of human health and environment. Alternative #3 does not provide any protection regarding human health and environment. Alternative #2 scores higher than Alternative #1 because it completely removes all ORH contaminated soil from the Site. Alternative #3 provides no protection, is screened out as a viable alternative, and is not discussed further in this analysis.

**Permanence:** Both alternatives #1 and #2 provide a great deal of permanence for the Site. Alternative #2 provides slightly greater permanence by removing all soil contaminated with ORH. Alternative # 1 also provided permanence by closing out both soil and vapor exposure pathways. Roughly 30 vertical feet of clean till soil separates the ORH contaminated soil from the groundwater table making recontamination from the small wedge of soil left in place unlikely. Alternative #2 ranks slightly higher than Alternative #1.

**Cost:** We estimate the approximate cost of Cleanup Action Alternative #1 was about \$213,000 and the cost of Cleanup Alternative #2 to be about \$430,000. Alternative #1 cost about one half as much as alternative #2 and because of this, ranks significantly higher.

**Long Term Effectiveness:** Both options #1 and # 2 rank high for long-term effectiveness for the site. Alternative # 1 was slightly less effective by leaving a small amount of ORH contaminated soil in place. Alternative # 2 would require building permits and take longer to complete remediation. The two options score the same for long term effectiveness. Both alternatives are protective of human health and environment.

**Short-term risk management:** The short-term risks for alternative #2 are much higher than alternative #1 because it involves underpinning and shoring beneath the foundation of the existing building.

Administrative implementation: The administrative obstacles to Alternative # 1 are low. A restrictive covenant on the ORH contaminated soil will likely be necessary, but can be achieved with relative ease.

**Public Concern:** Both options rank relatively high with respect to public concern. Alternative #2 ranks slightly lower due to an increase in truck traffic and emissions related to the additional export necessary to remove all the ORH contaminated soil.

#### 3.2 Disproportionate Cost Analysis

Our analysis indicated Alternative #1 costs significantly less to complete than Alternative #2. Approximate cost breakdowns for each alternative are provided in Attachment A. The degree of incremental benefit provided by alternative #2 is minimal compared to Alternative #1. A chart showing both the cost and MTCA benefit ranking is attached as Attachment B. Both alternatives are protective to human health and environment. There is no current plan to redevelop the site in the near future. If the current plan changes, the remaining small wedge of ORH contaminated soil could be addressed concurrently with site redevelopment. Alternative #1 was completed in the winter and spring of 2022. The soil pathway is broken with a permanent asphalt and concrete cap. A restrictive covenant will be drafted to address the small remaining pocket of ORH contaminated soil. The groundwater pathway is broken by a relatively impermeable 30-foot- thick layer of till soils separating the remaining ORH contaminated soil from the groundwater table. To date, no MTCA exceedances have been identified in site groundwater. The vapor pathway was demonstrated to be broken by results of shallow soil vapor samples collected above the remaining pocket of ORH contaminated soil.

#### 3.3 Recommended Cleanup Action Alternative

Cleanup Alternative #1 ranks highest using MTCA evaluation criteria. The cost of alternative is roughly one-half the cost of Alternative #2. Alternative #1 was selected as the cleanup alternative based on the combination of the ranking and disproportionate cost.

#### ATTACHMENT A

#### **Disproportionate Cost Analysis Data**

#### <u>Cleanup Action Alternative #1</u>: Excavation and Land Disposal with Contaminated Wedge Left in Place

<u>Capital Costs</u>	Cost
Well Decommissioning	\$2,400.00
Slab Demo and Concrete Export	\$21,900.00
Observation/Sampling/Lab Fees	\$42,200.00
Soil Disposal and Import Fill	\$139,182.36
Agency Review	\$7,000.00
Total	\$ 212,682.36

#### <u>Cleanup Action Alternative #2</u>: Excavation and Removal of All ORH Contaminated Soil With Underpinning of Building Foundation

Capital Costs	Cost
Well Decommissioning	\$2,400.00
Slab Demo and Concrete Export	\$29,200.00
Observation/Sampling/Lab Fees	\$57,200.00
Soil Disposal, Import Fill, Foundation Underpinning	\$294,456.36
Agency Review	\$7,000.00
10% Contingency	\$39,025.64
Total	\$429,282.00

#### APPENDIX F

#### LIMITATIONS

We conducted limited testing for this report. Testing was based on documented environmental information for the site. The findings, conclusions, and recommendations presented in this report are our professional opinions based on our documented site observations, review of historical and regulatory information, interviews, and review of the referenced historical resources. Other information related to past site uses or current site conditions may exist. Our conclusions in part are based on information provided or prepared by others.

If further information on the site becomes available, Terra Associates, Inc. should review the information, as it may affect our conclusions.

We prepared our conclusions and recommendations in accordance with generally accepted professional engineering practices. We make no other warranty, either expressed, or implied. This report is the copyrighted property of Terra Associates, Inc. and is intended for specific application to the Midas Muffler project in Seattle, Washington. This report is for the exclusive use of MBA NW 73<sup>rd</sup>, LLC, and their authorized representatives.