



August 13, 2020
HWA Project Number 2019-054-22

Aegis Living
415 118th Avenue SE
Bellevue, Washington 98005

Attention: Mr. Walter Braun
Subject: **ENVIRONMENTAL SOIL SAMPLING AND MONITORING**
Aegis Kirkland
21 – 10th Avenue South
Kirkland, Washington

Dear Mr. Braun,

This letter report presents the results of shallow environmental soil sampling and monitoring performed during stormwater utility installation in the right-of way adjoining an Aegis Living Senior Living Facility located on the southeast corner of the intersection of 10th Avenue South and Lake Street South/Lake Washington Boulevard Northeast (herein referred to as the Project Area).

The primary purpose of the sampling and monitoring was to test for potential contaminated soils in the right-of-way during storm sewer line installation near areas where contaminated soils were left in place on the adjoining property following a prior cleanup.

The location of the Project Area is shown on the Vicinity Map, [Figure 1](#), and the locations of soil monitoring activities are shown on the Soil Sampling Monitoring Map, [Figure 2](#).

ENVIRONMENTAL PROJECT BACKGROUND

As documented in the *Phase I Environmental Site Assessment Report* completed by HWA on May 29, 2019, the southwest portion of the Project Area was occupied by a gasoline service station from 1957 to 1973. Soil contamination from the former gasoline service station was remediated to the satisfaction of the Washington State Department of Ecology (Ecology), the applicable regulatory authority). Impacts below cleanup levels were left in place in soils on the southwest portion of the Project Area and impacts above cleanup levels were noted in off-site soils adjacent to the western border of the property. A No Further Action (NFA) letter prepared by Ecology in March 2018, engineering controls in the form of a Volclay barrier wall, and an environmental covenant are in place for environmental impacts at the Project Area.

Ecology requested sampling and monitoring of utility excavations near known impacted areas in the southwest portion of the Project Area. Construction activities in this area included excavation of a utility trench for installation of a 12-inch PVC storm sewer line. The depth of the trench was expected to be approximately 1 to 2-feet below the top of the zone of contaminated soils. The portion of trench in the suspected contaminated area is approximately 90 feet long (north to south), and is located approximately 5 feet west of known contaminated soil (see [Figure 3](#)).

ENVIRONMENTAL SOIL SAMPLING RESULTS

On July 1, 2020 HWA personnel sampled soils from two test pit locations selected by Aegis Living (TP-1 and TP-2), located along the alignment of the proposed storm sewer trench. Soil samples were collected by retrieving soil directly from the excavation when shallower than 4 feet and stable, and the deeper sample was collected using a hand auger directly from an approximately 6-inch diameter hole created by a vacuum truck used to navigate around existing underground utilities. Equipment was decontaminated prior to and after each use with detergent solution, potable water, and deionized water. Nitrile gloves used to collect each sample from the excavation or hand auger were replaced between each sample. HWA conducted field screening of the all soils for the presence of volatile organic vapors using a Mini-Rae 3000 Photoionization Detector (PID). In addition, a water sheen test was performed and any visual indications of contamination and/or odors were noted. To field screen, a small amount of soil from a discrete depth was placed in a plastic bag, sealed, and permitted to sit at least 2 to 3 minutes prior to analyzing the vapor in the sample bag. The bag was then perforated by the PID tip to obtain the reading. HWA placed all samples in clean, unused, laboratory-supplied containers. Samples were labeled with pertinent sampling information, transferred to an ice-filled, insulated cooler, and transported to the analytical laboratory under chain-of-custody procedures. The soil samples were analyzed by OnSite Environmental Inc. of Redmond, Washington, an Ecology-accredited third-party analytical laboratory, under subcontract to HWA. Based on the contaminants of concern (COC) previously identified at the Project Area, the soil samples were submitted for chemical analyses for the following COCs:

- Total petroleum hydrocarbons (TPH) in the diesel range (TPHd), oil range (TPHo), and gasoline range (TPHg) using Ecology method NWTPH-Dx and NWTPH-Gx, respectively;
- RCRA metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver) using Environmental Protection Agency (EPA) method 6010D/7471B;
- Benzene, toluene, ethylbenzene and xylenes (BTEX) using EPA method 8021B; and
- Halogenated volatile organic compounds (HVOCs) using EPA method 8260C.

Excavated soils from test pit activities were placed back into the excavation as backfill, with the assumption that these soils will later be removed once construction activities begin in these areas. No ground water was encountered during excavation activities.

Laboratory results indicated that, with the exception of barium and chromium, no COCs were detected above laboratory reporting limits in both samples. Barium and chromium were detected at concentrations below Ecology's Model Toxic Control Act (MTCA) Method A soil cleanup

levels (Ecology Toxics Cleanup Program Publication No. 94-06). Laboratory results are attached in [Appendix A](#) and summarized in [Table 1](#).

EXCAVATION MONITORING RESULTS

On July 27 and 28, 2020, HWA personnel monitored excavation activities during installation of the storm sewer line in the areas located near the known contaminated soils in the southwest portion of the Project Area. HWA conducted field screening of soils for the presence of volatile organic vapors using a Mini-Rae 3000 PID and water sheen test to approximately 5 feet below ground surface (bgs). Soils were screened approximately every 5 linear feet along the areas of suspected contamination (identified as Location ID 1 through 14 on [Figure 2](#)). Additionally, two soil samples (Location ID 5 and 10) were screened using PetroFLAG on-site test kits for determining the presence of TPH in the soil. All field screening results indicated no detections of impacts and both PetroFLAG tests conducted showed negative results for the presence of TPH. Based on the prior test pit soil sample analytical results and excavation field screening results, spoils from the excavation were disposed of with no restrictions. Results of all field screening activities are displayed in [Figure 2](#) and photographs of areas monitored are attached in [Appendix B](#).

SOIL BACKFILL MONITORING

On July 29th the previously noted areas where soil was removed for the installation of the storm drain tie-in was backfilled with clean imported Type 17 soil backfill.



We appreciate the opportunity to provide our services. Please feel free to contact us if you have any questions or need more information.

Sincerely,

HWA GEOSCIENCES INC.

Austin York, LG
Geologist

Arnie Sugar, LG, LHG
Principal Hydrogeologist

Attachments:

Table 1	Soil Sample Analytical Results
Figure 1	Vicinity Map
Figure 2	Soil Sampling Monitoring Map

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Figure 3	Lake Street S. Frontage Plans
Appendix A	Laboratory Test Results
Appendix B	Soil Monitoring Photographs

Aegis Kirkland
Table 1- Soil Sample Analytical Results
All values in mg/kg except as noted

Sample Location		MTCA A/B ¹	Ecology Reuse Guidelines ²	Background ³	TP-1	TP-2
Sample Depth (ft bgs)			Category 1		6	6
Sample Date					7/1/2020	7/1/2020
Total Petroleum Hydrocarbons	TPHDx	2,000	<25	NA	<28	<28
	TPHO	2,000	<100	NA	<57	<57
	TPHGx	100 / 30	<5	NA	<5.1	<5.1
Select VOCs	Benzene	0	<0.005	NA	<0.020	<0.020
	Toluene	7	<0.005	NA	<0.051	<0.051
	Ethylbenzene	6	<0.005	NA	<0.051	<0.051
	Xylenes	9	<0.015	NA	<0.051	<0.051
HVOCs	See Lab Report 2007-007	-	NE	NA	ND	ND
RCRA Metals	Arsenic	20	NE	7	<11	<11
	Barium	16,000 (B)	NE	NE	47	39
	Cadmium	2	NE	1	<0.57	<0.57
	Chromium (total)	19/2,000 ⁴	NE	48	23	21
	Chromium (VI)	19	NE	NE	<1.1	<1.1
	Lead	250	<17	24	<5.7	<5.7
	Mercury	2	NE	0.07	<0.28	<0.28
	Selenium	400 (B)	NE	NE	<11	<11
	Silver	400 (B)	NE	NE	<1.1	<1.1

Notes:

¹ MTCA A/B – Ecology MTCA Method A/B soil cleanup levels, Chapter 173-340 WAC, shown for reference only. These cleanup levels may not apply at the project area and are provided as a screening level indication of the environmental quality of the project area only.

² Ecology Reuse Guidelines – WA Department of Ecology Guidance for Remediation of Petroleum Contaminated Sites, Publication No. 10-09-057. Category 1 = Unrestricted Use, Category 2 = Commercial Fill Above Water Table, Category 3 = Paving Base Material & Road Construction, Category 4 = Landfill Daily Cover or Asphalt Manufacturing.

³ – Natural Background Soil Metals Concentrations in Washington State (Ecology, 1994)

⁴ –The MTCA Method A soil cleanup level for trivalent chromium is 2,000 mg/kg.

< - Analyte not detected at listed reporting limit

Bold – Analyte detected at concentration greater than the laboratory reporting limit

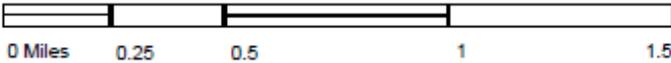
NE – Not Established

ND – Not Detected

NA – Not Available



Kirkland, 2014, 7.5-Minute Topographic Map



VICINITY MAP

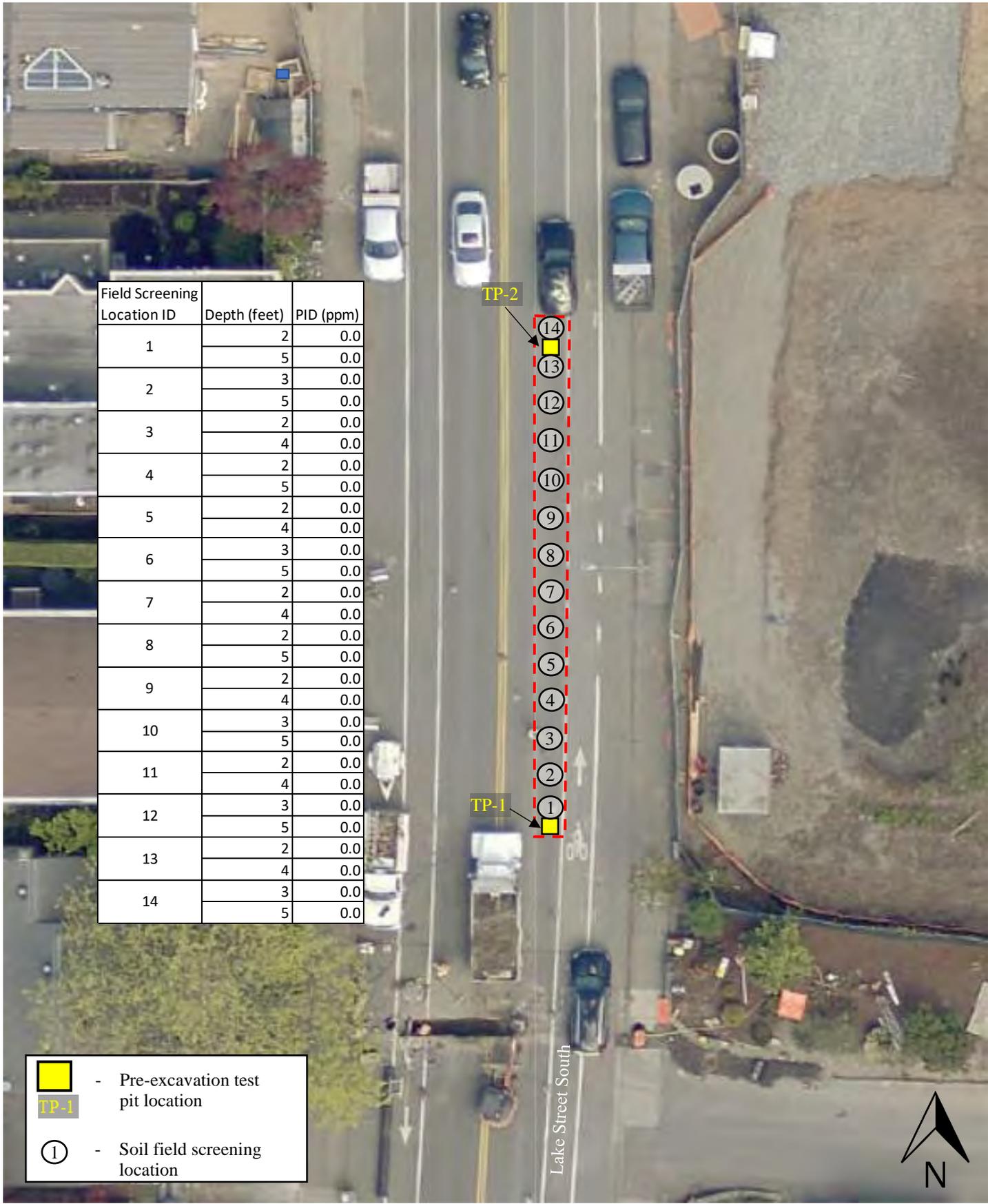
AGIS KIRKLAND
 21 – 10TH AVENUE SOUTH
 KIRKLAND, WASHINGTON

FIGURE NO.

1

PROJECT NO.

2019-054



Field Screening		
Location ID	Depth (feet)	PID (ppm)
1	2	0.0
	5	0.0
2	3	0.0
	5	0.0
3	2	0.0
	4	0.0
4	2	0.0
	5	0.0
5	2	0.0
	4	0.0
6	3	0.0
	5	0.0
7	2	0.0
	4	0.0
8	2	0.0
	5	0.0
9	2	0.0
	4	0.0
10	3	0.0
	5	0.0
11	2	0.0
	4	0.0
12	3	0.0
	5	0.0
13	2	0.0
	4	0.0
14	3	0.0
	5	0.0

-  - Pre-excitation test pit location
-  - Pre-excitation test pit location
-  - Soil field screening location

SOIL SAMPLING MONITORING MAP

AEGIS KIRKLAND
 21 – 10TH AVENUE SOUTH
 KIRKLAND, WASHINGTON

FIGURE NO.

2

PROJECT NO.

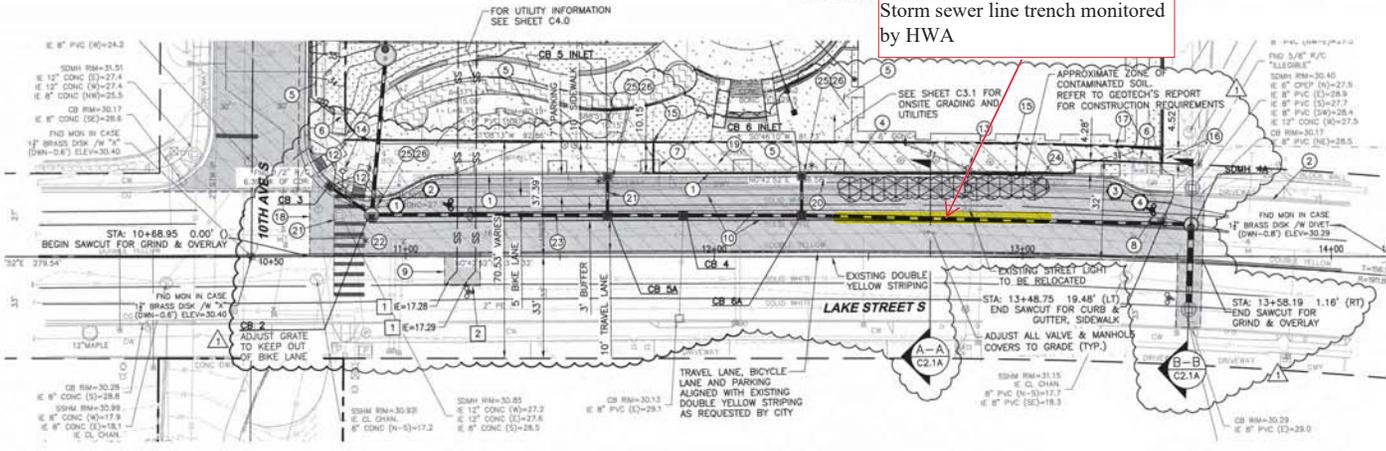
2019-054



GEOSCIENCES INC.
 DBE/MWBE

NE 1/4, SW 1/4, SEC. 8, T.25N., R.05E., W.M.

Storm sewer line trench monitored by HWA



KEY NOTES

- INSTALL CURB AND GUTTER TYPE "A" PER COK STD. PLAN CK-R.17, SHEET C2.2.
- EXISTING CURB & GUTTER TO REMAIN.
- 50 LF 12" PVC, S=1% MIN., SEE SHEET C3.0.
- INSTALL NEW CONCRETE SIDEWALK PER COK STD. PLAN CK-R.23, SHEET C2.2.
- SEE LANDSCAPE PLANS IN ARCHITECTURAL SET FOR LOCATION OF PLANTERS, HARDSCAPE FEATURES, AND CONCRETE SCORING.
- PSE UTILITY VAULT. VAULT TO BE RESET TO MATCH ESTABLISHED SIDEWALK GRADES OR RELOCATED, CONTRACTOR TO COORDINATE VAULT ADJUSTMENT AND LOCATION WITH PSE.
- REFER TO LANDSCAPE PLANS ARCHITECTURAL SET FOR PLANTING.
- BIKE LANE MARKING PER COK STD. PLAN CK-R.34, SHEET C2.3.
- TRENCH REPAIR PER COK STD. PLAN CK-R.13A, SHEET C2.2. TRENCH RESTORATION SHALL BE DONE PRIOR TO OVERLAY.
- 4" WIDE SOLID WHITE STRIPE
- NOT USED.
- GRADING THIS AREA SEE SHEET C3.2. INSTALL ADA PERPENDICULAR CURB RAMP PER WDOT STANDARD PLAN F-40.15-03.
- RELOCATE EXISTING LIGHT POLE REFER TO COK STANDARD PLAN CK-TS.08 FOR FOUNDATION REQUIREMENTS. VERIFY LOCATION WITH CITY OF KIRKLAND, PUBLIC WORKS, PRIOR TO INSTALLATION.
- PROVIDE AND INSTALL NEW 4000K LED (53 WATT) STREET LIGHT WHERE SHOWN PER COK STANDARD PLAN CK-TS.08. VERIFY INSTALLATION LOCATION AND REQUIREMENTS WITH CITY OF KIRKLAND. SHOP DRAWING MUST BE SUBMITTED AND APPROVED BY CITY OF KIRKLAND PRIOR TO INSTALLATION. LIGHTING DESIGN FOR LAKE STREET S PART OF EXISTING CITY OF KIRKLAND LAKEFRONT FEE & BENE IMPROVEMENTS BY TRANSPRO GROUP DATED 6/15/2018. PLANS AVAILABLE FROM CITY UPON REQUEST.
- ROW DEDICATION: LEGAL DESCRIPTION AND EXHIBIT SUBMITTED SEPARATELY.
- REINSTATE BLOCK WALL AT BACK OF SIDEWALK IMPROVEMENTS.
- TELECOM OR PSE ENCLOSURE TO BE UNDERGRADED OR RELOCATED. COORDINATE WITH OWNER.
- PAVEMENT RESTORATION REQUIRED PER COK STD. PLAN CK-R.13 SHEET C2.2. PAVEMENT / TRENCH RESTORATION SHALL BE DONE PRIOR TO OVERLAY.
- PROTECT UNDERGROUND POWER.*
- PROTECT UNDERGROUND TELECOM CABLE.*
- REMOVE EXISTING STRUCTURE, ABANDON PIPES PER COK STANDARDS.
- RESTORE CROSSWALK PER COK STD. DETAIL CK-R28.
- CONTRACTOR TO LOCATE HORIZONTAL AND VERTICAL UTILITIES AT PIPE CROSSINGS PRIOR TO WORK IN LAKE STREET AND 10TH AVE S. TO VERIFY NO CROSSING CONFLICTS EXIST WITH EXISTING UTILITIES.
- CONTAMINATED TRENCH EXCAVATED MATERIAL SHALL BE DISPOSED PER STATE AND FEDERAL REQUIREMENTS. CONTRACTOR SHALL NOT BE REQUIRED TO EXCAVATE CONTAMINATED MATERIAL BEYOND WHAT IS REQUIRED FOR PIPE INSTALLATION. REFER TO EARTH SOLUTIONS NW LLC. EXHIBIT INCLUDED IN DEPARTMENT OF ECOLOGY LETTER, DATED MARCH 6, 2018 & ENVIRONMENTAL COVENANT KING COUNTY RECORDING NO. 20180305000370.
- CONTRACTOR TO LOCATE EX. DUCT BANK PRIOR TO CONSTRUCTION TO IDENTIFY ANY POSSIBLE UTILITY CONFLICTS.
- POTHOLE AT CB LOCATION TO VERIFY EX. UTILITY CLEARANCE LIMITS. INSTALL INCREASED PAVEMENT IF LESS THAN 6" CLEARANCE.

SEWER NOTES:

NOTES ARE INFORMATIONAL.

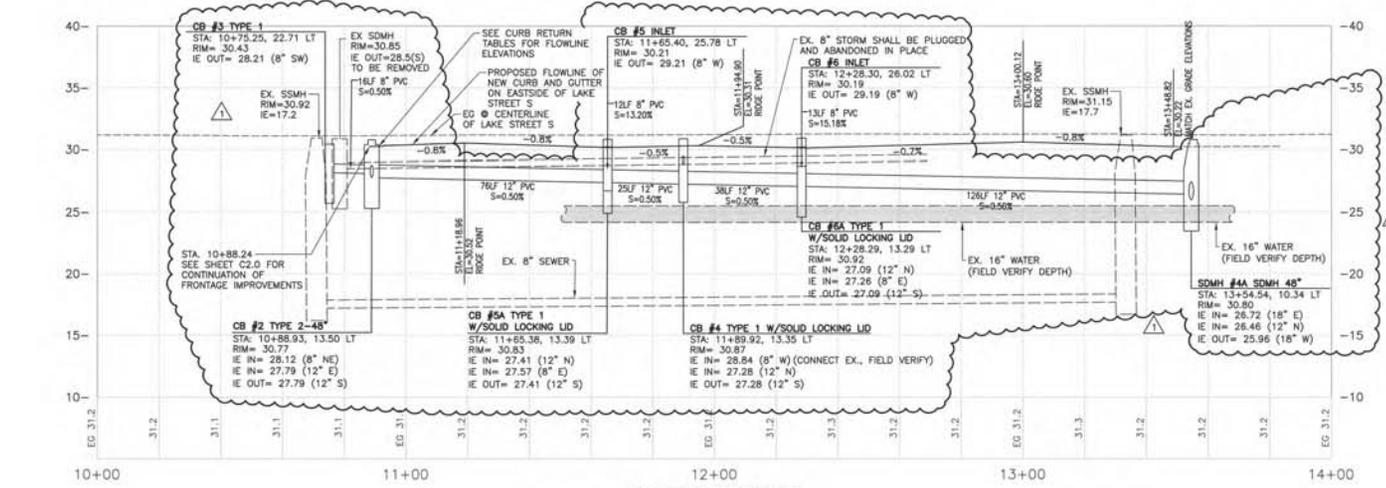
- CONNECT NEW 6" SIDE SEWER TO 8" SEWER MAINLINE. S=2% MIN. STA: 11+14.13 & STA: 11+20.13

NOTES

- MATCH INTO EXISTING GRADES AT SAWCUT LINE.

LEGEND

- SAWCUT PER COK STD. PLAN CK-R.12 SHEET C2.2
- CONCRETE SURFACE
- ASPHALT SURFACE
- GRIND AND OVERLAY PER COK STD. PLAN CK-R.13A, SHEET C2.2
- CURB RETURN

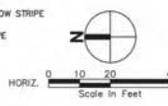


LAKE STREET SOUTH
SCALE: H= 1"=20'
V= 1"=5'

CURB RETURN		CURB RETURN		CURB RETURN		CURB RETURN	
PC STA: 10+91.29	19.05' (LT) EL=30.67	PC STA: 11+04.65	24.31' (LT) EL=30.58	PC STA: 13+26.84	25.42' (LT) EL=30.39	PC STA: 13+34.96	22.69' (LT) EL=30.33
1/4d	EL=30.66	1/4d	EL=30.57	1/4d	EL=30.38	1/4d	EL=30.31
1/2d	EL=30.65	1/2d	EL=30.56	1/2d	EL=30.37	1/2d	EL=30.30
3/4d	EL=30.64	3/4d	EL=30.54	3/4d	EL=30.35	3/4d	EL=30.29
PT STA: 10+98.67	20.96' (LT) EL=30.62	PT STA: 11+11.84	26.22' (LT) EL=30.53	PT STA: 13+33.33	23.58' (LT) EL=30.34	PT STA: 13+41.45	20.84' (LT) EL=30.27
Δ=26°42'14"	R=15.00'	Δ=28°42'14"	R=15.00'	Δ=26°00'48"	R=15.00'	Δ=26°00'48"	R=15.00'
L=7.51'		L=7.51'		L=6.81'		L=6.81'	

STRIPING LEGEND

- 6" SWS - 6" WIDE SOLID WHITE STRIPE
- 4" DWS - 4" WIDE DASHED WHITE STRIPE
- 12" SWS - 12" WIDE SOLID WHITE STRIPE (STOP BAR)
- 4" SDS - 4" WIDE SOLID DOUBLE YELLOW STRIPE
- 4" SY - 4" WIDE SOLID YELLOW STRIPE



* CONTRACTOR TO POTHOLE AND FIELD VERIFY EXISTING UTILITIES (POWER/GAS/COMMUNICATION/WATER/SEWER/STORM) PRIOR TO INSTALLATION OF PROPOSED STORM DRAINAGE IMPROVEMENTS AND PROVIDE CONFIRMATION OF NO CONFLICTS WITH EXISTING UTILITIES TO THE PROJECT ENGINEER.

CALL BEFORE YOU DIG 811
(UNDERGROUND SERVICE LOC)

CRD-1

DATE	6/19/20
DESIGNED BY	SS
CHECKED BY	SS
DATE	6/19/20
DESIGNED BY	SS
CHECKED BY	SS
DATE	6/19/20
DESIGNED BY	SS
CHECKED BY	SS
DATE	6/19/20
DESIGNED BY	SS
CHECKED BY	SS

CRD-1 - STORM DRAIN REVISION (REVISION 2)
CRD-1 - STORM DRAIN REVISION (REVISION 1)
CRD-1 - STORM DRAIN REVISION

11205 Kirkland Way, Suite 300
Kirkland, WA 98033
p 425.827.2017 | f 425.827.5043
Civil | Structural | Planning | Survey
pasenrgs.com

AGIS SENIOR COMMUNITIES
415 116TH AVENUE SE
BELLEVUE, WASHINGTON 98005

VERIFICATION SCALE
DATE: 06/19/20
SCALE: AS SHOWN

AGIS KIRKLAND
1002 LAKE STREET SOUTH
KIRKLAND, WASHINGTON 98033

LAKE STREET S - FRONTAGE
IMPROVEMENTS

SHEET C2.1

FILE NAME: P:\173364-AGIS KIRKLAND\CAD\ENGINEERING\DWG\SET\PT173364-FRONTAGE.DWG
DRAWN BY: J. H. HARRIS
DATE: 6/19/20
PLOT TIME: 6/19/20 11:28 AM
USER: JHARRIS
PLOT DEVICE: HP DesignJet 5000
PLOT FILE: P:\173364-AGIS KIRKLAND\CAD\ENGINEERING\DWG\SET\PT173364-FRONTAGE.DWG
PLOT FILE: P:\173364-AGIS KIRKLAND\CAD\ENGINEERING\DWG\SET\PT173364-FRONTAGE.DWG

Appendix A

Laboratory Test Results



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

July 2, 2020

Nicole Kapise
HWA GeoSciences, Inc.
21312 30th Drive SE, Suite 110
Bothell, WA 98021

Re: Analytical Data for Project 2019-054
Laboratory Reference No. 2007-007

Dear Nicole:

Enclosed are the analytical results and associated quality control data for samples submitted on July 1, 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,

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

David Baumeister
Project Manager

Enclosures



OnSite Environmental, Inc. 14648 NE 95th 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: July 2, 2020
Samples Submitted: July 1, 2020
Laboratory Reference: 2007-007
Project: 2019-054

Case Narrative

Samples were collected on July 1, 2020 and received by the laboratory on July 1, 2020. They were maintained at the laboratory at a temperature of 2°C to 6°C.

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

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



Date of Report: July 2, 2020
 Samples Submitted: July 1, 2020
 Laboratory Reference: 2007-007
 Project: 2019-054

**GASOLINE RANGE ORGANICS/BTEX
 NWTPH-Gx/EPA 8021B**

Matrix: Soil
 Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	TP-1 (6')					
Laboratory ID:	07-007-02					
Benzene	ND	0.020	EPA 8021B	7-1-20	7-1-20	
Toluene	ND	0.051	EPA 8021B	7-1-20	7-1-20	
Ethyl Benzene	ND	0.051	EPA 8021B	7-1-20	7-1-20	
m,p-Xylene	ND	0.051	EPA 8021B	7-1-20	7-1-20	
o-Xylene	ND	0.051	EPA 8021B	7-1-20	7-1-20	
Gasoline	ND	5.1	NWTPH-Gx	7-1-20	7-1-20	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>Fluorobenzene</i>	97	58-129				
Client ID:	TP-2 (6')					
Laboratory ID:	07-007-04					
Benzene	ND	0.020	EPA 8021B	7-1-20	7-1-20	
Toluene	ND	0.051	EPA 8021B	7-1-20	7-1-20	
Ethyl Benzene	ND	0.051	EPA 8021B	7-1-20	7-1-20	
m,p-Xylene	ND	0.051	EPA 8021B	7-1-20	7-1-20	
o-Xylene	ND	0.051	EPA 8021B	7-1-20	7-1-20	
Gasoline	ND	5.1	NWTPH-Gx	7-1-20	7-1-20	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>Fluorobenzene</i>	99	58-129				



Date of Report: July 2, 2020
 Samples Submitted: July 1, 2020
 Laboratory Reference: 2007-007
 Project: 2019-054

**GASOLINE RANGE ORGANICS/BTEX
 NWTPH-Gx/EPA 8021B
 QUALITY CONTROL**

Matrix: Soil
 Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0701S1					
Benzene	ND	0.020	EPA 8021B	7-1-20	7-1-20	
Toluene	ND	0.050	EPA 8021B	7-1-20	7-1-20	
Ethyl Benzene	ND	0.050	EPA 8021B	7-1-20	7-1-20	
m,p-Xylene	ND	0.050	EPA 8021B	7-1-20	7-1-20	
o-Xylene	ND	0.050	EPA 8021B	7-1-20	7-1-20	
Gasoline	ND	5.0	NWTPH-Gx	7-1-20	7-1-20	
<i>Surrogate:</i>	<i>Percent Recovery</i>		<i>Control Limits</i>			
<i>Fluorobenzene</i>	91	58-129				

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	07-003-01							
	ORIG	DUP						
Benzene	ND	ND	NA	NA	NA	NA	30	
Toluene	ND	ND	NA	NA	NA	NA	30	
Ethyl Benzene	ND	ND	NA	NA	NA	NA	30	
m,p-Xylene	ND	ND	NA	NA	NA	NA	30	
o-Xylene	ND	ND	NA	NA	NA	NA	30	
Gasoline	ND	ND	NA	NA	NA	NA	30	
<i>Surrogate:</i>								
<i>Fluorobenzene</i>				101	100	58-129		

SPIKE BLANKS

Laboratory ID:	SB0701S1								
	SB	SBD	SB	SBD	SB	SBD			
Benzene	0.934	0.952	1.00	1.00	93	95	68-112	2	10
Toluene	0.977	0.993	1.00	1.00	98	99	70-114	2	10
Ethyl Benzene	1.00	1.02	1.00	1.00	100	102	70-115	2	10
m,p-Xylene	1.01	1.02	1.00	1.00	101	102	69-117	1	11
o-Xylene	1.01	1.02	1.00	1.00	101	102	71-115	1	11
<i>Surrogate:</i>									
<i>Fluorobenzene</i>					93	93	58-129		



Date of Report: July 2, 2020
 Samples Submitted: July 1, 2020
 Laboratory Reference: 2007-007
 Project: 2019-054

**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:	TP-1 (6')					
Laboratory ID:	07-007-02					
Diesel Range Organics	ND	28	NWTPH-Dx	7-1-20	7-1-20	
Lube Oil Range Organics	ND	57	NWTPH-Dx	7-1-20	7-1-20	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>o-Terphenyl</i>	83	50-150				
Client ID:	TP-2 (6')					
Laboratory ID:	07-007-04					
Diesel Range Organics	ND	28	NWTPH-Dx	7-1-20	7-1-20	
Lube Oil Range Organics	ND	57	NWTPH-Dx	7-1-20	7-1-20	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>o-Terphenyl</i>	78	50-150				



Date of Report: July 2, 2020
 Samples Submitted: July 1, 2020
 Laboratory Reference: 2007-007
 Project: 2019-054

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

Matrix: Soil
 Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0701S1					
Diesel Range Organics	ND	25	NWTPH-Dx	7-1-20	7-1-20	
Lube Oil Range Organics	ND	50	NWTPH-Dx	7-1-20	7-1-20	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>o-Terphenyl</i>	85	50-150				

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	06-338-02							
	ORIG	DUP						
Diesel Range	ND	ND	NA	NA	NA	NA	NA	NA
Lube Oil Range	ND	ND	NA	NA	NA	NA	NA	NA
<i>Surrogate:</i>								
<i>o-Terphenyl</i>			88	83	50-150			



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Matrix: Soil
 Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	TP-1 (6')					
Laboratory ID:	07-007-02					
Dichlorodifluoromethane	ND	0.00091	EPA 8260D	7-1-20	7-1-20	
Chloromethane	ND	0.0059	EPA 8260D	7-1-20	7-1-20	
Vinyl Chloride	ND	0.00091	EPA 8260D	7-1-20	7-1-20	
Bromomethane	ND	0.00091	EPA 8260D	7-1-20	7-1-20	
Chloroethane	ND	0.0045	EPA 8260D	7-1-20	7-1-20	
Trichlorofluoromethane	ND	0.00091	EPA 8260D	7-1-20	7-1-20	
1,1-Dichloroethene	ND	0.00091	EPA 8260D	7-1-20	7-1-20	
Iodomethane	ND	0.0045	EPA 8260D	7-1-20	7-1-20	
Methylene Chloride	ND	0.0045	EPA 8260D	7-1-20	7-1-20	
(trans) 1,2-Dichloroethene	ND	0.00091	EPA 8260D	7-1-20	7-1-20	
1,1-Dichloroethane	ND	0.00091	EPA 8260D	7-1-20	7-1-20	
2,2-Dichloropropane	ND	0.00091	EPA 8260D	7-1-20	7-1-20	
(cis) 1,2-Dichloroethene	ND	0.00091	EPA 8260D	7-1-20	7-1-20	
Bromochloromethane	ND	0.00091	EPA 8260D	7-1-20	7-1-20	
Chloroform	ND	0.00091	EPA 8260D	7-1-20	7-1-20	
1,1,1-Trichloroethane	ND	0.00091	EPA 8260D	7-1-20	7-1-20	
Carbon Tetrachloride	ND	0.00091	EPA 8260D	7-1-20	7-1-20	
1,1-Dichloropropene	ND	0.00091	EPA 8260D	7-1-20	7-1-20	
1,2-Dichloroethane	ND	0.00091	EPA 8260D	7-1-20	7-1-20	
Trichloroethene	ND	0.00091	EPA 8260D	7-1-20	7-1-20	
1,2-Dichloropropane	ND	0.00091	EPA 8260D	7-1-20	7-1-20	
Dibromomethane	ND	0.00091	EPA 8260D	7-1-20	7-1-20	
Bromodichloromethane	ND	0.00091	EPA 8260D	7-1-20	7-1-20	
2-Chloroethyl Vinyl Ether	ND	0.0045	EPA 8260D	7-1-20	7-1-20	
(cis) 1,3-Dichloropropene	ND	0.00091	EPA 8260D	7-1-20	7-1-20	
(trans) 1,3-Dichloropropene	ND	0.00091	EPA 8260D	7-1-20	7-1-20	



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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	TP-1 (6')					
Laboratory ID:	07-007-02					
1,1,2-Trichloroethane	ND	0.00091	EPA 8260D	7-1-20	7-1-20	
Tetrachloroethene	ND	0.00091	EPA 8260D	7-1-20	7-1-20	
1,3-Dichloropropane	ND	0.00091	EPA 8260D	7-1-20	7-1-20	
Dibromochloromethane	ND	0.00091	EPA 8260D	7-1-20	7-1-20	
1,2-Dibromoethane	ND	0.00091	EPA 8260D	7-1-20	7-1-20	
Chlorobenzene	ND	0.00091	EPA 8260D	7-1-20	7-1-20	
1,1,1,2-Tetrachloroethane	ND	0.00091	EPA 8260D	7-1-20	7-1-20	
Bromoform	ND	0.0045	EPA 8260D	7-1-20	7-1-20	
Bromobenzene	ND	0.00091	EPA 8260D	7-1-20	7-1-20	
1,1,2,2-Tetrachloroethane	ND	0.00091	EPA 8260D	7-1-20	7-1-20	
1,2,3-Trichloropropane	ND	0.00091	EPA 8260D	7-1-20	7-1-20	
2-Chlorotoluene	ND	0.00091	EPA 8260D	7-1-20	7-1-20	
4-Chlorotoluene	ND	0.00091	EPA 8260D	7-1-20	7-1-20	
1,3-Dichlorobenzene	ND	0.00091	EPA 8260D	7-1-20	7-1-20	
1,4-Dichlorobenzene	ND	0.00091	EPA 8260D	7-1-20	7-1-20	
1,2-Dichlorobenzene	ND	0.00091	EPA 8260D	7-1-20	7-1-20	
1,2-Dibromo-3-chloropropane	ND	0.0045	EPA 8260D	7-1-20	7-1-20	
1,2,4-Trichlorobenzene	ND	0.00091	EPA 8260D	7-1-20	7-1-20	
Hexachlorobutadiene	ND	0.0045	EPA 8260D	7-1-20	7-1-20	
1,2,3-Trichlorobenzene	ND	0.00091	EPA 8260D	7-1-20	7-1-20	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>Dibromofluoromethane</i>	<i>101</i>	<i>74-131</i>				
<i>Toluene-d8</i>	<i>102</i>	<i>78-128</i>				
<i>4-Bromofluorobenzene</i>	<i>92</i>	<i>71-130</i>				



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VOLATILE ORGANICS EPA 8260D
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Matrix: Soil
 Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	TP-2 (6')					
Laboratory ID:	07-007-04					
Dichlorodifluoromethane	ND	0.00083	EPA 8260D	7-1-20	7-1-20	
Chloromethane	ND	0.0054	EPA 8260D	7-1-20	7-1-20	
Vinyl Chloride	ND	0.00083	EPA 8260D	7-1-20	7-1-20	
Bromomethane	ND	0.00083	EPA 8260D	7-1-20	7-1-20	
Chloroethane	ND	0.0041	EPA 8260D	7-1-20	7-1-20	
Trichlorofluoromethane	ND	0.00083	EPA 8260D	7-1-20	7-1-20	
1,1-Dichloroethene	ND	0.00083	EPA 8260D	7-1-20	7-1-20	
Iodomethane	ND	0.0041	EPA 8260D	7-1-20	7-1-20	
Methylene Chloride	ND	0.0041	EPA 8260D	7-1-20	7-1-20	
(trans) 1,2-Dichloroethene	ND	0.00083	EPA 8260D	7-1-20	7-1-20	
1,1-Dichloroethane	ND	0.00083	EPA 8260D	7-1-20	7-1-20	
2,2-Dichloropropane	ND	0.00083	EPA 8260D	7-1-20	7-1-20	
(cis) 1,2-Dichloroethene	ND	0.00083	EPA 8260D	7-1-20	7-1-20	
Bromochloromethane	ND	0.00083	EPA 8260D	7-1-20	7-1-20	
Chloroform	ND	0.00083	EPA 8260D	7-1-20	7-1-20	
1,1,1-Trichloroethane	ND	0.00083	EPA 8260D	7-1-20	7-1-20	
Carbon Tetrachloride	ND	0.00083	EPA 8260D	7-1-20	7-1-20	
1,1-Dichloropropene	ND	0.00083	EPA 8260D	7-1-20	7-1-20	
1,2-Dichloroethane	ND	0.00083	EPA 8260D	7-1-20	7-1-20	
Trichloroethene	ND	0.00083	EPA 8260D	7-1-20	7-1-20	
1,2-Dichloropropane	ND	0.00083	EPA 8260D	7-1-20	7-1-20	
Dibromomethane	ND	0.00083	EPA 8260D	7-1-20	7-1-20	
Bromodichloromethane	ND	0.00083	EPA 8260D	7-1-20	7-1-20	
2-Chloroethyl Vinyl Ether	ND	0.0041	EPA 8260D	7-1-20	7-1-20	
(cis) 1,3-Dichloropropene	ND	0.00083	EPA 8260D	7-1-20	7-1-20	
(trans) 1,3-Dichloropropene	ND	0.00083	EPA 8260D	7-1-20	7-1-20	



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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	TP-2 (6')					
Laboratory ID:	07-007-04					
1,1,2-Trichloroethane	ND	0.00083	EPA 8260D	7-1-20	7-1-20	
Tetrachloroethene	ND	0.00083	EPA 8260D	7-1-20	7-1-20	
1,3-Dichloropropane	ND	0.00083	EPA 8260D	7-1-20	7-1-20	
Dibromochloromethane	ND	0.00083	EPA 8260D	7-1-20	7-1-20	
1,2-Dibromoethane	ND	0.00083	EPA 8260D	7-1-20	7-1-20	
Chlorobenzene	ND	0.00083	EPA 8260D	7-1-20	7-1-20	
1,1,1,2-Tetrachloroethane	ND	0.00083	EPA 8260D	7-1-20	7-1-20	
Bromoform	ND	0.0041	EPA 8260D	7-1-20	7-1-20	
Bromobenzene	ND	0.00083	EPA 8260D	7-1-20	7-1-20	
1,1,1,2-Tetrachloroethane	ND	0.00083	EPA 8260D	7-1-20	7-1-20	
1,2,3-Trichloropropane	ND	0.00083	EPA 8260D	7-1-20	7-1-20	
2-Chlorotoluene	ND	0.00083	EPA 8260D	7-1-20	7-1-20	
4-Chlorotoluene	ND	0.00083	EPA 8260D	7-1-20	7-1-20	
1,3-Dichlorobenzene	ND	0.00083	EPA 8260D	7-1-20	7-1-20	
1,4-Dichlorobenzene	ND	0.00083	EPA 8260D	7-1-20	7-1-20	
1,2-Dichlorobenzene	ND	0.00083	EPA 8260D	7-1-20	7-1-20	
1,2-Dibromo-3-chloropropane	ND	0.0041	EPA 8260D	7-1-20	7-1-20	
1,2,4-Trichlorobenzene	ND	0.00083	EPA 8260D	7-1-20	7-1-20	
Hexachlorobutadiene	ND	0.0041	EPA 8260D	7-1-20	7-1-20	
1,2,3-Trichlorobenzene	ND	0.00083	EPA 8260D	7-1-20	7-1-20	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>Dibromofluoromethane</i>	<i>99</i>	<i>74-131</i>				
<i>Toluene-d8</i>	<i>102</i>	<i>78-128</i>				
<i>4-Bromofluorobenzene</i>	<i>94</i>	<i>71-130</i>				



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 Samples Submitted: July 1, 2020
 Laboratory Reference: 2007-007
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VOLATILE ORGANICS EPA 8260D
QUALITY CONTROL
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Matrix: Soil
 Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0701S2					
Dichlorodifluoromethane	ND	0.0010	EPA 8260D	7-1-20	7-1-20	
Chloromethane	ND	0.0065	EPA 8260D	7-1-20	7-1-20	
Vinyl Chloride	ND	0.0010	EPA 8260D	7-1-20	7-1-20	
Bromomethane	ND	0.0010	EPA 8260D	7-1-20	7-1-20	
Chloroethane	ND	0.0050	EPA 8260D	7-1-20	7-1-20	
Trichlorofluoromethane	ND	0.0010	EPA 8260D	7-1-20	7-1-20	
1,1-Dichloroethene	ND	0.0010	EPA 8260D	7-1-20	7-1-20	
Iodomethane	ND	0.0050	EPA 8260D	7-1-20	7-1-20	
Methylene Chloride	ND	0.0050	EPA 8260D	7-1-20	7-1-20	
(trans) 1,2-Dichloroethene	ND	0.0010	EPA 8260D	7-1-20	7-1-20	
1,1-Dichloroethane	ND	0.0010	EPA 8260D	7-1-20	7-1-20	
2,2-Dichloropropane	ND	0.0010	EPA 8260D	7-1-20	7-1-20	
(cis) 1,2-Dichloroethene	ND	0.0010	EPA 8260D	7-1-20	7-1-20	
Bromochloromethane	ND	0.0010	EPA 8260D	7-1-20	7-1-20	
Chloroform	ND	0.0010	EPA 8260D	7-1-20	7-1-20	
1,1,1-Trichloroethane	ND	0.0010	EPA 8260D	7-1-20	7-1-20	
Carbon Tetrachloride	ND	0.0010	EPA 8260D	7-1-20	7-1-20	
1,1-Dichloropropene	ND	0.0010	EPA 8260D	7-1-20	7-1-20	
1,2-Dichloroethane	ND	0.0010	EPA 8260D	7-1-20	7-1-20	
Trichloroethene	ND	0.0010	EPA 8260D	7-1-20	7-1-20	
1,2-Dichloropropane	ND	0.0010	EPA 8260D	7-1-20	7-1-20	
Dibromomethane	ND	0.0010	EPA 8260D	7-1-20	7-1-20	
Bromodichloromethane	ND	0.0010	EPA 8260D	7-1-20	7-1-20	
2-Chloroethyl Vinyl Ether	ND	0.0050	EPA 8260D	7-1-20	7-1-20	
(cis) 1,3-Dichloropropene	ND	0.0010	EPA 8260D	7-1-20	7-1-20	
(trans) 1,3-Dichloropropene	ND	0.0010	EPA 8260D	7-1-20	7-1-20	



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QUALITY CONTROL
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0701S2					
1,1,2-Trichloroethane	ND	0.0010	EPA 8260D	7-1-20	7-1-20	
Tetrachloroethene	ND	0.0010	EPA 8260D	7-1-20	7-1-20	
1,3-Dichloropropane	ND	0.0010	EPA 8260D	7-1-20	7-1-20	
Dibromochloromethane	ND	0.0010	EPA 8260D	7-1-20	7-1-20	
1,2-Dibromoethane	ND	0.0010	EPA 8260D	7-1-20	7-1-20	
Chlorobenzene	ND	0.0010	EPA 8260D	7-1-20	7-1-20	
1,1,1,2-Tetrachloroethane	ND	0.0010	EPA 8260D	7-1-20	7-1-20	
Bromoform	ND	0.0050	EPA 8260D	7-1-20	7-1-20	
Bromobenzene	ND	0.0010	EPA 8260D	7-1-20	7-1-20	
1,1,2,2-Tetrachloroethane	ND	0.0010	EPA 8260D	7-1-20	7-1-20	
1,2,3-Trichloropropane	ND	0.0010	EPA 8260D	7-1-20	7-1-20	
2-Chlorotoluene	ND	0.0010	EPA 8260D	7-1-20	7-1-20	
4-Chlorotoluene	ND	0.0010	EPA 8260D	7-1-20	7-1-20	
1,3-Dichlorobenzene	ND	0.0010	EPA 8260D	7-1-20	7-1-20	
1,4-Dichlorobenzene	ND	0.0010	EPA 8260D	7-1-20	7-1-20	
1,2-Dichlorobenzene	ND	0.0010	EPA 8260D	7-1-20	7-1-20	
1,2-Dibromo-3-chloropropane	ND	0.0050	EPA 8260D	7-1-20	7-1-20	
1,2,4-Trichlorobenzene	ND	0.0010	EPA 8260D	7-1-20	7-1-20	
Hexachlorobutadiene	ND	0.0050	EPA 8260D	7-1-20	7-1-20	
1,2,3-Trichlorobenzene	ND	0.0010	EPA 8260D	7-1-20	7-1-20	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>Dibromofluoromethane</i>	<i>98</i>	<i>74-131</i>				
<i>Toluene-d8</i>	<i>101</i>	<i>78-128</i>				
<i>4-Bromofluorobenzene</i>	<i>96</i>	<i>71-130</i>				



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 Laboratory Reference: 2007-007
 Project: 2019-054

**VOLATILE ORGANICS EPA 8260D
 QUALITY CONTROL**

Matrix: Soil
 Units: mg/kg

Analyte	Result		Spike Level		Percent Recovery		Recovery	RPD	RPD	Flags
					Recovery	Limits	RPD	Limit		
SPIKE BLANKS										
Laboratory ID:	SB0701S2									
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	0.0446	0.0417	0.0500	0.0500	89	83	55-126	7	17	
Benzene	0.0460	0.0441	0.0500	0.0500	92	88	65-121	4	16	
Trichloroethene	0.0478	0.0464	0.0500	0.0500	96	93	74-126	3	16	
Toluene	0.0446	0.0440	0.0500	0.0500	89	88	71-121	1	16	
Chlorobenzene	0.0493	0.0481	0.0500	0.0500	99	96	72-123	2	15	
<i>Surrogate:</i>										
<i>Dibromofluoromethane</i>					102	103	74-131			
<i>Toluene-d8</i>					101	101	78-128			
<i>4-Bromofluorobenzene</i>					103	104	71-130			



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 Samples Submitted: July 1, 2020
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 Project: 2019-054

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

Matrix: Soil
 Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	TP-1 (6')					
Laboratory ID:	07-007-02					
Arsenic	ND	11	EPA 6010D	7-1-20	7-1-20	
Barium	47	2.8	EPA 6010D	7-1-20	7-1-20	
Cadmium	ND	0.57	EPA 6010D	7-1-20	7-1-20	
Chromium	23	0.57	EPA 6010D	7-1-20	7-1-20	
Lead	ND	5.7	EPA 6010D	7-1-20	7-1-20	
Mercury	ND	0.28	EPA 7471B	7-2-20	7-2-20	
Selenium	ND	11	EPA 6010D	7-1-20	7-1-20	
Silver	ND	1.1	EPA 6010D	7-1-20	7-1-20	

Client ID:	TP-2 (6')					
Laboratory ID:	07-007-04					
Arsenic	ND	11	EPA 6010D	7-1-20	7-1-20	
Barium	39	2.8	EPA 6010D	7-1-20	7-1-20	
Cadmium	ND	0.57	EPA 6010D	7-1-20	7-1-20	
Chromium	21	0.57	EPA 6010D	7-1-20	7-1-20	
Lead	ND	5.7	EPA 6010D	7-1-20	7-1-20	
Mercury	ND	0.28	EPA 7471B	7-2-20	7-2-20	
Selenium	ND	11	EPA 6010D	7-1-20	7-1-20	
Silver	ND	1.1	EPA 6010D	7-1-20	7-1-20	



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

Matrix: Soil
 Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0701SM1					
Arsenic	ND	10	EPA 6010D	7-1-20	7-1-20	
Barium	ND	2.5	EPA 6010D	7-1-20	7-1-20	
Cadmium	ND	0.50	EPA 6010D	7-1-20	7-1-20	
Chromium	ND	0.50	EPA 6010D	7-1-20	7-1-20	
Lead	ND	5.0	EPA 6010D	7-1-20	7-1-20	
Selenium	ND	10	EPA 6010D	7-1-20	7-1-20	
Silver	ND	1.0	EPA 6010D	7-1-20	7-1-20	

Laboratory ID:	MB0702S1					
Mercury	ND	0.25	EPA 7471B	7-2-20	7-2-20	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	06-338-02							
	ORIG	DUP						
Arsenic	ND	ND	NA	NA	NA	NA	20	
Barium	32.3	36.5	NA	NA	NA	12	20	
Cadmium	ND	ND	NA	NA	NA	NA	20	
Chromium	17.2	16.7	NA	NA	NA	3	20	
Lead	ND	ND	NA	NA	NA	NA	20	
Selenium	ND	ND	NA	NA	NA	NA	20	
Silver	ND	ND	NA	NA	NA	NA	20	

Laboratory ID:	06-338-02							
Mercury	ND	ND	NA	NA	NA	NA	20	

MATRIX SPIKES

Laboratory ID:	06-338-02									
	MS	MSD	MS	MSD	MS	MSD				
Arsenic	91.1	93.8	100	100	ND	91	94	75-125	3	20
Barium	118	121	100	100	32.3	86	89	75-125	2	20
Cadmium	40.4	41.0	50.0	50.0	ND	81	82	75-125	1	20
Chromium	111	114	100	100	17.2	93	97	75-125	3	20
Lead	213	216	250	250	ND	85	86	75-125	1	20
Selenium	86.8	87.8	100	100	ND	87	88	75-125	1	20
Silver	20.1	20.3	25.0	25.0	ND	80	81	75-125	1	20

Laboratory ID:	06-338-02									
Mercury	0.509	0.527	0.500	0.500	0.0116	100	103	80-120	3	20



OnSite Environmental, Inc. 14648 NE 95th 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: July 2, 2020
Samples Submitted: July 1, 2020
Laboratory Reference: 2007-007
Project: 2019-054

% MOISTURE

Client ID	Lab ID	% Moisture	Date Analyzed
TP-1 (6')	07-007-02	12	7-1-20
TP-2 (6')	07-007-04	12	7-1-20





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





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

July 14, 2020

Nicole Kapise
HWA GeoSciences, Inc.
21312 30th Drive SE, Suite 110
Bothell, WA 98021

Re: Analytical Data for Project 2019-054
Laboratory Reference No. 2007-007B

Dear Nicole:

Enclosed are the analytical results and associated quality control data for samples submitted on July 1, 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,

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

David Baumeister
Project Manager

Enclosures



OnSite Environmental, Inc. 14648 NE 95th 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: July 14, 2020
Samples Submitted: July 1, 2020
Laboratory Reference: 2007-007B
Project: 2019-054

Case Narrative

Samples were collected on July 1, 2020 and received by the laboratory on July 1, 2020. They were maintained at the laboratory at a temperature of 2°C to 6°C.

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

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



Date of Report: July 14, 2020
 Samples Submitted: July 1, 2020
 Laboratory Reference: 2007-007B
 Project: 2019-054

**SOLUBLE HEXAVALENT CHROMIUM
 WATER EXTRACTION
 EPA 7196A**

Matrix: Soil
 Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	TP-1 (6')					
Laboratory ID:	07-007-02					
Hexavalent Chromium	ND	1.1	EPA 7196A mod.	7-13-20	7-13-20	
Client ID:	TP-2 (6')					
Laboratory ID:	07-007-04					
Hexavalent Chromium	ND	1.1	EPA 7196A mod.	7-13-20	7-13-20	



Date of Report: July 14, 2020
 Samples Submitted: July 1, 2020
 Laboratory Reference: 2007-007B
 Project: 2019-054

**SOLUBLE HEXAVALENT CHROMIUM
 WATER EXTRACTION
 EPA 7196A
 QUALITY CONTROL**

Matrix: Soil
 Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0713SM1					
Hexavalent Chromium	ND	1.0	EPA 7196A mod.	7-13-20	7-13-20	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	07-007-04							
	ORIG	DUP						
Hexavalent Chromium	ND	ND	NA	NA	NA	NA	20	

MATRIX SPIKES

Laboratory ID:	07-007-04									
	MS	MSD	MS	MSD	MS	MSD				
Hexavalent Chromium	5.23	5.24	5.00	5.00	ND	105	105	75-125	0	20

SPIKE BLANK

Laboratory ID:	SB0713SM1									
	SB		SB		SB					
Hexavalent Chromium	5.16		5.00		103			75-125	NA	NA





Data Qualifiers and Abbreviations

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 PQL - Practical Quantitation Limit
 RPD - Relative Percent Difference



Appendix B

Soil Monitoring Photographs



Photograph 1: Test Pit 1



Photograph 2: Test Pit 2



Photograph 3: Soil monitoring Location 1



Photograph 4: Left to right, soil monitoring Locations 2 and 3



Photograph 5: Left to right, soil monitoring Locations 4 and 5



Photograph 6: Left to right, soil monitoring Locations 6 and 7



Photograph 7: Left to right, soil monitoring Locations 8 and 9



Photograph 8: Right to left, soil monitoring Locations 10 and 11



Photograph 9: Right to left, soil monitoring Locations 12 and 13



Photograph 10: Soil monitoring Location 14