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SEATAC DEVELOPMENT SITE (MASTERPARK LOT C PROPERTY)

Performance Groundwater Monitoring Report - July 2019 Sampling Event

Prepared for:

Dr. Jerome Cruz

Washington Department of Ecology

October 2019

SLR





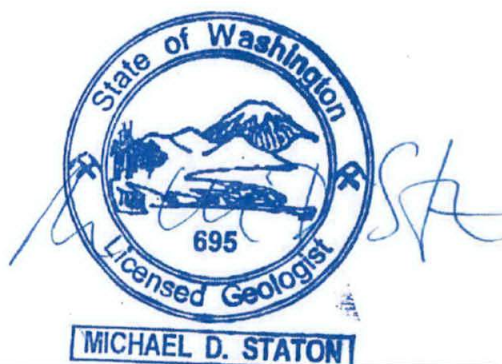
Performance Groundwater Monitoring Report - July 2019 Sampling Event

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This document has been prepared by SLR International Corporation (SLR). The material and data in this report were prepared under the supervision and direction of the undersigned.

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ACRONYMS

SLR	SLR International Corporation
DO	dissolved oxygen
BTEX	benzene, toluene, ethylbenzene, and xylenes
EDB	1,2-dibromoethane
DRO	diesel range organics
ORO	oil-range organics
GRO	gasoline range organics
MSL	mean sea level
µg/L	micrograms per liter
mg/L	milligrams per liter
MRL	method reporting limit
QA	quality assurance
QC	quality control

1. INTRODUCTION

On July 26 and 29 and August 8, 2019, SLR International Corporation (SLR) conducted a semiannual performance groundwater monitoring event at the SeaTac Development Site, which is primarily located at 16025 International Boulevard in SeaTac, Washington (the subject property). The location of the subject property, which is occupied by MasterPark Lot C, is shown on Figure 1.

From approximately May to July 2013 and December 2013 through July 2017, Golder Associates, Inc. (Golder) operated an in-situ air sparging and soil vapor extraction (IAS/SVE) at the subject property to remediate the petroleum hydrocarbon-impacted groundwater at the site. After the deactivation of the IAS/SVE system, performance groundwater monitoring events have been conducted on a semiannual basis to monitor any changes, particularly increases, in the petroleum hydrocarbon concentrations over time. The July and August 2019 groundwater monitoring activities were conducted in accordance with the Compliance Monitoring Plan (Golder 2011) for the site, except that turbidity measurements were not collected during purging and the quality assurance/quality control (QA/QC) samples (field blanks, trip blanks, and field duplicate) were inadvertently not submitted to ARI for analysis.

2. GROUNDWATER SAMPLING EVENT

On July 26 and 29, 2019, SLR personnel collected groundwater samples from monitoring wells MW-06, MW-07, MW-09, MW-12, MW-13, MW-17A, MW-18, MW-19, MW-20, and MW-21. Due to difficulties obtaining permission from the City of SeaTac to access monitoring wells located in South 160th Street, wells MW-22 and PORT-MW-B could not be sampled until August 8, 2019. The locations of the groundwater monitoring wells that are included in the groundwater sampling program are shown on Figure 2. In addition to the wells identified in the Compliance Monitoring Plan, SLR collected a groundwater sample from monitoring well MW-16 to evaluate the source of the impacted groundwater at off-property well MW-22. *Good*

Prior to collecting each groundwater sample, the depth to groundwater in the monitoring well was measured by using an electronic water level meter. SLR used the existing dedicated submersible bladder pumping system located at each well to purge approximately 0.5 to 1.6 gallons of water from the well. During the purging of each well, pH, specific conductance, temperature, oxidation-reduction (redox), and dissolved oxygen (DO) of the extracted water were measured approximately every three minutes. The groundwater sample was collected from each well following the stabilization of the field parameter measurements. The final field parameter readings prior to sample collection are presented in Table 1. The groundwater samples were collected in the appropriate sample containers provided by Analytical Resources, Inc. (ARI). The groundwater sampling activities were documented on Low-Flow Groundwater Sampling Field Data Sheets, which are presented in Appendix A.

The groundwater samples were submitted to ARI for analyses of benzene, toluene, ethylbenzene, total xylenes, naphthalene, and n-hexane by EPA Method 8260C; 1,2-dibromoethane (EDB) by EPA Method 8260C SIM; gasoline-range organics (GRO) by Ecology Method NWTPH-Gx; and diesel-range organics (DRO) and oil-range organics (ORO) by Ecology Method NWTPH-Dx. The sample analytical parameters were in accordance with the Compliance Monitoring Plan. In addition, all of the samples, except for the sample from well MW-21, were analyzed for DRO and ORO after sulfuric acid and silica gel cleanup to evaluate if non-petroleum organics were affecting the detected DRO and ORO concentrations.

The purge water was initially collected into 5-gallon buckets during groundwater sampling activities and transferred into properly labeled 55-gallon drums at the subject property. The water in the drums will be transported to a licensed facility for off-site treatment and disposal.

2.1 GROUNDWATER MONITORING RESULTS

On August 8, 2019, after obtaining permission from the City of SeaTac to access the monitoring wells in South 160th Street, SLR personnel measured the depths to groundwater in all of the monitoring wells at the site, except for MW-14, MW-15, MW-17A, and MW-23. Wells MW-14 and MW-17A were not accessible due to cars parked over them, and a police officer would not allow us to access MW-15 and MW-23 due to potential traffic impacts in South 160th Street. To assess the groundwater flow direction beneath the site, we used the depth to groundwater measurement from MW-17A on July 29, 2019. The depths to groundwater in the monitoring wells ranged from 44.63 to 105.29 feet below the top of the

each well casing. Based on the results of previous well elevation surveys and Golder's estimated top of casing elevations of wells MW-17A and PORT-MW-B, the groundwater elevations in the wells ranged from 310.73 to 312.54 above mean sea level (MSL). Due to anomalous depth to groundwater measurements, the groundwater elevations in MW-1 and MW-10 were not used to evaluate the groundwater flow direction. MW-10 is screened at depths over 40 feet below the groundwater table. The depth to groundwater measurements and groundwater elevations in the monitoring wells on August 8, 2019, are presented in Table 2.

Based on the groundwater elevations on August 8, 2019, the general groundwater flow direction beneath the subject property is primarily to the south-southwest. To the west of the subject property, the groundwater flow shifts primarily to the west and southwest. A groundwater elevation contour map of the data collected on August 8, 2019, is presented on Figure 3.

2.2 GROUNDWATER SAMPLE ANALYTICAL RESULTS

The groundwater sample analytical results showed that the samples from MW-12, MW-16, MW-18, and MW-22 contained GRO concentrations (2.29, 1.73, 1.21, and 1.94 mg/L, respectively) that exceeded the MTCA Method A cleanup level (0.8 mg/L when benzene is present). The samples from MW-12, MW-18, and MW-22 also contained DRO concentrations (1.85, 2.81, and 0.77 mg/L, respectively) that exceeded the Method A cleanup level (0.5 mg/L). The sample from MW-12 also contained a benzene concentration (8.2 µg/L) that exceeded the Method A cleanup level (5 µg/L). The samples from MW-12, MW-16, MW-18, and MW-22 did not contain any other analyte concentrations that exceeded the cleanup levels or the method reporting limits (MRLs). The samples from MW-07, MW-09, MW-13, and Port-MW-B did not contain any analyte concentrations that exceeded the cleanup levels or the MRLs, and the samples from MW-06, MW-17A, MW-19, MW-20, and MW-21 did not contain any detected analyte concentrations.

After sulfuric acid and silica gel cleanup, none of the samples contained DRO and ORO concentrations greater than the MRLs. The groundwater sample analytical results from the July 2019 sampling event are presented in Table 1, and the GRO, benzene, and DRO concentrations are presented on Figure 2. The groundwater sample analytical results from the July 2019 sampling event, as well as from the previous groundwater sampling events, are presented in Appendix B. The laboratory reports from the July 2019 sampling event are included in Appendix C.

3. DATA QUALITY ASSURANCE AND VALIDATION

The following data qualifications were applied by ARI to the results of the groundwater samples collected in July and August 2019. The benzene concentrations in the samples from MW-09 and MW-13, the total xylene concentration in the sample from MW-16, and the n-hexane concentrations in the samples from MW-17A and PORT-MW-B were each noted with a J qualifier. ARI defined the J qualifier as an estimated concentration value that was detected below the reporting limit. The QA/QC samples (field blanks, trip blanks, and field duplicate) were inadvertently not submitted to ARI for analysis.

4. CONCLUSIONS

On July 26 and 29 and August 8, 2019, SLR conducted a semiannual performance groundwater monitoring event at the SeaTac Development Site. After deactivating the IAS/SVE system in July 2017, the objective of the current groundwater sampling program has been to monitor any changes, particularly increases, in the petroleum hydrocarbon concentrations over time.

The groundwater sample analytical results showed that the groundwater beneath the northwestern corner of the subject property (at MW-12 and MW-18) and to the northwest of the subject property (at MW-16 and MW-22) continues to contain GRO concentrations (up to 2.29 mg/L) greater than the MTCA Method A cleanup level. The sample from MW-12 also contained a benzene concentration (8.2 µg/L) that slightly exceeded the Method A cleanup level. Since the deactivation of the IAS/SVE system in July 2017, the GRO and benzene concentrations at MW-12 and MW-18 increased or were relatively stable through 2018, and then decreased between November 2018 and August 2019. The GRO and benzene concentrations at MW-22 have been steadily decreasing since January 2018. The reduction in concentrations indicates that natural attenuation is occurring at the site. The GRO and benzene concentrations have been consistently below the Method A groundwater cleanup levels beneath the central and southern parts of the subject property and to the west of the property. Tables and trend graphs that show GRO and benzene concentrations over time are presented in Appendix B.

The groundwater sample analytical results showed that the groundwater beneath the northwestern corner of the subject property (at MW-12 and MW-18) and to the northwest of the subject property (at MW-22) continues to contain DRO concentrations (up to 2.81 mg/L) greater than the MTCA Method A cleanup level. However, after sulfuric acid and silica gel cleanup, none of the groundwater samples contained detectable DRO concentrations. This indicates that at least a significant portion of the detected DRO concentrations is due to the presence of non-petroleum polar organics in the groundwater. Based on the geologic conditions beneath the subject property area, it is likely that the polar organics are a residual material from significantly weathered petroleum in the groundwater. It is not known if the petroleum portion of the DRO concentrations in the samples from MW-12, MW-18, and MW-22 exceeds the Method A cleanup level. The DRO concentrations at MW-12 and MW-18 have been inconsistent over time, and the DRO concentrations at MW-22 have been relatively stable over time. Tables and trend graphs that show DRO concentrations over time are presented in Appendix B.

5. REFERENCES

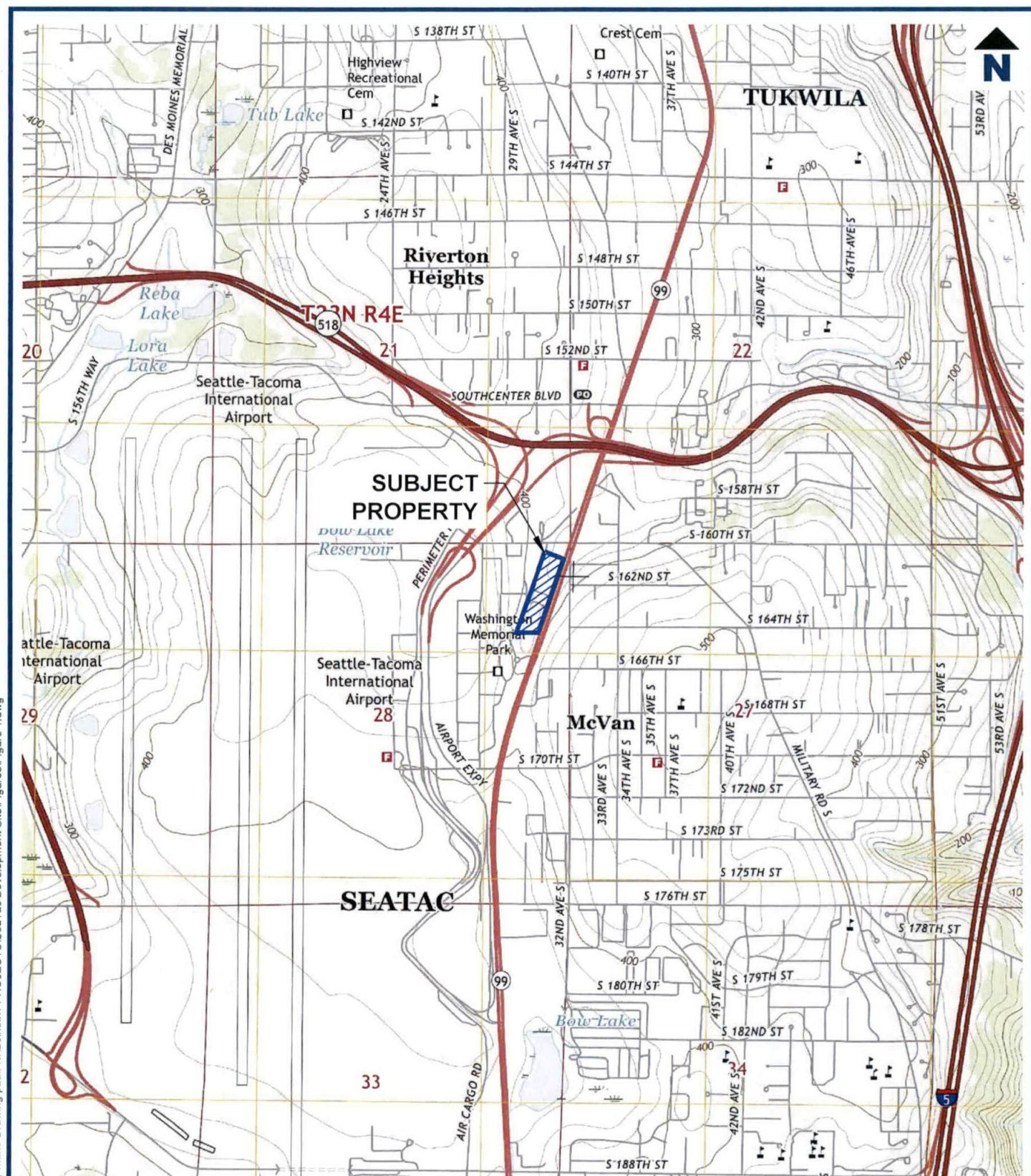
Golder Associates, Inc. 2011. *Attachment E, Compliance Monitoring Plan, Sea-Tac Development Site, SeaTac, Washington*. November 2.

LIMITATIONS

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FIGURES



REFERENCED FROM :
USGS 7.5 MINUTE QUADRANGLE DES MOINES, 2017

0 2000' 4000'

SEATAC DEVELOPMENT SITE
16025 INTERNATIONAL BLVD
SEATAC, WASHINGTON

Drawing

SUBJECT PROPERTY LOCATION MAP

Date September 19, 2019

Scale AS SHOWN

Fig. No.

2

File Name Figure 1.dwg

Project No.	101.01839.00002
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NOTES

1. AERIAL IMAGERY COURTESY OF USGS EARTHSTAR GEOGRAPHICS.
2. * = DUE TO AN ANOMALOUS DEPTH TO GROUNDWATER MEASUREMENT, THE GROUNDWATER ELEVATION WAS NOT USED FOR CONTOURING.
3. a = ESTIMATED GROUNDWATER ELEVATION. THE TOP OF WELL CASING ELEVATION WAS ESTIMATED BY GOLDER ASSOCIATES, INC.
4. b = DEPTH TO GROUNDWATER MEASURED ON JULY 29, 2019.

LEGEND

- MW-06  SITE MONITORING WELL LOCATION AND DESIGNATION
- 311.71 GROUNDWATER SURFACE ELEVATION (FEET ABOVE MEAN SEA LEVEL) ON AUGUST 8, 2019
- NM NOT MEASURED
-  311.50' GROUNDWATER SURFACE ELEVATION CONTOUR LINE (FEET ABOVE MEAN SEA LEVEL)
-  GENERAL GROUNDWATER FLOW DIRECTION



SEATAC DEVELOPMENT SITE
16025 INTERNATIONAL BLVD
SEATAC, WASHINGTON

Drawing
GROUNDWATER ELEVATION CONTOUR
MAP - AUGUST 8, 2019

Date	September 19, 2019	Scale	AS SHOWN	Fig. No.
File Name	02-03	Project No.	101.02207.00001	

TABLES

Table 1
Groundwater Field Parameters and Sample Analytical Data - July 2019
SeaTac Development Site
SeaTac, Washington

Well ID	Date Sampled	Field Parameters						Turbidity (NTU)	Analytical Data											
		Depth to Groundwater (feet)	pH	Temperature (°C)	Conductivity (µmhos/cm)	Dissolved Oxygen (mg/L)	GRO ^a (mg/L)		Benzene ^b (µg/L)	Toluene ^b (µg/L)	Ethylbenzene ^b (µg/L)	Total Xylenes ^b (µg/L)	EDB ^c (µg/L)	N-hexane ^b (µg/L)	Naphthalene ^b (µg/L)	DRO ^d (mg/L)	ORO ^d (mg/L)	DRO ^d after Acid and Silica Gel Cleanup (mg/L)	ORO ^d after Acid and Silica Gel Cleanup (mg/L)	
MTCA Method A Groundwater Cleanup Levels ^e								0.8 ^f /1.0 ^g	5.0	1,000	700	1,000	0.01	480 ^h	160	0.5	0.5	0.5	0.5	
MW-06	7/29/2019	58.0	6.28	15.9	244	8.13	NM	<0.10	<0.20	<0.20	<0.20	<0.60	<0.003	<0.20	<0.50	<0.10	<0.20	<0.10	<0.20	
MW-07	7/26/2019	46.7	6.45	17.4	281	0.43	NM	0.73	0.30	0.27	0.75	1.13	<0.003	0.29	1.63	0.17	<0.20	<0.10	<0.20	
MW-09	7/29/2019	50.3	6.32	15.5	285	0.50	NM	<0.10	0.20	<0.20	<0.20	<0.60	<0.003	<0.20	<0.50	0.11	<0.20	<0.10	<0.20	
MW-12	7/29/2019	53.0	7.28	16.0	455	0.89	NM	2.29	8.2	2.9	16	25	<0.003	8.43	14.1	1.85	<0.20	<0.10	<0.20	
MW-13	7/29/2019	53.6	6.83	17.0	212	1.85	NM	<0.10	0.07 J	<0.20	<0.20	<0.60	<0.003	<0.20	<0.50	<0.10	<0.20	<0.10	<0.20	
MW-16	7/29/2019	66.0	6.57	15.6	184	0.45	NM	1.73	0.64	0.32	0.45	0.48 J	<0.003	4.12	1.04	<0.10	<0.20	<0.10	<0.20	
MW-17A	7/29/2019	82.7	6.35	15.4	175	6.90	NM	<0.10	<0.20	<0.20	<0.20	<0.60	<0.003	0.10 J	<0.50	<0.10	<0.20	<0.10	<0.20	
MW-18	7/26/2019	48.6	6.55	17.9	782	0.65	NM	1.21	1.29	0.25	1.22	2.35	<0.003	0.22	4.75	2.81	0.22	<0.10	<0.20	
MW-19	7/26/2019	44.6	6.46	15.1	333	0.51	NM	<0.10	<0.20	<0.20	<0.20	<0.60	<0.003	<0.20	<0.50	<0.10	<0.20	<0.10	<0.20	
MW-20	7/26/2019	105.3	6.77	18.3	222	9.68	NM	<0.10	<0.20	<0.20	<0.20	<0.60	<0.003	<0.20	<0.50	<0.10	<0.20	<0.10	<0.20	
MW-21	7/26/2019	101.4	6.34	16.4	216	9.91	NM	<0.10	<0.20	<0.20	<0.20	<0.60	<0.003	<0.20	<0.50	<0.10	<0.20	NA	NA	
MW-22	8/8/2019	81.5	6.02	14.6	231	5.05	NM	1.94	1.05	0.33	61	76	<0.003	0.47	61	0.77	<0.20	<0.10	<0.20	
PORT-MW-B	8/8/2019	89.3	6.30	14.5	148	4.86	NM	<0.10	<0.20	<0.20	<0.20	<0.60	<0.003	0.11 J	<0.50	0.14	<0.20	<0.10	<0.20	

Notes:

Values in bold and **red** exceed MTCA Method A or B Cleanup Levels.

NM = Not Measured

mg/L = Milligrams per liter

µg/L = Micrograms per liter

µmhos/cm = Micromhos per centimeter

NTU = Nephelometric turbidity unit

°C = Degrees Celsius

J = Laboratory estimated value

GRO = Gasoline-range organics

DRO = Diesel-range organics

ORO = Oil-range organics

EDB = 1,2-dibromoethane

NA = Not analyzed

^a Analyzed by Ecology Method NWTPH-Gx.

^b Analyzed by EPA Method 8260C.

^c Analyzed by EPA Method 8260C SIM.

^d Analyzed by Ecology Method NWTPH-Dx.

^e Ecology's Model Toxics Control Act (MTCA) Cleanup Regulation (Chapter 173-340 WAC), Tables 720-1, Method A Cleanup Levels for Groundwater.

^f When benzene is present.

^g When benzene is not present.

^h Method B cleanup level used because Method A cleanup level is not established. Standard formula values, direct contact Method B groundwater cleanup levels as published on Ecology's Cleanup Level and Risk Calculation (CLARC) on-line database (May 2019).

Table 2
Groundwater Monitoring Data - August 2019
SeaTac Development Site
SeaTac, Washington

Well Number	Top of Casing Elevation ^a (feet)	Approximate Depth of Well Screen (feet bgs)	Date Measured	Depth to Groundwater (feet)	Groundwater Elevation (feet)
MW-01	361.38	41 to 51	8/8/2019	48.84	312.54
MW-05	364.26	48 to 58	8/8/2009	52.55	311.71
MW-06	369.68	50 to 60	8/8/2019	57.97	311.71
MW-07	358.69	43.5 to 53.5	8/8/2019	46.74	311.95
MW-08A	359.16	44 to 54	8/8/2019	47.31	311.85
MW-09	362.13	47.5 to 57	8/8/2019	50.33	311.80
MW-10	360.18	80 to 90	8/8/2019	48.62	311.56
MW-11	357.53	42 to 57	8/8/2019	45.49	312.04
MW-12	364.83	52 to 67	8/8/2019	53.01	311.82
MW-13	365.42	50 to 65	8/8/2019	53.59	311.83
MW-14	363.76	50 to 65	NM	NM	NM
MW-15	364.67	50 to 65	NM	NM	NM
MW-16	377.63	64 to 74	8/8/2019	65.95	311.68
MW-17A	394.00 ^b	80 to 95	7/29/2019	82.67	311.33 ^c
MW-18	360.45	47 to 62	8/8/2019	48.58	311.87
MW-19	356.61	43 to 58	8/8/2019	44.63	311.98
MW-20	416.61	103 to 113	8/8/2019	105.29	311.32
MW-21	412.85	95 to 110	8/8/2019	101.39	311.46
MW-22	393.31	80 to 95	8/8/2019	81.52	311.79
MW-23	354.94	42.5 to 57.5	NM	NM	NM
PORT-MW-B	400.00 ^b	79 to 99	8/8/2019	89.27	310.73 ^c

Notes:

NM = Not measured.

^a The top of well casing elevations were surveyed relative to mean seal level.

^b The top of casing elevation was not surveyed; elevation estimated by Golder Associates, Inc.

^c Estimated groundwater elevation.

APPENDIX A

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA SHEETS



LOW-FLOW GROUNDWATER SAMPLING FIELD DATA SHEET

Project No. 101.02207.00001 Purged By: SML Well I.D.: MW-06
Project Name: SeaTac Development Site Sampled By: SML Sample I.D.: MW-06-0719
Location: SeaTac QA Samples: 0

Date Purged: 7/22/19 Start (2400hr): 1200 End (2400hr): 1224
Date Sampled: 7/22/19 Sample Time (2400hr): 1224

Casing Diameter: 2" X 3" 4" 5" 6" 8" Other
Casing Volume: (gallons per foot) (0.17) (0.38) (0.67) (1.02) (1.50) (2.60) ()

Total depth (feet) = 61.30 Casing Volume (gal) = _____
 Depth to water (feet) = 57.46 Minimum Purge (gal) = _____
 Water column height (feet) = _____ Actual Purge (gal) = _____

FIELD MEASUREMENTS

Volume (Gal)	Time (2400hr)	Temp. (degrees C)	Conductivity (mS/cm)	TDS (g/L)	DO (mg/L)	pH (units)	ORP (mV)	Turbidity (Visual)	Color (Visual)
0	1200	17.87	0.265	0.172	10.49	7.42	100.5	clear	clear
0.1	1204	15.86	0.237	0.154	8.74	6.89	108.2	clear	clear
0.2	1208	15.40	0.236	0.153	8.52	6.59	109.9	clear	clear
0.3	1212	15.83	0.240	0.156	8.32	6.38	107.1	clear	clear
0.4	1216	15.40	0.241	0.156	8.20	6.31	106.5	clear	clear
0.5	1220	15.75	0.243	0.158	8.18	6.29	107.9	clear	clear
0.6	1224	15.90	0.244	0.159	8.13	6.28	109.3	clear	clear

PURGING & SAMPLING EQUIPMENT

___ Well Wizard Bladder Pump
 ___ Active Extraction Well Pump
 ___ Submersible Pump
 ___ Peristaltic Pump
 Other: _____
 Pump Intake Depth: 56.6 (feet)

___ Bailer (disposable)
 ___ Bailer (PVC)
 ___ Bailer (Stainless Steel)
X Dedicated bladder
Pump

SAMPLE VESSELS

___ 40mL VOA	___ mL HDPE w/ H ₂ SO ₄
<u>5</u> 40mL VOA w/ HCL	___
<u>2</u> 500 mL amber glass	___
___ mL amber glass w/ HCl	___
___ mL HDPE	___
___ mL HDPE w/ HNO ₃	___

Well Integrity: Good Odor: No
Remarks: Bladder - pump set at dedicated depth

Signature:  

Page 1 of 1

SLR SLR International Corp



LOW-FLOW GROUNDWATER SAMPLING FIELD DATA SHEET

Project No. 101.02207.00001 Purged By: SML Well I.D.: MW-09
Project Name: Sentrac Development site Sampled By: SML Sample I.D.: MW-09-0714
Location: Sentrac QA Samples: 0

Date Purged: 7/29/19 Start (2400hr): 1434 End (2400hr): 1449
Date Sampled: 7/29/19 Sample Time (2400hr): 1449

Casing Diameter: 2" X 3" _____ 4" _____ 5" _____ 6" _____ 8" _____ Other _____

Casing Volume: (gallons per foot) (0.17) (0.38) (0.67) (1.02) (1.50) (2.60) ()

Total depth (feet) = _____

Depth to water (feet) = 50.21

Water column height (feet) = _____

Casing Volume (gal) = _____

Minimum Purge (gal) = _____

Actual Purge (gal) = _____

FIELD MEASUREMENTS

[illegible]

PURGING & SAMPLING EQUIPMENT

☐ Well Wizard Bladder Pump
☐ Active Extraction Well Pump
☐ Submersible Pump
☐ Peristaltic Pump

Other: _____

Pump Intake Depth: 53.45 (feet)

☐ Bailer (disposable)
☐ Bailer (PVC)
☐ Bailer (Stainless Steel)
☒ Dedicated Bladder
 pump

SAMPLE VESSELS

___ 40mL VOA	___ mL HDPE w/ H ₂ SO ₄
<u>5</u> 40mL VOA w/ HCl	_____
<u>2</u> <u>500</u> mL amber glass	_____
___ mL amber glass w/ HCl	_____
___ mL HDPE	_____
___ mL HDPE w/ HNO ₃	_____

Well Integrity: Good Odor: No
Remarks: Bladder pump set at dedicated depth

Signature:

Page 1 of 1

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA SHEET



Project No. <u>101-02207.00001</u>		Purged By: <u>SML</u>	Well I.D.: <u>MW-12</u>
Project Name: <u>SanTae Development Site</u>		Sampled By: <u>SML</u>	Sample I.D.: <u>MW-12-0719</u>
Location: <u>SanTae</u>		QA Samples: <u>0</u>	

Date Purged: <u>7/29/19</u>	Start (2400hr): <u>1317</u>	End (2400hr): <u>1344</u>
Date Sampled: <u>7/29/19</u>	Sample Time (2400hr): <u>1344</u>	

Casing Diameter: 2" ☒ 3" ☐ 4" ☐ 5" ☐ 6" ☐ 8" ☐ Other ☐
Casing Volume: (gallons per foot) (0.17) (0.38) (0.67) (1.02) (1.50) (2.60) ()

Total depth (feet) = _____	Casing Volume (gal) = _____
Depth to water (feet) = <u>52.90</u>	Minimum Purge (gal) = _____
Water column height (feet) = _____	Actual Purge (gal) = _____

FIELD MEASUREMENTS									
Volume (Gal)	Time (2400hr)	Temp. (degrees C)	Conductivity (mS/cm)	TDS (g/L)	DO (mg/L)	pH (units)	ORP (mV)	Turbidity (Visual)	Color (Visual)
0	1317	21.94	0.432	0.279	6.45	7.06	105.7	clear	clear
0.1	1320	17.04	0.422	0.274	1.57	6.92	114.8	clear	clear
0.2	1324	16.29	0.425	0.277	1.32	7.00	113.9	clear	clear
0.3	1326	16.24	0.425	0.277	1.05	7.01	112.7	clear	clear
0.4	1332	16.01	0.449	0.285	0.91	7.15	111.0	clear	clear
0.5	1336	15.97	0.455	0.296	0.88	7.23	110.4	clear	clear
0.6	1340	15.90	0.455	0.296	0.97	7.29	110.9	clear	clear
0.7	1344	15.95	0.455	0.297	0.89	7.28	110.4	clear	clear

PURGING & SAMPLING EQUIPMENT	SAMPLE VESSELS
☐ Well Wizard Bladder Pump ☐ Bailer (disposable) ☐ Active Extraction Well Pump ☐ Bailer (PVC) ☐ Submersible Pump ☐ Bailer (Stainless Steel) ☐ Peristaltic Pump ☒ Dedicated Bladder pump Other: _____ Pump Intake Depth: <u>57.95</u> (feet)	☐ 40mL VOA _____ mL HDPE w/ H2SO4 ☒ 40mL VOA w/ HCL ☒ 1250 mL amber glass _____ mL amber glass w/ HCL _____ mL HDPE _____ mL HDPE w/ HNO3

Well Integrity: <u>Good</u>	Odor: <u>No</u>
Remarks: <u>Bladder pump set at dedicated depth</u>	

Signature: <u>[Signature]</u>	Page 1 of 1
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LOW-FLOW GROUNDWATER SAMPLING FIELD DATA SHEET

Project No. <u>101.02207.00001</u>		Purged By: <u>SML</u>	Well I.D.: <u>MW-13</u>
Project Name: <u>SeaTac Development Site</u>		Sampled By: <u>SML</u>	Sample I.D.: <u>MW-13-0719</u>
Location: <u>SeaTac</u>		QA Samples: <u>0</u>	

Date Purged: <u>7/29/19</u>	Start (2400hr): <u>1056</u>	End (2400hr): <u>1117</u>
Date Sampled: <u>7/29/19</u>	Sample Time (2400hr): <u>1117</u>	

Casing Diameter: <u>2" X</u>	<u>3"</u>	<u>4"</u>	<u>5"</u>	<u>6"</u>	<u>8"</u>	Other <u> </u>
Casing Volume: (gallons per foot)	(0.17)	(0.38)	(0.67)	(1.02)	(1.50)	(2.60) ()

Total depth (feet) = <u>65.40</u>	Casing Volume (gal) = <u> </u>
Depth to water (feet) = <u>53.51</u>	Minimum Purge (gal) = <u> </u>
Water column height (feet) = <u> </u>	Actual Purge (gal) = <u> </u>

FIELD MEASUREMENTS									
Volume (Gal)	Time (2400hr)	Temp. (degrees C)	Conductivity (mS/cm)	TDS (g/L)	DO (mg/L)	pH (units)	ORP (mV)	Turbidity (Visual)	Color (Visual)
<u>0</u>	<u>1056</u>	<u>16.78</u>	<u>0.208</u>	<u>0.134</u>	<u>11.00</u>	<u>7.84</u>	<u>100.9</u>	<u>clear</u>	<u>clear</u>
<u>0.15</u>	<u>1059</u>	<u>14.81</u>	<u>0.211</u>	<u>0.137</u>	<u>2.03</u>	<u>7.43</u>	<u>116.1</u>	<u>clear</u>	<u>clear</u>
<u>0.30</u>	<u>1102</u>	<u>14.79</u>	<u>0.209</u>	<u>0.136</u>	<u>1.45</u>	<u>7.23</u>	<u>106.6</u>	<u>clear</u>	<u>clear</u>
<u>0.45</u>	<u>1105</u>	<u>15.21</u>	<u>0.209</u>	<u>0.136</u>	<u>1.40</u>	<u>7.17</u>	<u>105.9</u>	<u>clear</u>	<u>clear</u>
<u>0.60</u>	<u>1106</u>	<u>16.06</u>	<u>0.212</u>	<u>0.137</u>	<u>2.00</u>	<u>6.82</u>	<u>114.8</u>	<u>clear</u>	<u>clear</u>
<u>0.75</u>	<u>1111</u>	<u>16.49</u>	<u>0.209</u>	<u>0.136</u>	<u>1.83</u>	<u>6.80</u>	<u>112.3</u>	<u>clear</u>	<u>clear</u>
<u>0.90</u>	<u>1114</u>	<u>16.50</u>	<u>0.211</u>	<u>0.136</u>	<u>1.84</u>	<u>6.81</u>	<u>116.2</u>	<u>clear</u>	<u>clear</u>
<u>1.05</u>	<u>1117</u>	<u>17.00</u>	<u>0.212</u>	<u>0.136</u>	<u>1.85</u>	<u>6.83</u>	<u>115.3</u>	<u>clear</u>	<u>clear</u>

PURGING & SAMPLING EQUIPMENT		SAMPLE VESSELS	
☐ Well Wizard Bladder Pump	☐ Bailer (disposable)	☐ 40mL VOA	☐ mL HDPE w/ H2SO4
☐ Active Extraction Well Pump	☐ Bailer (PVC)	<u>5</u> 40mL VOA w/ HCL	
☐ Submersible Pump	☐ Bailer (Stainless Steel)	<u>2,500</u> mL amber glass	
☐ Peristaltic Pump	☒ Dedicated bladder pump		
Other: <u> </u>			
Pump Intake Depth: <u>58.5</u> (feet)			

Well Integrity: <u>Good</u>	Odor: <u>N/A</u>
Remarks: <u>Bladder pump set at depth</u>	

Signature: <u>[Signature]</u> <u>[Signature]</u>	Page 1 of <u>1</u>
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LOW-FLOW GROUNDWATER SAMPLING FIELD DATA SHEET

[illegible]



LOW-FLOW GROUNDWATER SAMPLING FIELD DATA SHEET

Project No. 101.02207.00001 Purged By: SML Well I.D.: MW-17A
Project Name: SeaTac Development Site Sampled By: SML Sample I.D.: MW-17A-0719
Location: SeaTac QA Samples: 0

Date Purged: 7/29/19 Start (2400hr): 1543 End (2400hr): 1607
Date Sampled: 7/29/19 Sample Time (2400hr): 1607

Casing Diameter: 2" X 3" 4" 5" 6" 8" Other
Casing Volume: (gallons per foot) (0.17) (0.38) (0.67) (1.02) (1.50) (2.60) ()

Total depth (feet) = 94.77 Casing Volume (gal) = _____

Depth to water (feet) = 42.67 Minimum Purge (gal) = _____

Water column height (feet) = _____ Actual Purge (gal) = _____

FIELD MEASUREMENTS

[illegible]

PURGING & SAMPLING EQUIPMENT

☐ Well Wizard Bladder Pump ☐ Bailer (disposable)
☐ Active Extraction Well Pump ☐ Bailer (PVC)
☐ Submersible Pump ☐ Bailer (Stainless Steel)
☐ Peristaltic Pump ☒ Dedicated bladder pump

Other: _____

Pump Intake Depth: 89.30 (feet)

SAMPLE VESSELS

___ 40mL VOA	___ mL HDPE w/ H ₂ SO ₄
<u>5</u> 40mL VOA w/ HCL	_____
<u>2</u> <u>500</u> mL amber glass	_____
___ mL amber glass w/ HCl	_____
___ mL HDPE	_____
___ mL HDPE w/ HNO ₃	_____

Well Integrity: Good Odor: No
Remarks: Dedicated bladder pump set at depth

Signature:  

Page 1 of 1

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA SHEET

Project No. <u>161.02207.00001</u>		Purged By: <u>SML</u>	Well I.D.: <u>MW-18</u>
Project Name: <u>SeaTac development site</u>		Sampled By: <u>SML</u>	Sample I.D.: <u>MW-18-0719</u>
Location: <u>SeaTac</u>		QA Samples: <u>0</u>	

Date Purged: <u>7/26/19</u>	Start (2400hr): <u>1339</u>	End (2400hr): <u>1400</u>
Date Sampled: <u>7/26/19</u>	Sample Time (2400hr): <u>1400</u>	

Casing Diameter: 2" ☒ 3" ☐ 4" ☐ 5" ☐ 6" ☐ 8" ☐ Other ☐
Casing Volume: (gallons per foot) (0.17) (0.38) (0.67) (1.02) (1.50) (2.60) ()

Total depth (feet) = <u>61.25</u>	Casing Volume (gal) = _____
Depth to water (feet) = <u>46.40</u>	Minimum Purge (gal) = _____
Water column height (feet) = _____	Actual Purge (gal) = _____

FIELD MEASUREMENTS									
Volume (Gal)	Time (2400hr)	Temp. (degrees C)	Conductivity (mS/cm)	TDS (g/L)	DO (mg/L)	pH (units)	ORP (mV)	Turbidity (Visual)	Color (Visual)
<u>0</u>	<u>1339</u>	<u>19.36</u>	<u>0.796</u>	<u>0.516</u>	<u>13.21</u>	<u>6.76</u>	<u>116.0</u>	<u>clear</u>	<u>clear</u>
<u>0.1</u>	<u>1342</u>	<u>16.77</u>	<u>0.412</u>	<u>0.522</u>	<u>4.52</u>	<u>6.63</u>	<u>115.3</u>	<u>clear</u>	<u>clear</u>
<u>0.2</u>	<u>1345</u>	<u>17.84</u>	<u>0.804</u>	<u>0.522</u>	<u>1.46</u>	<u>6.48</u>	<u>114.1</u>	<u>clear</u>	<u>clear</u>
<u>0.3</u>	<u>1348</u>	<u>17.84</u>	<u>0.748</u>	<u>0.519</u>	<u>1.10</u>	<u>6.44</u>	<u>112.6</u>	<u>clear</u>	<u>clear</u>
<u>0.4</u>	<u>1351</u>	<u>17.99</u>	<u>0.791</u>	<u>0.514</u>	<u>0.83</u>	<u>6.46</u>	<u>108.8</u>	<u>clear</u>	<u>clear</u>
<u>0.5</u>	<u>1354</u>	<u>17.85</u>	<u>0.746</u>	<u>0.511</u>	<u>0.69</u>	<u>6.51</u>	<u>103.4</u>	<u>clear</u>	<u>clear</u>
<u>0.6</u>	<u>1357</u>	<u>17.92</u>	<u>0.763</u>	<u>0.509</u>	<u>0.65</u>	<u>6.52</u>	<u>101.3</u>	<u>clear</u>	<u>clear</u>
<u>0.7</u>	<u>1400</u>	<u>17.93</u>	<u>0.742</u>	<u>0.509</u>	<u>0.65</u>	<u>6.55</u>	<u>100.7</u>	<u>clear</u>	<u>clear</u>

PURGING & SAMPLING EQUIPMENT		SAMPLE VESSELS	
☐ Well Wizard Bladder Pump	☐ Bailer (disposable)	<u>3</u> 40mL VOA	☐ mL HDPE w/ H2SO4
☐ Active Extraction Well Pump	☐ Bailer (PVC)	<u>8</u> 40mL VOA w/ HCL	_____
☐ Submersible Pump	☐ Bailer (Stainless Steel)	<u>2</u> 50 mL amber glass	_____
☐ Peristaltic Pump	☒ Dedicated bladder pump	<u>2</u> 100mL amber glass w/ HCL	_____
Other: _____		_____ mL HDPE	_____
Pump Intake Depth: <u>53.05</u> (feet)		_____ mL HDPE w/ HNO3	_____

Well Integrity: <u>Good</u>	Odor: <u>No</u>
Remarks: <u>Monument missing kotts. Dedicated bladder pump set at depth</u>	

Signature: <u>[Signature]</u>	Page 1 of 1
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LOW-FLOW GROUNDWATER SAMPLING FIELD DATA SHEET



Project No. <u>101.02207.00001</u>		Purged By: <u>SML</u>	Well I.D.: <u>MW-21</u>
Project Name: <u>SeaTac Development Site</u>		Sampled By: <u>SML</u>	Sample I.D.: <u>MW-21-0719</u>
Location: <u>SeaTac</u>		QA Samples: <u>0</u>	

Date Purged: <u>7/26/19</u>	Start (2400hr): <u>1749</u>	End (2400hr): <u>1809</u>
Date Sampled: <u>7/26/19</u>	Sample Time (2400hr): <u>1809</u>	

Casing Diameter: 2" <u>X</u> 3" 4" 5" 6" 8" Other
Casing Volume: (gallons per foot) (0.17) (0.38) (0.67) (1.02) (1.50) (2.60) ()

Total depth (feet) =	Casing Volume (gal) =
Depth to water (feet) = <u>101.27</u>	Minimum Purge (gal) =
Water column height (feet) =	Actual Purge (gal) =

FIELD MEASUREMENTS									
Volume (Gal)	Time (2400hr)	Temp. (degrees C)	Conductivity (mS/cm)	TDS (g/L)	DO (mg/L)	pH (units)	ORP (mV)	Turbidity (Visual)	Color (Visual)
<u>0</u>	<u>1749</u>	<u>19.65</u>	<u>0.210</u>	<u>0.136</u>	<u>10.46</u>	<u>7.24</u>	<u>85.4</u>	<u>clear</u>	<u>clear</u>
<u>0.1</u>	<u>1753</u>	<u>16.90</u>	<u>0.203</u>	<u>0.132</u>	<u>10.43</u>	<u>6.77</u>	<u>94.9</u>	<u>clear</u>	<u>clear</u>
<u>0.2</u>	<u>1757</u>	<u>16.29</u>	<u>0.209</u>	<u>0.136</u>	<u>9.74</u>	<u>6.38</u>	<u>98.9</u>	<u>clear</u>	<u>clear</u>
<u>0.3</u>	<u>1801</u>	<u>16.46</u>	<u>0.213</u>	<u>0.139</u>	<u>9.71</u>	<u>6.36</u>	<u>90.7</u>	<u>clear</u>	<u>clear</u>
<u>0.4</u>	<u>1805</u>	<u>16.41</u>	<u>0.215</u>	<u>0.140</u>	<u>9.43</u>	<u>6.35</u>	<u>90.3</u>	<u>clear</u>	<u>clear</u>
<u>0.5</u>	<u>1809</u>	<u>16.40</u>	<u>0.216</u>	<u>0.140</u>	<u>9.91</u>	<u>6.34</u>	<u>90.1</u>	<u>clear</u>	<u>clear</u>

PURGING & SAMPLING EQUIPMENT	SAMPLE VESSELS
☐ Well Wizard Bladder Pump ☐ Bailer (disposable) ☐ Active Extraction Well Pump ☐ Bailer (PVC) ☐ Submersible Pump ☐ Bailer (Stainless Steel) ☐ Peristaltic Pump ☒ Dedicated <u>bladder</u> Other: _____ <u>pump</u> Pump Intake Depth: <u>106.70</u> (feet)	☐ 40mL VOA ☐ mL HDPE w/ H2SO4 ☒ 40mL VOA w/ HCL ☒ <u>2</u> 500 mL amber glass ☐ mL amber glass w/ HCL ☐ mL HDPE ☐ mL HDPE w/ HNO3

Well Integrity: <u>Good</u>	Odor: <u>No</u>
Remarks: <u>Bladder pump set at depth</u>	

Signature: <u>[Signature]</u>	Page 1 of 1
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APPENDIX B

DATA TABLES AND TREND GRAPHS

Table B-1
Summary of Groundwater Sampling Results - Well MW-06
SeaTac Development Site
SeaTac, Washington

Date Sampled	Top of Casing Elevation (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	Field Parameters					Analytical Data									
				pH	Temperature (°C)	Conductivity (µmhos/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	GRO (mg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	EDB (µg/L)	N-hexane (µg/L)	Naphthalene (µg/L)	DRO (mg/L)	ORO (mg/L)
MTCA Method A Groundwater Cleanup Levels ^a									0.8 ^b /1.0 ^c	5.0	1,000	700	1,000	0.01	480 ^d	160	0.5	0.5
02/11/14	369.68	59.03	310.65	6.13	12.1	139	0.91	16.4	< 0.10	< 0.25	< 0.25	< 0.25	< 0.50	< 0.08	< 0.20	< 0.50	< 0.10	< 0.20
05/28/14	369.68	NM	NM	6.14	14.3	454	1.03	3.71	< 0.10	< 0.25	< 0.25	< 0.25	< 0.50	< 0.07	< 0.20 UJ	< 0.50	< 0.10	< 0.20
09/10/14	369.68	NM	NM	6.27	15.9	312	1.52	11.8	< 0.10	< 0.25	< 0.25	< 0.25	< 0.50	< 0.07	< 0.20	< 0.50	< 0.10	< 0.20
12/03/14	369.68	NM	NM	6.27	13.6	314	2.14	6.75	< 0.10	< 0.25	< 0.25	< 0.25	< 0.50	< 0.07	< 0.20	< 0.50	< 0.10	< 0.20
06/17/15	369.68	NM	NM	6.32	14.9	331	3.96	0.75	< 0.25	< 0.20	< 0.20	< 0.20	< 0.40	< 0.07	< 0.20	< 0.50	< 0.10	< 0.20
12/03/15	369.68	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
05/03/16	369.68	61.41	308.27	6.36	13.9	396	10.59	NM	<0.10	<0.20	<0.20	<0.20	<0.40	<0.20	0.19 J	<0.50	<0.10	<0.20
11/15/16	369.68	59.51	310.17	6.34	13.7	352	7.42	418	0.11	<0.20	<0.20	<0.20	<0.40	<0.20	0.1 J	<0.50	0.17	<0.20
05/02/17	369.68	59.31	310.37	6.16	14.0	238	7.17	1.21	<0.10	<0.20	<0.20	<0.20	<0.40	<0.20	<0.20	<0.50	<0.10	<0.20
11/14/17	369.68	58.35	311.33	6.39	12.7	325	9.01	NM	<0.10	<0.20	<0.20	<0.20	<0.40	<0.20	<0.20	<0.50	<0.10	<0.20
01/16/18	369.68	57.78	311.90	6.13	13.1	244	8.81	0.6	<0.10	<0.20	<0.20	<0.20	<0.40	<0.20	<0.20	<0.50	<0.10	<0.20
03/09/18	369.68	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
05/15/18	369.68	57.22	312.46	5.94	13.8	200	8.76	0.15	<0.10	<0.20	<0.20	<0.20	<0.40	<0.01	<0.20	<0.50	<0.10	<0.20
11/07/18	369.68	57.41	312.27	6.35	13.6	188.0	8.74	0.4	<0.10	<0.20	<0.20	<0.20	<0.40	<0.01	<0.20	<0.50	<0.10	<0.20
07/29/19	369.68	57.97	311.71	6.28	15.9	244	8.13	NM	<0.10	<0.20	<0.20	<0.20	<0.60	<0.003	<0.20	<0.50	<0.10	<0.20

Notes:

Values in bold and red exceed MTCA Method A Cleanup Levels.

NS = Not sampled

NM = Not measured

NA = No cleanup level is available.

mg/L = Milligrams per liter

µg/L = Micrograms per liter

NTU = Nephelometric turbidity unit

µmhos/cm = Micromhos per centimeter

°C = Degrees Celsius

J = Laboratory estimated value

DRO = Diesel-range organics

ORO = Oil-range organics

GRO = Gasoline-range organics

EDB = 1,2-dibromoethane

^a Ecology's Model Toxics Control Act (MTCA) Cleanup Regulation (Chapter 173-340 WAC), Tables 720-1, Method A Cleanup Levels for Groundwater.

^b When benzene is present.

^c When benzene is not present.

^d Method B cleanup level used because Method A cleanup level is not established. Standard formula values, direct contact Method B groundwater cleanup levels as published on Ecology's Cleanup Level and Risk Calculation (CLARC) on-line database (May 2019).

Table B-2
Summary of Groundwater Sampling Results - Well MW-07
SeaTac Development Site
SeaTac, Washington

Date Sampled	Top of Casing Elevation (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	Field Parameters					Analytical Data									
				pH	Temperature (°C)	Conductivity (µmhos/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	GRO (mg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	EDB (µg/L)	N-hexane (µg/L)	Naphthalene (µg/L)	DRO (mg/L)	ORO (mg/L)
				MTCA Method A Groundwater Cleanup Levels ^a					0.8 ^b /1.0 ^c	5.0	1,000	700	1,000	0.01	480 ^d	160	0.5	0.5
03/18/10	358.70	48.69	310.01	6.61	13.3	354	1.41	5.18	26	230	1,100	360	4,630	0.010	160	210	NM	NM
02/13/14	358.69	47.72	310.97	6.56	14.3	131	0.35	3.87	29	25	110	180	2,022	< 3.8	190	220	11 J	< 0.20
05/29/14	358.69	47.65	311.04	6.65	16.4	379	0.13	2.84	27	14	80	190	1,811	< 1.5	140	210 B	11 J	< 0.20
09/11/14	358.69	47.95	310.74	6.73	16.5	373	0.35	2.28	36	17	81	260	2,110	< 0.028	280	300 B J	11	0.41 J
12/04/14	358.69	47.95	310.74	6.70	15.7	333	0.20	2.95	26	21	66	200	1,507	< 0.07	170	180	11 J	0.32 J
06/18/15	358.69	48.01	310.68	6.64	16.1	371	0.25	1.57	15 J	6.4	28 J	110 J	533 J	< 0.07	93 J	96 J	5.4	0.24 J
12/03/15	358.69	49.96	308.73	6.44	15.9	526	0.14	2.91	23	77	1,200	270	1,550	< 1.5	160	69	4.9 J	< 0.20
05/04/16	358.69	49.05	309.64	6.68	16.0	640	1.02	4.57	12	30	500	170	970	<0.20	150	68 J	6.5 J	0.30 J
11/16/16	358.69	48.50	310.19	6.54	15.9	411	1.39	3.95	8.3	4.3	9.5	40	85	<0.20	11 J	37	2.4	<0.20
05/03/17	358.69	48.13	310.56	6.38	16.2	188	1.33	3.78	2.9	1.8	0.46	14	21	<0.20	1.9	32	1.4	0.20
11/14/17	358.69	47.15	311.54	6.39	15.1	278	0.98	NM	2.2	0.70	0.42	1.1	5.9	<0.20	0.3	11	1.6	0.44
01/18/18	358.69	46.75	311.94	6.21	14.7	270	0.23	2.15	1.9	1.0	0.67	2.04 J	7.3 J	<0.20	0.5	10	1.5	<0.20
03/09/18	358.69	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
05/16/18	358.69	46.10	312.59	6.15	15.2	248	0.25	2.25	1.8	0.41	0.35	1	3	<0.01	<0.20	6.1	0.78	<0.20
11/08/18	358.69	46.32	312.37	6.67	14.7	220	0.29	1.60	1.4	0.73	0.29	0.78	1.6	<0.01	0.42	4.0	0.74	<0.20
07/26/19	358.69	46.74	311.95	6.45	17.4	281	0.43	NM	0.73	0.30	0.27	0.75	1.13	<0.003	0.29	1.63	0.17	<0.20

Notes:
Values in bold and red exceed MTCA Method A Cleanup Levels.
NS = Not sampled
NM = Not measured
NA = No cleanup level is available.
mg/L = Milligrams per liter
µg/L = Micrograms per liter
NTU = Nephelometric turbidity unit
µmhos/cm = Micromhos per centimeter
°C = Degrees Celsius
J = Laboratory estimated value
DRO = Diesel-range organics
ORO = Oil-range organics
GRO = Gasoline-range organics
EDB = 1,2-dibromoethane
^a Ecology's Model Toxics Control Act (MTCA) Cleanup Regulation (Chapter 173-340 WAC), Tables 720-1, Method A Cleanup Levels for Groundwater.
^b When benzene is present.
^c When benzene is not present.
^d Method B cleanup level used because Method A cleanup level is not established. Standard formula values, direct contact Method B groundwater cleanup levels as published on Ecology's Cleanup Level and Risk Calculation (CLARC) on-line database (May 2019).

Table B-3
Summary of Groundwater Sampling Results - Well MW-09
SeaTac Development Site
SeaTac, Washington

Date Sampled	Top of Casing Elevation (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	Field Parameters					Analytical Data									
				pH	Temperature (°C)	Conductivity (µmhos/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	GRO (mg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	EDB (µg/L)	N-hexane (µg/L)	Naphthalene (µg/L)	DRO (mg/L)	ORO (mg/L)
MTCA Method A Groundwater Cleanup Levels ^a									0.8 ^b /1.0 ^c	5.0	1,000	700	1,000	0.01	480 ^d	160	0.5	0.5
03/19/10	362.14	52.30	309.84	6.19	14.2	294	0.13	7.18	16	170	65	400	1,434	0.016	100	160	NS	NS
02/12/14	362.13	51.45	310.68	6.49	12.6	99.5	0.28	3.10	7.5	30	8.1	150	98	< 0.08	16	120	1.6 J	< 0.20
05/29/14	362.13	51.41	310.72	6.44	15.0	295	0.14	1.01	7.8	32	9.4	170	112	< 0.37	5.60	92 B	2.3 J	< 0.20
09/10/14	362.13	NM	NM	6.49	15.7	310	0.20	3.85	5.6	17	4.6	100	47.2	< 0.010*	< 0.20	74	2.8	< 0.20
12/03/14	362.13	51.68	310.45	6.47	13.6	307	0.18	2.37	4.1	14	2.8	76	8.8	< 0.07	< 0.20	44	1.9	< 0.20
06/17/15	362.13	51.67	310.46	6.48	15.1	331	0.18	0.75	1.7	7.2	1.3	40	1.6	< 0.07	< 0.20	18	1.5	< 0.20
12/03/15	362.13	NM	NM	6.37	14.1	477	0.96	3.91	2.2 J	8.4	1.5 J	73	1.45 J	< 0.07	< 0.20	5.7	1.0 J	< 0.20
05/03/16	362.13	NM	NM	6.51	18.3	221	4.68	1.08	<0.10	0.15 J	<0.20	0.71	<0.40	<0.20	<0.20	<0.50	0.22 J	<0.20
11/15/16	362.13	52.15	309.98	5.94	14.5	234	1.41	0.80	<0.10	0.23	0.23	0.56	0.32	<0.20	<0.20	<0.50	0.20	<0.20
05/03/17	362.13	NM	NM	5.94	15.5	165	3.09	1.43	<0.10	0.23	0.05 J	0.42	<0.40	<0.20	<0.20	<0.50	0.28	<0.20
11/14/17	362.13	50.74	311.39	5.98	13.9	211	2.14	NM	<0.10	<0.20	<0.20	<0.20	<0.40	<0.20	<0.20	<0.50	0.22	<0.20
01/16/18	362.13	50.33	311.80	5.94	13.6	202	1.10	1.02	<0.10	<0.20	<0.20	<0.20	<0.40	<0.20	<0.20	<0.50	0.26	<0.20
03/09/18	362.13	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
05/15/18	362.13	49.68	312.45	5.86	15.0	193	0.67	0.61	<0.10	0.20	<0.20	<0.20	<0.40	<0.01	<0.20	<0.50	0.34	<0.20
11/07/18	362.13	49.86	312.27	6.28	13.8	203	0.32	0.25	<0.10	<0.20	<0.20	<0.20	<0.40	<0.01	<0.20	<0.50	0.28	<0.20
07/29/19	362.13	50.33	311.80	6.32	15.5	285	0.50	NM	<0.10	0.20	<0.20	<0.20	<0.60	<0.003	<0.20	<0.50	0.11	<0.20

Notes:

Values in bold and red exceed MTCA Method A Cleanup Levels.

NS = Not sampled

NM = Not measured

NA = No cleanup level is available.

mg/L = Milligrams per liter

µg/L = Micrograms per liter

NTU = Nephelometric turbidity unit

µmhos/cm = Micromhos per centimeter

°C = Degrees Celsius

J = Laboratory estimated value

DRO = Diesel-range organics

ORO = Oil-range organics

GRO = Gasoline-range organics

EDB = 1,2-dibromoethane

^a Ecology's Model Toxics Control Act (MTCA) Cleanup Regulation (Chapter 173-340 WAC), Tables 720-1, Method A Cleanup Levels for Groundwater.

^b When benzene is present.

^c When benzene is not present.

^d Method B cleanup level used because Method A cleanup level is not established. Standard formula values, direct contact Method B groundwater cleanup levels as published on Ecology's Cleanup Level and Risk Calculation (CLARC) on-line database (May 2019).

Table B-4
Summary of Groundwater Sampling Results - Well MW-12
SeaTac Development Site
SeaTac, Washington

Date Sampled	Top of Casing Elevation (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	Field Parameters					Analytical Data									
				pH	Temperature (°C)	Conductivity (µmhos/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	GRO (mg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	EDB (µg/L)	N-hexane (µg/L)	Naphthalene (µg/L)	DRO (mg/L)	ORO (mg/L)
MTCA Method A Groundwater Cleanup Levels ^a									0.8 ^b /1.0 ^c	5.0	1,000	700	1,000	0.01	480 ^d	160	0.5	0.5
03/15/10	364.88	54.99	309.89	6.38	14.5	472	0.03	40.8	36	230	2,400	1,300	5,140	0.16	210	520	NS	NS
02/13/14	364.83	55.02	309.81	7.76	14.1	125	10.50	3.43	8.6	79	410	79	970	< 3.8	< 10	25	1.1 J	< 0.20
05/29/14	364.83	51.58	313.25	7.87	16.7	252	11.77	5.99	0.12	2.0	4.3	1.6	4.2	< 0.07	< 0.20	< 0.50	0.34 J	< 0.20
09/11/14	364.83	54.87	309.96	8.04	18.1	255	11.80	38.8	0.11	2.5	2.6	1.5	5.3	< 0.010*	0.78	0.53 B J	0.35	< 0.20
12/04/14	364.83	54.87	309.96	8.04	15.1	258	11.51	153	< 0.10	< 0.25	< 0.25	0.73	6.0	< 0.07	0.18 J	0.68	0.20	< 0.20
06/18/15	364.83	NM	NM	8.09	16.3	208	9.90	2.44	< 0.25	< 0.20	< 0.20	0.10 J	2.1	< 0.07	0.26	< 0.50	0.45	< 0.20
12/03/15	364.83	56.74	308.09	NM	NM	NM	NM	NM	< 0.25	< 0.20	< 0.20	< 0.20	< 0.40	< 0.07	< 0.20	< 0.50	0.29	< 0.20
05/04/16	364.83	55.53	309.30	7.68	15.1	226	7.72	3.48	< 0.10	< 0.20	< 0.20	< 0.20	< 0.40	< 0.20	< 0.20	< 0.50	0.18 J	< 0.20
11/16/16	364.83	55.20	309.63	7.84	14.9	199	8.45	13.4	< 0.10	< 0.20	< 0.20	< 0.20	< 0.40	< 0.20	< 0.20	< 0.50	0.16	< 0.20
05/03/17	364.83	59.02	305.81	7.53	15.9	80	8.01	4.96	< 0.10	< 0.20	< 0.20	< 0.20	< 0.40	< 0.20	< 0.20	< 0.50	0.89	< 0.215
11/15/17	364.83	53.37	311.46	7.69	14.9	301	0.99	18.9	2.2	1.8	18	11	113	< 0.20	29	33	1.0	0.30
01/18/18	364.83	53.13	311.70	7.29	14.4	314	0.35	30.1	2.2	1.7	12	26	90	< 0.20	29	30	1.6	< 0.20
03/09/18	364.83	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
05/16/18	364.83	52.31	312.52	7.06	15.3	374	0.27	3.0	2.8	17	2.1	24	43	< 0.01	26	19	2.9	< 0.20
11/08/18	364.83	52.55	312.28	7.98	14.7	354	0.36	6.6	3.6	26	2.5	24	25	< 0.01	48 J	17	< 0.10	< 0.20
07/29/19	364.83	53.01	311.82	7.28	16.0	455	0.89	NM	2.29	8.2	2.9	16	25	< 0.003	8.43	14.1	1.85	< 0.20

Notes:
Values in bold and red exceed MTCA Method A Cleanup Levels.
NS = Not sampled
NM = Not measured
NA = No cleanup level is available.
mg/L = Milligrams per liter
µg/L = Micrograms per liter
NTU = Nephelometric turbidity unit
µmhos/cm = Micromhos per centimeter
°C = Degrees Celsius
J = Laboratory estimated value
DRO = Diesel-range organics
ORO = Oil-range organics
GRO = Gasoline-range organics
EDB = 1,2-dibromoethane
^a Ecology's Model Toxics Control Act (MTCA) Cleanup Regulation (Chapter 173-340 WAC), Tables 720-1, Method A Cleanup Levels for Groundwater.
^b When benzene is present.
^c When benzene is not present.
^d Method B cleanup level used because Method A cleanup level is not established. Standard formula values, direct contact Method B groundwater cleanup levels as published on Ecology's Cleanup Level and Risk Calculation (CLARC) on-line database (May 2019).

Table B-5
Summary of Groundwater Sampling Results - Well MW-13
SeaTac Development Site
SeaTac, Washington

Date Sampled	Top of Casing Elevation (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	Field Parameters					Analytical Data									
				pH	Temperature (°C)	Conductivity (µmhos/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	GRO (mg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	EDB (µg/L)	N-hexane (µg/L)	Naphthalene (µg/L)	DRO (mg/L)	ORO (mg/L)
MTCA Method A Groundwater Cleanup Levels ^a									0.8 ^b /1.0 ^c	5.0	1,000	700	1,000	0.01	480 ^d	160	0.5	0.5
03/19/10	365.42	55.66	309.76	6.28	12.8	271	0.16	72.1	33	14	230	890	4,500	0.029	130	410	NS	NS
02/12/14	365.42	54.35	311.07	6.57	13.2	73.3	1.41	4.28	14	< 0.25	3.9	240	2,070	< 0.08	< 0.20	33	1.4 J	< 0.20
05/29/14	365.42	55.62	309.80	6.84	14.7	182	10.59	4.24	0.14	< 0.25	< 0.25	0.85	19	< 0.07	0.11 J	< 0.50	0.32	< 0.20
09/10/14	365.42	54.86	310.56	7.06	14.9	137	11.06	2.41	< 0.10	< 0.25	< 0.25	< 0.25	< 0.50	< 0.010*	< 0.20	< 0.50	0.29	< 0.20
12/04/14	365.42	54.86	310.56	7.06	13.9	163	10.10	2.32	< 0.10	< 0.25	< 0.25	< 0.25	< 0.50	< 0.07	< 0.20	< 0.50	0.31	< 0.20
06/18/15	365.42	54.70	310.72	7.13	14.7	174	10.71	1.32	< 0.25	< 0.20	< 0.20	< 0.20	< 0.40	< 0.07	< 0.20	0.61	0.27	< 0.20
12/02/15	365.42	56.43	308.99	7.27	14.2	164	10.20	0.90	< 0.25	< 0.20	< 0.20	0.23	1.10 J+	< 0.07	< 0.20	< 0.50	0.26	< 0.20
05/03/16	365.42	56.30	309.12	7.79	15.8	194	14.18	1.14	<0.10	<0.20	<0.20	<0.20	0.44	<0.20	<0.20	<0.50	0.12 J	<0.20
11/15/16	365.42	55.81	309.61	7.25	14.1	195	10.64	0.73	<0.10	<0.20	<0.20	<0.20	0.46	<0.20	<0.20	<0.50	0.19	<0.20
05/03/17	365.42	55.14	310.28	7.03	14.5	116	10.71	1.45	<0.10	<0.20	<0.20	<0.20	<0.40	<0.20	<0.20	<0.50	0.18	<0.20
11/14/17	365.42	54.05	311.37	6.75	13.6	136	1.72	NM	<0.10	<0.20	<0.20	<0.20	<0.40	<0.20	<0.20	<0.50	0.13	<0.20
01/16/18	365.42	53.62	311.80	6.93	13.4	159	0.85	2.02	<0.10	<0.20	<0.20	<0.20	<0.40	<0.20	<0.20	<0.50	<0.10	<0.20
03/09/18	365.42	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
05/15/18	365.42	52.96	312.46	6.43	14.1	120	1.87	1.14	<0.10	<0.20	<0.20	<0.20	<0.40	<0.01	<0.20	<0.50	<0.10	<0.20
11/07/18	365.42	53.16	312.26	7.10	13.6	141	1.00	0.64	<0.10	<0.20	<0.20	<0.20	<0.40	<0.01	<0.20	<0.50	<0.10	<0.20
07/29/19	365.42	53.59	311.83	6.83	17.0	212	1.85	NM	<0.10	0.07 J	<0.20	<0.20	<0.60	<0.003	<0.20	<0.50	<0.10	<0.20

Notes:

Values in bold and red exceed MTCA Method A Cleanup Levels.

NS = Not sampled

NM = Not measured

NA = No cleanup level is available.

mg/L = Milligrams per liter

µg/L = Micrograms per liter

NTU = Nephelometric turbidity unit

µmhos/cm = Micromhos per centimeter

°C = Degrees Celsius

J = Laboratory estimated value

DRO = Diesel-range organics

ORO = Oil-range organics

GRO = Gasoline-range organics

EDB = 1,2-dibromoethane

^a Ecology's Model Toxics Control Act (MTCA) Cleanup Regulation (Chapter 173-340 WAC), Tables 720-1, Method A Cleanup Levels for Groundwater.

^b When benzene is present.

^c When benzene is not present.

^d Method B cleanup level used because Method A cleanup level is not established. Standard formula values, direct contact Method B groundwater cleanup levels as published on Ecology's Cleanup Level and Risk Calculation (CLARC) on-line database (May 2019).

Table B-6
Summary of Groundwater Sampling Results - Well MW-17A
SeaTac Development Site
SeaTac, Washington

Date Sampled	Top of Casing Elevation (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	Field Parameters					Analytical Data									
				pH	Temperature (°C)	Conductivity (µmhos/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	GRO (mg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	EDB (µg/L)	N-hexane (µg/L)	Naphthalene (µg/L)	DRO (mg/L)	ORO (mg/L)
				MTCA Method A Groundwater Cleanup Levels^a					0.8^b/1.0^c	5.0	1,000	700	1,000	0.01	480^d	160	0.5	0.5
03/17/10	385.81	76.29	309.52	6.51	9.3	145	0.52	142	1.70	< 1.0	< 1.0	4.0	27	< 0.0095	< 1.0	63	NS	NS
02/11/14	394.00 ^e	83.80	310.20 ^f	6.36	11.3	82.5	1.06	137	< 0.10	< 0.25	< 0.25	< 0.25	< 0.50	< 0.08	< 0.20	0.74	< 0.10	< 0.20
05/29/14	394.00 ^e	84.00	310.00 ^f	6.22	12.2	175	2.06	39.7	< 0.10	0.25	< 0.25	< 0.25	< 0.50	< 0.07	< 0.20	0.62 J	< 0.10	< 0.20
09/10/14	394.00 ^e	84.18	309.82 ^f	6.28	12.4	162	1.42	18.8	< 0.10	< 0.25	< 0.25	< 0.25	< 0.50	< 0.07	< 0.20	0.64 J	< 0.10	< 0.20
12/05/14	394.00 ^e	84.18	309.82 ^f	6.42	11.7	167	1.09	31.8	< 0.10 UJ	0.54 J	< 0.25 UJ	< 0.25 UJ	0.63 J	< 0.07	< 0.20 UJ	2.8	< 0.10	< 0.20
06/17/15	394.00 ^e	84.16	309.84 ^f	6.29	12.9	158	3.13	29.6	< 0.25	< 0.20	< 0.20	< 0.20	< 0.40	< 0.07	< 0.20	< 0.50	< 0.10	< 0.20
12/18/15	394.00 ^e	85.95	308.05 ^f	6.57	11.8	127	0.20	23.7	0.05 J	0.75	< 0.20	0.08 J	< 0.40	< 0.07	< 0.20	0.98 J	< 0.10	< 0.20
05/03/16	394.00 ^e	85.21	308.79 ^f	6.51	13.1	132	4.60	8.41	< 0.10	0.33	< 0.20	< 0.20	< 0.40	< 0.20	0.11 J	0.71 J	< 0.10	< 0.20
11/15/16	394.00 ^e	84.57	309.43 ^f	6.46	12.6	122	3.76	10.2	< 0.10	0.14 J	< 0.20	< 0.20	< 0.40	< 0.20	< 0.20	< 0.50	< 0.10	< 0.20
05/03/17	394.00 ^e	84.24	309.76 ^f	6.08	12.4	76	7.25	7.57	< 0.10	< 0.20	< 0.20	< 0.20	< 0.40	< 0.20	< 0.20	< 0.50	< 0.10	< 0.20
11/15/17	394.00 ^e	83.17	310.83 ^f	6.62	12.1	105	7.05	NM	< 0.10	< 0.20	< 0.20	< 0.20	< 0.40	< 0.20	< 0.20	0.54	< 0.10	< 0.20
01/16/18	394.00 ^e	82.95	311.05 ^f	6.27	12.0	111	8.55	4.2	< 0.10	< 0.20	< 0.20	< 0.20	< 0.40	< 0.20	< 0.20	< 0.50	< 0.10	< 0.20
03/09/18	394.00 ^e	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
05/15/18	394.00 ^e	82.21	311.79 ^f	6.14	12.9	106	8.57	1.4	< 0.10	< 0.20	< 0.20	< 0.20	< 0.40	< 0.01	< 0.20	< 0.50	< 0.10	< 0.20
11/08/18	394.00 ^e	82.49	311.51 ^f	6.48	12.3	116	8.20	3.4	< 0.10	< 0.20	< 0.20	< 0.20	< 0.40	< 0.01	< 0.20	< 0.50	< 0.10	< 0.20
07/29/19	394.00 ^e	82.67	311.33 ^f	6.35	15.4	175	6.90	NM	< 0.10	< 0.20	< 0.20	< 0.20	< 0.60	< 0.003	0.10 J	< 0.50	< 0.10	< 0.20

Notes:
Values in bold and red exceed MTCA Method A Cleanup Levels.
NS = Not sampled
NM = Not measured
NA = No cleanup level is available.
mg/L = Milligrams per liter
µg/L = Micrograms per liter
NTU = Nephelometric turbidity unit
µmhos/cm = Micromhos per centimeter
°C = Degrees Celsius
J = Laboratory estimated value
DRO = Diesel-range organics
ORO = Oil-range organics
GRO = Gasoline-range organics
EDB = 1,2-dibromoethane
^a Ecology's Model Toxics Control Act (MTCA) Cleanup Regulation (Chapter 173-340 WAC), Tables 720-1, Method A Cleanup Levels for Groundwater.
^b When benzene is present.
^c When benzene is not present.
^d Method B cleanup level used because Method A cleanup level is not established. Standard formula values, direct contact Method B groundwater cleanup levels as published on Ecology's Cleanup Level and Risk Calculation (CLARC) on-line database (May 2019).
^e Top of casing elevation was not surveyed; elevation was estimated by Golder Associates, Inc.
^f Estimated elevation.

Table B-7
Summary of Groundwater Sampling Results - Well MW-18
SeaTac Development Site
SeaTac, Washington

Date Sampled	Top of Casing Elevation (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	Field Parameters					Analytical Data									
				pH	Temperature (°C)	Conductivity (µmhos/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	GRO (mg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	EDB (µg/L)	N-hexane (µg/L)	Naphthalene (µg/L)	DRO (mg/L)	ORO (mg/L)
				MTCA Method A Groundwater Cleanup Levels ^a					0.8 ^b /1.0 ^c	5.0	1,000	700	1,000	0.01	480 ^d	160	0.5	0.5
03/18/10	360.45	50.58	309.87	6.69	14.2	586	0.11	5.39	52	2,600	6,000	1,700	6,690	2.5	350	420	NS	NS
02/12/14	360.45	49.01	311.44	7.62	13.8	175	8.11	2.89	1.0	27	13	17	91	< 0.08	1.1	4.0	0.77 J	<0.20
05/29/14	360.45	49.75	310.70	7.98	15.2	369	10.60	7.95	0.14	6.6	1.5	4.7	9.2	< 0.07	0.64	0.84 J+	0.33 J	<0.20
09/11/14	360.45	49.83	310.62	8.23	15.2	498	11.23	13.1	< 0.10	0.72	0.27	0.40	0.72	< 0.010*	< 0.20	< 0.50	0.14	< 0.20
12/04/14	360.45	49.83	310.62	7.84	14.4	470	10.78	81.6	< 0.10	0.69	< 0.25	0.63	0.93	< 0.07	0.10 J	< 0.50	0.24	< 0.20
06/18/15	360.45	49.51	310.94	8.05	15.2	515	10.89	49.6	< 0.25	0.67	0.54	0.24	1.1	< 0.07	< 0.20	< 0.50	0.38	< 0.20
12/03/15	360.45	NM	NM	8.28	14.8	455	10.21	14.6	< 0.25	0.57	4.8	0.34	9.8	< 0.07	0.25	0.67	0.13	< 0.20
05/04/16	360.45	51.12	309.33	7.27	14.8	513	4.53	4.77	0.22	8.0	5.5	8.2	29	<0.20	1.5	1.5 J	0.37 J	<0.20
11/16/16	360.45	50.63	309.82	7.55	15.0	503	6.97	2.44	0.12	3.6	1.2	2.1	9.0	<0.20	0.39	<0.50	0.48	<0.20
05/03/17	360.45	50.12	310.33	7.19	15.6	313	4.54	3.57	0.28	6.9	3.1	6.8	21	<0.20	1.4	2.7	0.29	0.30
11/14/17	360.45	49.00	311.45	6.78	15.2	454	0.71	NM	1.3	3.6	1.6	7.4	8.7	<0.20	0.33	<0.50	4.4	0.43
01/16/18	360.45	48.62	311.83	6.12	14.4	22.7	6.23	18.1	<0.10	<0.20	<0.20	<0.20	<0.40	<0.20	<0.20	<0.50	<0.10	<0.20
03/09/18	360.45	48.35	312.10	6.69	14.4	479	0.28	1.9	1.9	NS	NS	NS	NS	NS	NS	NS	4.66	<0.20
05/16/18	360.45	47.94	312.51	6.42	15.2	405	0.21	1.4	1.5	6.2	2.2	20	19	<0.01	1.3	5.1	2.9	<0.20
11/07/18	360.45	48.14	312.31	6.82	15.1	506	0.17	2.5	1.5	6.6	1.1	24	2.8	<0.01	<0.20	7.0	3.3	<0.20
07/26/19	360.45	48.58	311.87	6.55	17.9	782	0.65	NM	1.21	1.29	0.25	1.22	2.35	<0.003	0.22	4.75	2.81	<0.20

Notes:

Values in bold and red exceed MTCA Method A Cleanup Levels.

NS = Not sampled

NM = Not measured

NA = No cleanup level is available.

mg/L = Milligrams per liter

µg/L = Micrograms per liter

NTU = Nephelometric turbidity unit

µmhos/cm = Micromhos per centimeter

°C = Degrees Celsius

J = Laboratory estimated value

DRO = Diesel-range organics

ORO = Oil-range organics

GRO = Gasoline-range organics

EDB = 1,2-dibromoethane

^a Ecology's Model Toxics Control Act (MTCA) Cleanup Regulation (Chapter 173-340 WAC), Tables 720-1, Method A Cleanup Levels for Groundwater.

^b When benzene is present.

^c When benzene is not present.

^d Method B cleanup level used because Method A cleanup level is not established. Standard formula values, direct contact Method B groundwater cleanup levels as published on Ecology's Cleanup Level and Risk Calculation (CLARC) on-line database (May 2019).

Table B-8
Summary of Groundwater Sampling Results - Well MW-19
SeaTac Development Site
SeaTac, Washington

Date Sampled	Top of Casing Elevation (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	Field Parameters					Analytical Data									
				pH	Temperature (°C)	Conductivity (µmhos/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	GRO (mg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	EDB (µg/L)	N-hexane (µg/L)	Naphthalene (µg/L)	DRO (mg/L)	ORO (mg/L)
MTCA Method A Groundwater Cleanup Levels ^a									0.8 ^b /1.0 ^c	5.0	1,000	700	1,000	0.01	480 ^d	160	0.5	0.5
03/18/10	356.61	46.60	310.01	7.04	12.5	275	0.07	84.0	1.3	8.9	1.8	43	6.0	< 0.0096	2.8	< 5.0	NS	NS
02/11/14	356.61	45.46	311.15	6.98	12.7	105	0.15	3.20	< 0.10	< 0.25	< 0.25	< 0.25	< 0.50	< 0.08	4.3	< 0.50	< 0.10	< 0.20
05/29/14	356.61	45.74	310.87	6.96	13.7	290	0.04	0.42	< 0.10	< 0.25	0.40	< 0.25	0.58	< 0.07	0.30	< 0.50	< 0.10	< 0.20
09/10/14	356.61	45.73	310.88	6.93	14.5	379	0.16	0.30	< 0.10	< 0.25	< 0.25	< 0.25	< 0.50	< 0.07	< 0.20	< 0.50	< 0.10	< 0.20
12/03/14	356.61	45.73	310.88	6.82	13.3	380	0.20	0.86	< 0.10	< 0.25	< 0.25	< 0.25	< 0.50	< 0.07	< 0.20	< 0.50	< 0.10	< 0.20
06/17/15	356.61	45.94	310.67	6.75	14.3	400	0.26	0.86	< 0.25	< 0.20	< 0.20	< 0.20	< 0.40	< 0.07	< 0.20	< 0.50	< 0.10	< 0.20
12/02/15	356.61	47.72	308.89	6.87	13.6	530	0.09	2.60	< 0.25	< 0.20	< 0.20	< 0.20	< 0.40	< 0.07	< 0.20	< 0.50	< 0.10	< 0.20
05/03/16	356.61	46.81	309.80	6.79	15.2	390	0.87	1.23	< 0.10	< 0.20	< 0.20	< 0.20	< 0.40	< 0.20	< 0.20	< 0.50	< 0.10	< 0.20
11/15/16	356.61	46.15	310.46	6.88	14.1	586	0.37	0.81	< 0.10	< 0.20	< 0.20	< 0.20	< 0.40	< 0.20	< 0.20	< 0.50	< 0.10	< 0.20
05/02/17	356.61	45.90	310.71	6.46	13.9	268	2.04	0.36	< 0.10	< 0.20	< 0.20	< 0.20	< 0.40	< 0.20	< 0.20	< 0.50	< 0.106	< 0.213
11/14/17	356.61	45.04	311.57	6.73	13.7	456	0.98	0.79	< 0.10	< 0.20	< 0.20	< 0.20	< 0.40	< 0.20	< 0.20	< 0.50	< 0.10	< 0.20
01/16/18	356.61	44.57	312.04	6.79	13.5	414	0.20	0.64	< 0.10	< 0.20	< 0.20	< 0.20	< 0.40	< 0.20	< 0.20	< 0.50	< 0.10	< 0.20
03/09/18	356.61	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
05/15/18	356.61	43.92	312.69	6.47	14.6	305	0.34	0.49	< 0.10	< 0.20	< 0.20	< 0.20	< 0.40	< 0.01	< 0.20	< 0.50	< 0.10	< 0.20
11/08/18	356.61	44.15	312.46	7.00	13.6	314	0.33	0.72	< 0.10	< 0.20	< 0.20	< 0.20	< 0.40	< 0.01	< 0.20	< 0.50	< 0.10	< 0.20
07/26/19	356.61	44.63	311.98	6.46	15.1	333	0.51	NM	< 0.10	< 0.20	< 0.20	< 0.20	< 0.60	< 0.003	< 0.20	< 0.50	< 0.10	< 0.20

Notes:

Values in bold and red exceed MTCA Method A Cleanup Levels.

NS = Not sampled

NM = Not measured

NA = No cleanup level is available.

mg/L = Milligrams per liter

µg/L = Micrograms per liter

NTU = Nephelometric turbidity unit

µmhos/cm = Micromhos per centimeter

°C = Degrees Celsius

J = Laboratory estimated value

DRO = Diesel-range organics

ORO = Oil-range organics

GRO = Gasoline-range organics

EDB = 1,2-dibromoethane

^a Ecology's Model Toxics Control Act (MTCA) Cleanup Regulation (Chapter 173-340 WAC), Tables 720-1, Method A Cleanup Levels for Groundwater.

^b When benzene is present.

^c When benzene is not present.

^d Method B cleanup level used because Method A cleanup level is not established. Standard formula values, direct contact Method B groundwater cleanup levels as published on Ecology's Cleanup Level and Risk Calculation (CLARC) on-line database (May 2019).

Table B-9
Summary of Groundwater Sampling Results - Well MW-20
SeaTac Development Site
SeaTac, Washington

Date Sampled	Top of Casing Elevation (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	Field Parameters					Analytical Data									
				pH	Temperature (°C)	Conductivity (µmhos/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	GRO (mg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	EDB (µg/L)	N-hexane (µg/L)	Naphthalene (µg/L)	DRO (mg/L)	ORO (mg/L)
				MTCA Method A Groundwater Cleanup Levels ^a					0.8 ^b /1.0 ^c	5.0	1,000	700	1,000	0.01	480 ^d	160	0.5	0.5
03/17/10	430.98	121.79	309.19	6.63	10.8	359	4.82	4.37	< 0.10	< 1.0	< 1.0	< 1.0	< 1.0	< 0.0095	< 1.0	< 5.0	NS	NS
03/20/14	416.61	106.13	310.48	6.74	11.4	377	7.82	3.32	< 0.10	< 0.25	< 0.25	< 0.25	< 0.50	< 0.07	< 0.20	< 0.50 UJ	< 0.10	< 0.20
05/29/14	416.61	106.66	309.95	6.73	12.3	257	6.37	0.82	< 0.10	< 0.25	< 0.25	< 0.25	< 0.50	< 0.07	< 0.20	< 0.50	< 0.10	< 0.20
09/10/14	416.61	106.53	310.08	6.83	13.2	355	7.55	0.69	< 0.10	< 0.25	< 0.25	< 0.25	< 0.50	< 0.07	< 0.20	< 0.50	< 0.10	< 0.20
12/03/14	416.61	106.53	310.08	6.79	12.4	355	7.67	1.30	< 0.10	< 0.25	< 0.25	< 0.25	< 0.50	< 0.07	< 0.20	< 0.50	< 0.10	< 0.20
06/17/15	416.61	106.68	309.93	6.77	13.3	350	7.41	1.06	< 0.25	< 0.20	< 0.20	< 0.20	< 0.40	< 0.07	< 0.20	< 0.50	< 0.10	< 0.20
12/03/15	416.61	108.61	308.00	7.66	12.4	290	6.76	4.28	< 0.25	< 0.20	< 0.20	< 0.20	< 0.40	< 0.07	< 0.20	< 0.50	< 0.10	< 0.20
05/03/16	416.61	107.56	309.05	6.58	13.3	138	5.31	3.55	< 0.10	< 0.20	< 0.20	< 0.20	< 0.40	< 0.20	< 0.20	< 0.50	< 0.10	< 0.20
11/15/16	416.61	106.97	309.64	6.75	13.0	241	7.12	0.41	< 0.10	< 0.20	< 0.20	< 0.20	< 0.40	< 0.20	< 0.20	< 0.50	< 0.10	< 0.20
05/03/17	416.61	106.66	309.95	6.63	12.8	118	8.97	1.35	< 0.10	< 0.20	< 0.20	< 0.20	< 0.40	< 0.20	< 0.20	< 0.50	< 0.10	< 0.20
11/14/17	416.61	105.76	310.85	6.60	12.7	192	9.06	1.76	< 0.10	< 0.20	< 0.20	< 0.20	< 0.40	< 0.20	< 0.20	< 0.50	< 0.10	< 0.20
01/16/18	416.61	105.48	311.13	6.67	12.8	165	9.46	0.66	< 0.10	< 0.20	< 0.20	< 0.20	< 0.40	< 0.20	< 0.20	< 0.50	< 0.10	< 0.20
03/09/18	416.61	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
05/15/18	416.61	104.65	311.96	6.31	13.0	119	9.63	0.48	< 0.10	< 0.20	< 0.20	< 0.20	< 0.40	< 0.01	< 0.20	< 0.50	< 0.10	< 0.20
11/08/18	416.61	104.98	311.63	6.89	13.2	144	7.83	1.07	< 0.10	< 0.20	< 0.20	< 0.20	< 0.40	< 0.01	< 0.20	< 0.50	< 0.10	< 0.20
07/26/19	416.61	105.29	311.32	6.77	18.3	222	9.68	NM	< 0.10	< 0.20	< 0.20	< 0.20	< 0.60	< 0.003	< 0.20	< 0.50	< 0.10	< 0.20

Notes:

Values in bold and red exceed MTCA Method A Cleanup Levels.

NS = Not sampled

NM = Not measured

NA = No cleanup level is available.

mg/L = Milligrams per liter

µg/L = Micrograms per liter

NTU = Nephelometric turbidity unit

µmhos/cm = Micromhos per centimeter

°C = Degrees Celsius

J = Laboratory estimated value

DRO = Diesel-range organics

ORO = Oil-range organics

GRO = Gasoline-range organics

EDB = 1,2-dibromoethane

^a Ecology's Model Toxics Control Act (MTCA) Cleanup Regulation (Chapter 173-340 WAC), Tables 720-1, Method A Cleanup Levels for Groundwater.

^b When benzene is present.

^c When benzene is not present.

^d Method B cleanup level used because Method A cleanup level is not established. Standard formula values, direct contact Method B groundwater cleanup levels as published on Ecology's Cleanup Level and Risk Calculation (CLARC) on-line database (May 2019).

Table B-10
Summary of Groundwater Sampling Results - Well MW-21
SeaTac Development Site
SeaTac, Washington

Date Sampled	Top of Casing Elevation (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	Field Parameters					Analytical Data									
				pH	Temperature (°C)	Conductivity (µmhos/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	GRO (mg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	EDB (µg/L)	N-hexane (µg/L)	Naphthalene (µg/L)	DRO (mg/L)	ORO (mg/L)
				MTCA Method A Groundwater Cleanup Levels ^a					0.8 ^b /1.0 ^c	5.0	1,000	700	1,000	0.01	480 ^d	160	0.5	0.5
03/17/10	390.79	81.26	309.53	5.97	11.5	257	3.21	5.13	< 0.10	< 1.0	< 1.0	< 1.0	< 1.0	< 0.0096	< 1.0	< 5.0	NS	NS
02/11/14	412.85	102.34	310.51	6.09	11.9	110	6.31	11.2	< 0.10	< 0.25	< 0.25	< 0.25	< 0.50	< 0.08	< 0.20	< 0.50	< 0.10	< 0.20
05/29/14	412.85	102.61	310.24	6.15	12.5	277	6.28	1.71	< 0.10	< 0.25	< 0.25	< 0.25	< 0.50	< 0.07	< 0.20	< 0.50	< 0.10	< 0.20
09/10/14	412.85	102.66	310.19	6.15	13.5	283	6.25	1.95	< 0.10	< 0.25	< 0.25	< 0.25	< 0.50	< 0.07	< 0.20	< 0.50	< 0.10	< 0.20
12/03/14	412.85	102.66	310.19	6.20	12.3	304	5.54	13.1	< 0.10	< 0.25	< 0.25	< 0.25	< 0.50	< 0.07	< 0.20	< 0.50	< 0.10	< 0.20
06/17/15	412.85	102.81	310.04	6.12	13.5	326	6.12	1.98	< 0.25	< 0.20	< 0.20	< 0.20	< 0.40	< 0.07	< 0.20	< 0.50	< 0.10	< 0.20
12/03/15	412.85	104.70	308.15	5.17	12.6	341	6.21	1.39	< 0.25	< 0.20	< 0.20	< 0.20	< 0.40	< 0.07	< 0.20	< 0.50	< 0.10	< 0.20
05/03/16	412.85	104.40	308.45	6.28	13.7	315	9.30	3.86	< 0.10	< 0.20	< 0.20	< 0.20	< 0.40	< 0.20	< 0.20	< 0.50	< 0.10	< 0.20
11/15/16	412.85	102.97	309.88	6.30	13.4	290	6.29	4.51	< 0.10	< 0.20	< 0.20	< 0.20	< 0.40	< 0.20	< 0.20	< 0.50	< 0.10	< 0.20
05/03/17	412.85	102.68	310.17	6.08	13.0	134	7.33	1.12	< 0.10	< 0.20	< 0.20	< 0.20	< 0.40	< 0.20	< 0.20	< 0.50	< 0.109	< 0.22
11/14/17	412.85	101.84	311.01	6.21	12.9	165	8.39	1.76	< 0.10	< 0.20	< 0.20	< 0.20	< 0.40	< 0.20	< 0.20	< 0.50	< 0.10	< 0.20
01/16/18	412.85	101.45	311.40	6.19	12.9	157	8.61	1.33	< 0.10	< 0.20	< 0.20	< 0.20	< 0.40	< 0.20	< 0.20	< 0.50	< 0.10	< 0.20
03/09/18	412.85	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
05/15/18	412.85	100.66	312.19	6.00	13.1	116	8.91	0.59	< 0.10	< 0.20	< 0.20	< 0.20	< 0.40	< 0.01	< 0.20	< 0.50	< 0.10	< 0.20
11/08/18	412.85	100.93	311.92	6.47	13.0	127	8.75	0.64	< 0.10	< 0.20	< 0.20	< 0.20	< 0.40	< 0.01	< 0.20	< 0.50	< 0.10	< 0.20
07/26/19	412.85	101.39	311.46	6.34	16.4	216	9.91	NM	< 0.10	< 0.20	< 0.20	< 0.20	< 0.60	< 0.003	< 0.20	< 0.50	< 0.10	< 0.20

Notes:
Values in bold and red exceed MTCA Method A Cleanup Levels.
NS = Not sampled
NM = Not measured
NA = No cleanup level is available.
mg/L = Milligrams per liter
µg/L = Micrograms per liter
NTU = Nephelometric turbidity unit
µmhos/cm = Micromhos per centimeter
°C = Degrees Celsius
J = Laboratory estimated value
DRO = Diesel-range organics
ORO = Oil-range organics
GRO = Gasoline-range organics
EDB = 1,2-dibromoethane
^a Ecology's Model Toxics Control Act (MTCA) Cleanup Regulation (Chapter 173-340 WAC), Tables 720-1, Method A Cleanup Levels for Groundwater.
^b When benzene is present.
^c When benzene is not present.
^d Method B cleanup level used because Method A cleanup level is not established. Standard formula values, direct contact Method B groundwater cleanup levels as published on Ecology's Cleanup Level and Risk Calculation (CLARC) on-line database (May 2019).

Table B-11
Summary of Groundwater Sampling Results - Well MW-22
SeaTac Development Site
SeaTac, Washington

Date Sampled	Top of Casing Elevation (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	Field Parameters					Analytical Data										
				pH	Temperature (°C)	Conductivity (µmhos/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	GRO (mg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	EDB (µg/L)	N-hexane (µg/L)	Naphthalene (µg/L)	DRO (mg/L)	ORO (mg/L)	
MTCA Method A Groundwater Cleanup Levels ^a									0.8 ^b /1.0 ^c		5.0	1,000	700	1,000	0.01	480 ^d	160	0.5	0.5
03/16/10	393.31	83.63	309.68	6.65	12.5	586	0.25	82.0	15	23	74	1,400	2,420	< 0.0095	15	380	NS	NS	
03/20/14	393.31	82.93	310.38	6.68	12.2	381	0.87	64.8	17	5.7	12	990	1,503	< 0.07	7.8	400 J	1.2 J	< 0.20	
05/28/14	393.31	82.72	310.59	6.73	13.2	383	0.30	2.26	18	3.9	9.7	940	1,900	< 0.07	8.6	420 B	1.7 J	< 0.20	
09/12/14	393.31	82.98	310.33	6.81	13.7	423	0.29	1.03	16	4.8	9.3	690	1,103	< 1.5	9.8	460 B J	1.1 J	< 0.20	
12/05/14	393.31	82.98	310.33	6.81	12.8	378	0.26	3.71	16	8.7	11	740	1,103	< 1.5	7.2	380	0.86 J	< 0.20	
06/25/15	393.31	82.95	310.36	6.82	13.6	354	0.52	3.34	19	5.9	7.4	750	1,402	< 0.74	4.7	310	1.0 J	< 0.20	
12/02/15	393.31	84.83	308.48	6.87	13.0	325	0.25	3.42	19	4.4	6.2	840	1,503	< 1.5	3.0 J	240	1.5 J	< 0.20	
05/04/16	393.31	83.85	309.46	6.84	13.3	294	0.39	3.61	15	3.8	5.0	780	1,403	<0.20	8.6	470 Q	2.8 J	<0.20	
11/16/16	393.31	83.43	309.88	6.89	13.1	246	1.00	5.50	11	4.0	3.9	631	882	<0.20	5.9 J	438	1.9	<0.20	
05/02/17	393.31	82.95	310.36	6.67	13.3	172	0.41	1.87	13	4.2	4.4	651	960	<0.20	5.7	389	2.8	<0.222	
11/15/17	393.31	81.93	311.38	7.09	13.1	215	1.72	3.72	11	4.2	3.3	481	583	<2.0	5.4	326	2.4	<0.20	
01/18/18	393.31	81.43	311.88	6.67	12.9	196	0.81	3.08	17	4.9	3.9	530	731	<2.0	7.9	349	2.9	<0.20	
03/09/18	393.31	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
05/16/18	393.31	80.92	312.39	6.41	13.5	172	3.39	2.94	12	3.0	2.4	340	630	<0.01	4.82	268	2.0	<0.20	
11/07/18	393.31	81.22	312.09	6.97	13.4	171	3.92	1.78	9	2.3	2.2	198	407	<0.01	4.0	228	1.8 J	0.20 UJ	
08/08/19	393.31	81.52	311.79	6.02	14.6	231	5.05	NM	1.94	1.05	0.33	61	76	<0.003	0.47	61	0.77	<0.20	

Notes:

Values in bold and red exceed MTCA Method A Cleanup Levels.

NS = Not sampled

NM = Not measured

NA = No cleanup level is available.

mg/L = Milligrams per liter

µg/L = Micrograms per liter

NTU = Nephelometric turbidity unit

µmhos/cm = Micromhos per centimeter

°C = Degrees Celsius

J = Laboratory estimated value

DRO = Diesel-range organics

ORO = Oil-range organics

GRO = Gasoline-range organics

EDB = 1,2-dibromoethane

^a Ecology's Model Toxics Control Act (MTCA) Cleanup Regulation (Chapter 173-340 WAC), Tables 720-1, Method A Cleanup Levels for Groundwater.

^b When benzene is present.

^c When benzene is not present.

^d Method B cleanup level used because Method A cleanup level is not established. Standard formula values, direct contact Method B groundwater cleanup levels as published on Ecology's Cleanup Level and Risk Calculation (CLARC) on-line database (May 2019).

Table B-12
Summary of Groundwater Sampling Results - Well PORT-MW-B
SeaTac Development Site
SeaTac, Washington

Date Sampled	Top of Casing Elevation (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	Field Parameters					Analytical Data									
				pH	Temperature (°C)	Conductivity (µmhos/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	GRO (mg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	EDB (µg/L)	N-hexane (µg/L)	Naphthalene (µg/L)	DRO (mg/L)	ORO (mg/L)
MTCA Method A Groundwater Cleanup Levels ^a									0.8 ^b /1.0 ^c	5.0	1,000	700	1,000	0.01	480 ^d	160	0.5	0.5
08/03/11	400.00 ^e	NM	NM	NM	NM	NM	NM	NM	0.20	1.3	< 1.0	13	3.4	< 0.01	< 1.0	13	0.28	< 0.25
03/20/14	400.00 ^e	89.70	310.30 ^f	6.55	12.3	267	6.16	NM	< 0.10	< 0.25	< 0.25	< 0.25	< 0.50	< 0.07	< 0.20	< 0.50 J	< 0.10	< 0.20
05/28/14	400.00 ^e	89.50	310.50 ^f	6.50	14.2	317	4.63	98.3	< 0.10	< 0.25	< 0.25	< 0.25	< 0.50	< 0.07	< 0.20	< 0.50	< 0.10	< 0.20
09/12/14	400.00 ^e	89.71	310.29 ^f	6.56	14.0	266	3.56	6.18	< 0.10	< 0.25	< 0.25	1.1	1.9	< 0.07	< 0.20	< 0.50	< 0.10	< 0.20
12/05/14	400.00 ^e	89.71	310.29 ^f	6.57	12.6	265	4.07	84.1	0.11	< 0.25	< 0.25	1.1	1.0	< 0.07	< 0.20	< 0.50	< 0.10	< 0.20
06/25/15	400.00 ^e	89.67	310.33 ^f	6.51	14.3	290	3.80	4.2	< 0.25	< 0.20	< 0.20	< 0.20	< 0.40	< 0.07	< 0.20	< 0.50	< 0.10	< 0.20
12/02/15	400.00 ^e	91.61	308.39 ^f	6.56	13.0	267	2.34	1.8	< 0.25	< 0.20	< 0.20	0.26	0.40 J	< 0.07	< 0.20	2.3 J	< 0.10	0.49
05/04/16	400.00 ^e	90.55	309.45 ^f	6.72	13.2	219	2.59	7.4	< 0.10	0.08 J	< 0.20	0.74	0.50	< 0.20	< 0.20	0.83 J	< 0.10	< 0.20
11/16/16	400.00 ^e	90.31	309.69 ^f	6.70	13.1	192	3.97	11.7	< 0.10	0.03 J	< 0.20	0.04 J	< 0.40	< 0.20	< 0.20	< 0.50	< 0.10	< 0.20
05/02/17	400.00 ^e	89.65	310.35 ^f	6.54	12.9	107	3.85	2.6	< 0.10	0.21	< 0.20	1.2	< 0.40	< 0.20	< 0.20	1.4	< 0.10	< 0.20
11/15/17	400.00 ^e	88.67	311.33 ^f	6.78	13.0	199	5.09	2.4	< 0.10	< 0.20	< 0.20	0.36	< 0.40	< 0.20	< 0.20	< 0.50	< 0.10	< 0.20
01/18/18	400.00 ^e	88.17	311.83 ^f	6.82	12.6	173	1.39	3.4	0.15	0.47	< 0.20	2.7	< 0.40	< 0.20	< 0.20	3.2	0.17	< 0.20
03/09/18	400.00 ^e	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
05/16/18	400.00 ^e	87.64	312.36 ^f	6.40	13.8	103	3.36	2.4	< 0.10	< 0.20	< 0.20	< 0.20	< 0.40	< 0.01	< 0.20	< 0.50	< 0.10	< 0.20
11/07/18	400.00 ^e	87.91	312.09 ^f	6.80	13.1	103	4.92	1.3	< 0.10	< 0.20	< 0.20	< 0.20	< 0.40	< 0.01	< 0.20	< 0.50	< 0.10	< 0.20
08/08/19	400.00 ^e	89.27	310.73 ^f	6.30	14.5	148	4.86	NM	< 0.10	< 0.20	< 0.20	< 0.20	< 0.60	< 0.003	0.11 J	< 0.50	0.14	< 0.20

Notes:

Values in bold and red exceed MTCA Method A Cleanup Levels.

NS = Not sampled

NM = Not measured

NA = No cleanup level is available.

mg/L = Milligrams per liter

µg/L = Micrograms per liter

NTU = Nephelometric turbidity unit

µmhos/cm = Micromhos per centimeter

°C = Degrees Celsius

J = Laboratory estimated value

DRO = Diesel-range organics

ORO = Oil-range organics

GRO = Gasoline-range organics

EDB = 1,2-dibromoethane

^a Ecology's Model Toxics Control Act (MTCA) Cleanup Regulation (Chapter 173-340 WAC), Tables 720-1, Method A Cleanup Levels for Groundwater.

^b When benzene is present.

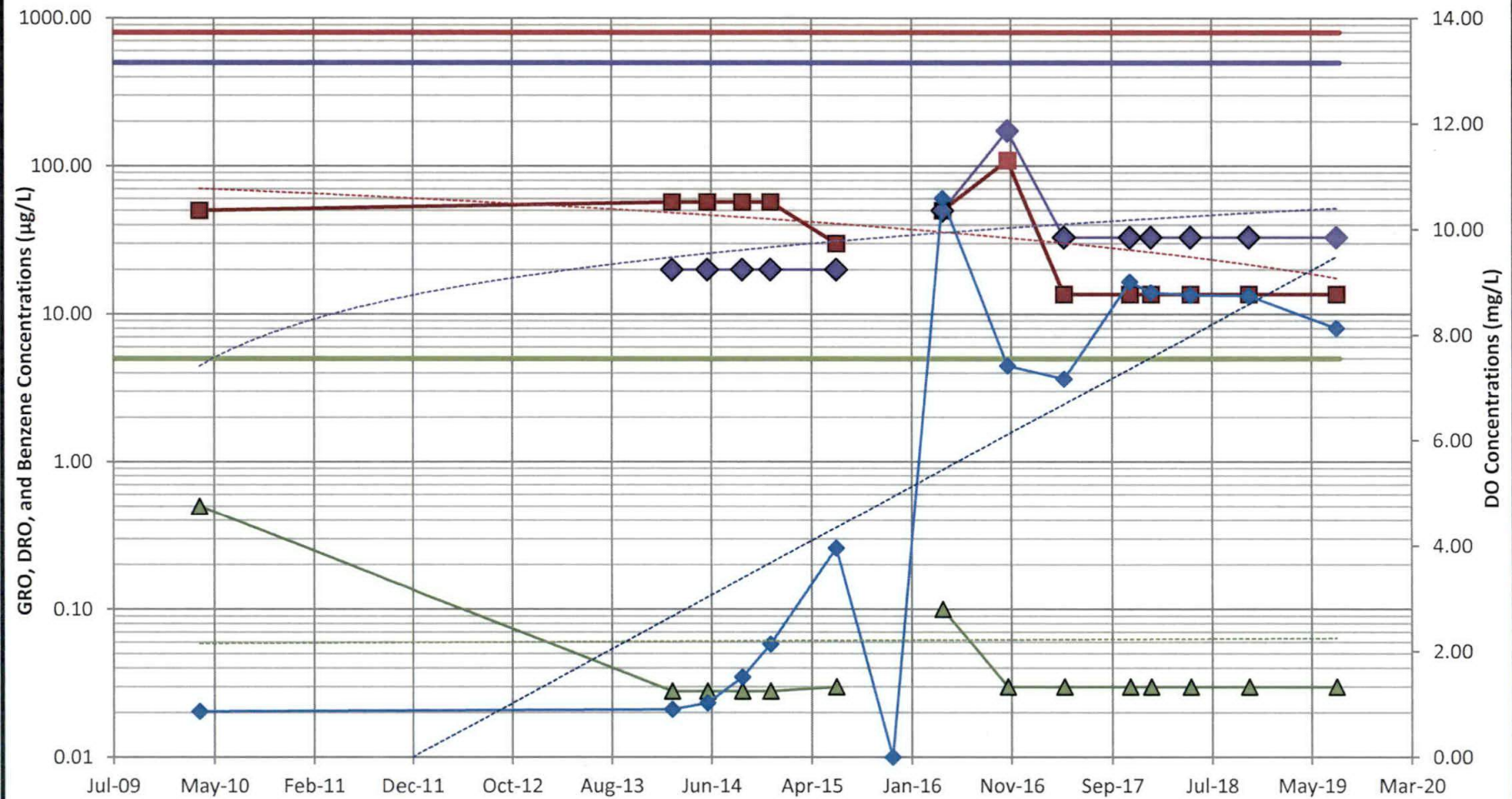
^c When benzene is not present.

^d Method B cleanup level used because Method A cleanup level is not established. Standard formula values, direct contact Method B groundwater cleanup levels as published on Ecology's Cleanup Level and Risk Calculation (CLARC) on-line database (May 2019).

^e Top of casing elevation was not surveyed; elevation was estimated by Golder Associates, Inc.

^f Estimated elevation.

MW-06

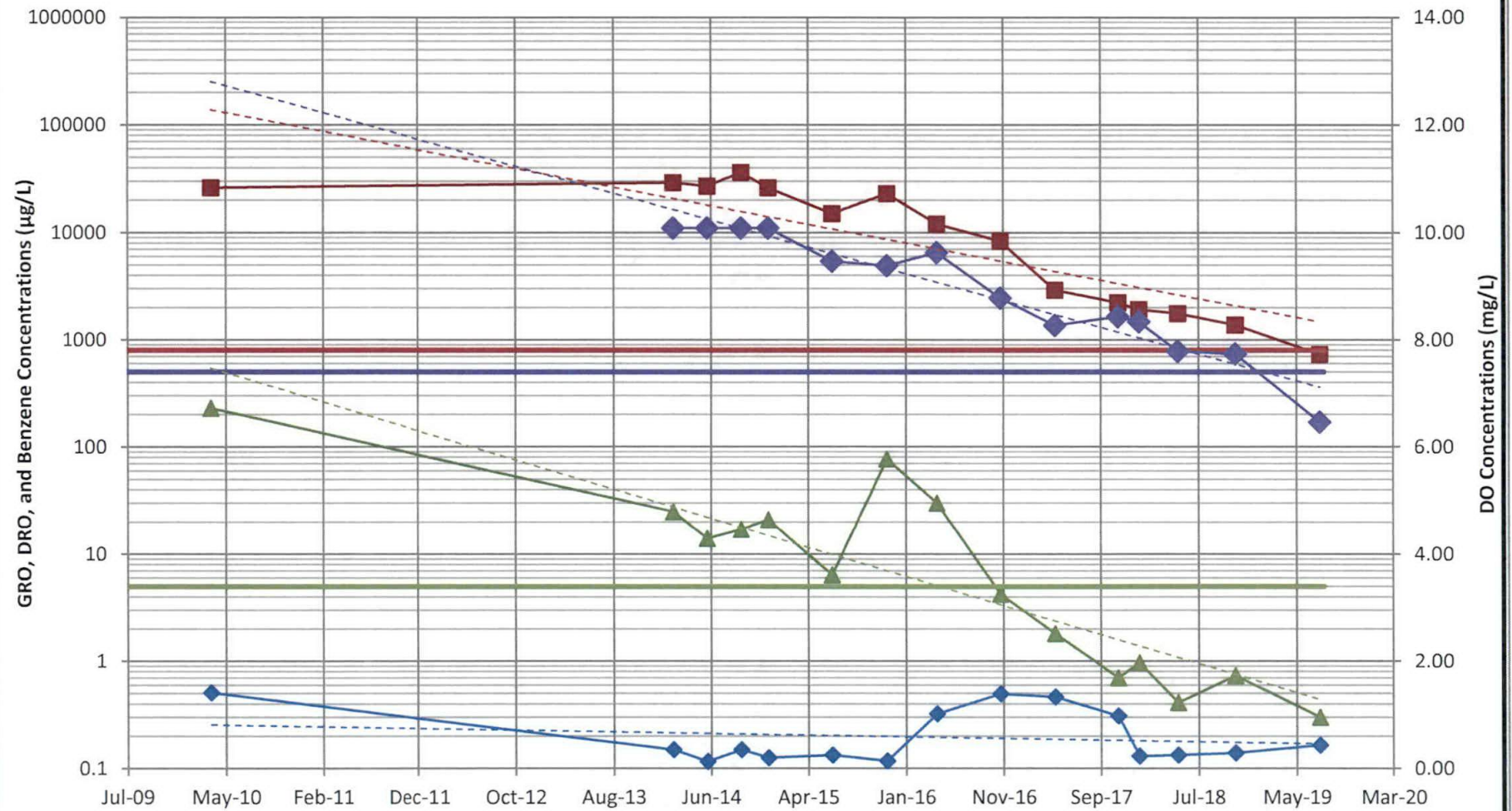


Legend

- GRO Concentrations
- GRO Cleanup Level (800 µg/L)
- ◆— DRO Non-Detects
- ◆— DRO Cleanup Level (500 µg/L)
- ▲— Benzene Concentrations
- ▲— Benzene Cleanup Level (5 µg/L)
- GRO Trendline
- Benzene Trendline
- GRO Non-Detects
- ◆— DRO Concentrations
- ▲— Benzene Non-Detects
- ◆— Dissolved Oxygen (DO) Concentrations
- DRO Trendline
- DO Trendline

FIGURE B-1
GRO, Benzene, & DRO Concentrations in
MW-06
SeaTac Development Site

MW-07

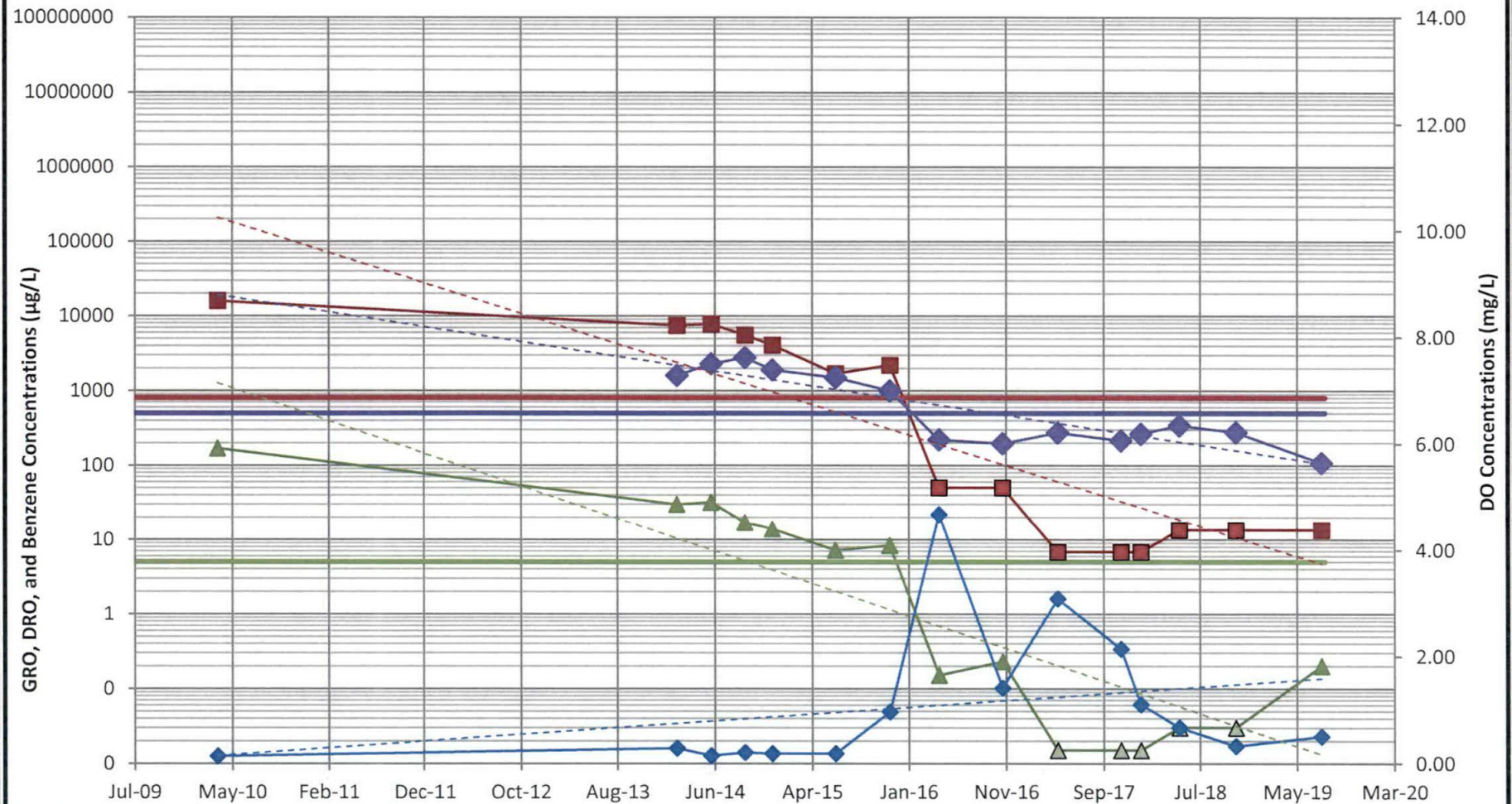


Legend

- GRO Concentrations
- ▲ Benzene Concentrations
- ◆ DRO Concentrations
- ◆ Dissolved Oxygen (DO) Concentrations
- Benzene Trendline
- DO Trendline
- GRO Cleanup Level (800 µg/L)
- Benzene Cleanup Level (5 µg/L)
- DRO Cleanup Level (500 µg/L)
- GRO Trendline
- DRO Trendline

FIGURE B-2
GRO, Benzene, & DRO Concentrations in
MW-07
SeaTac Development Site

MW-09

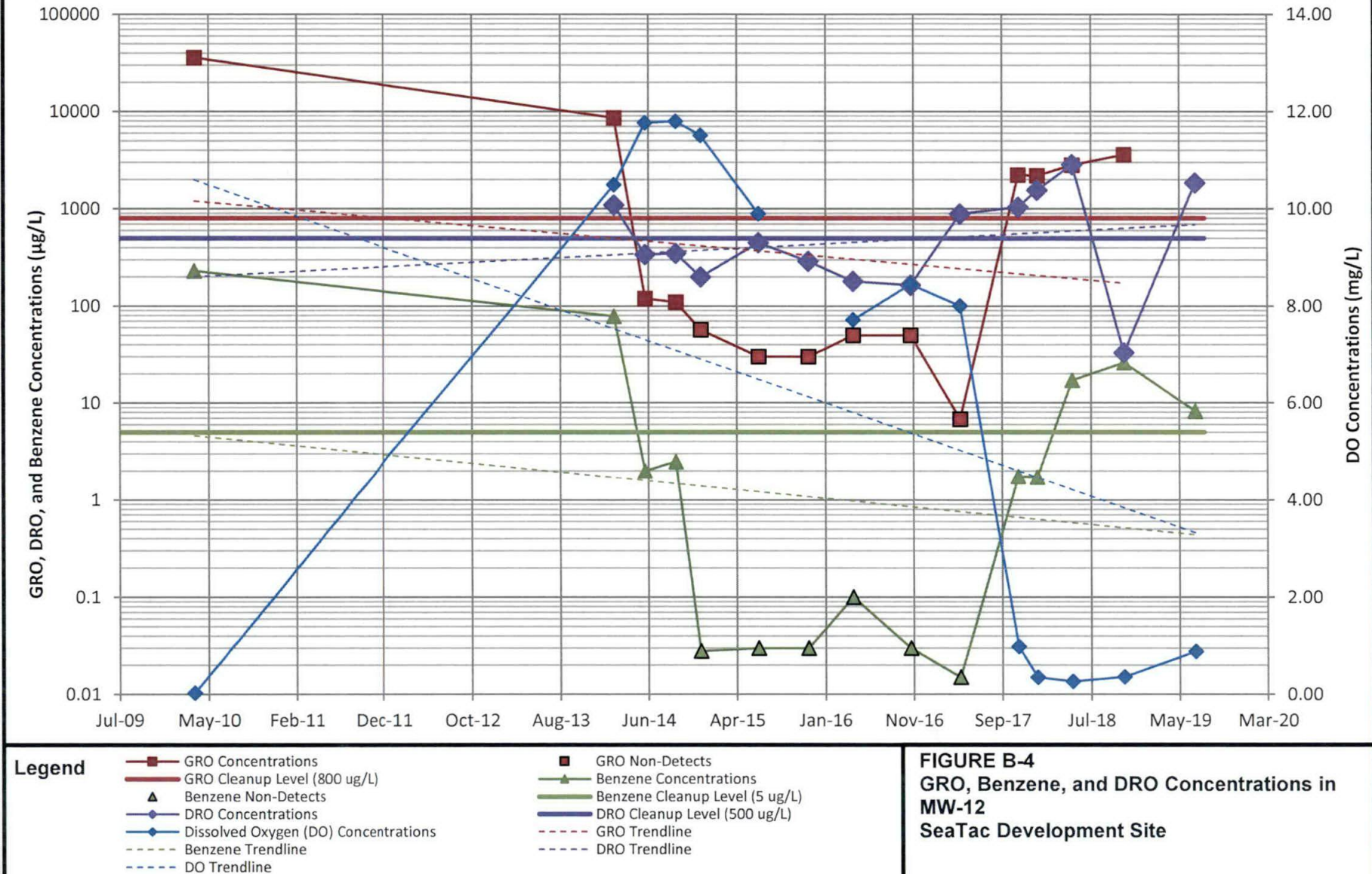


Legend

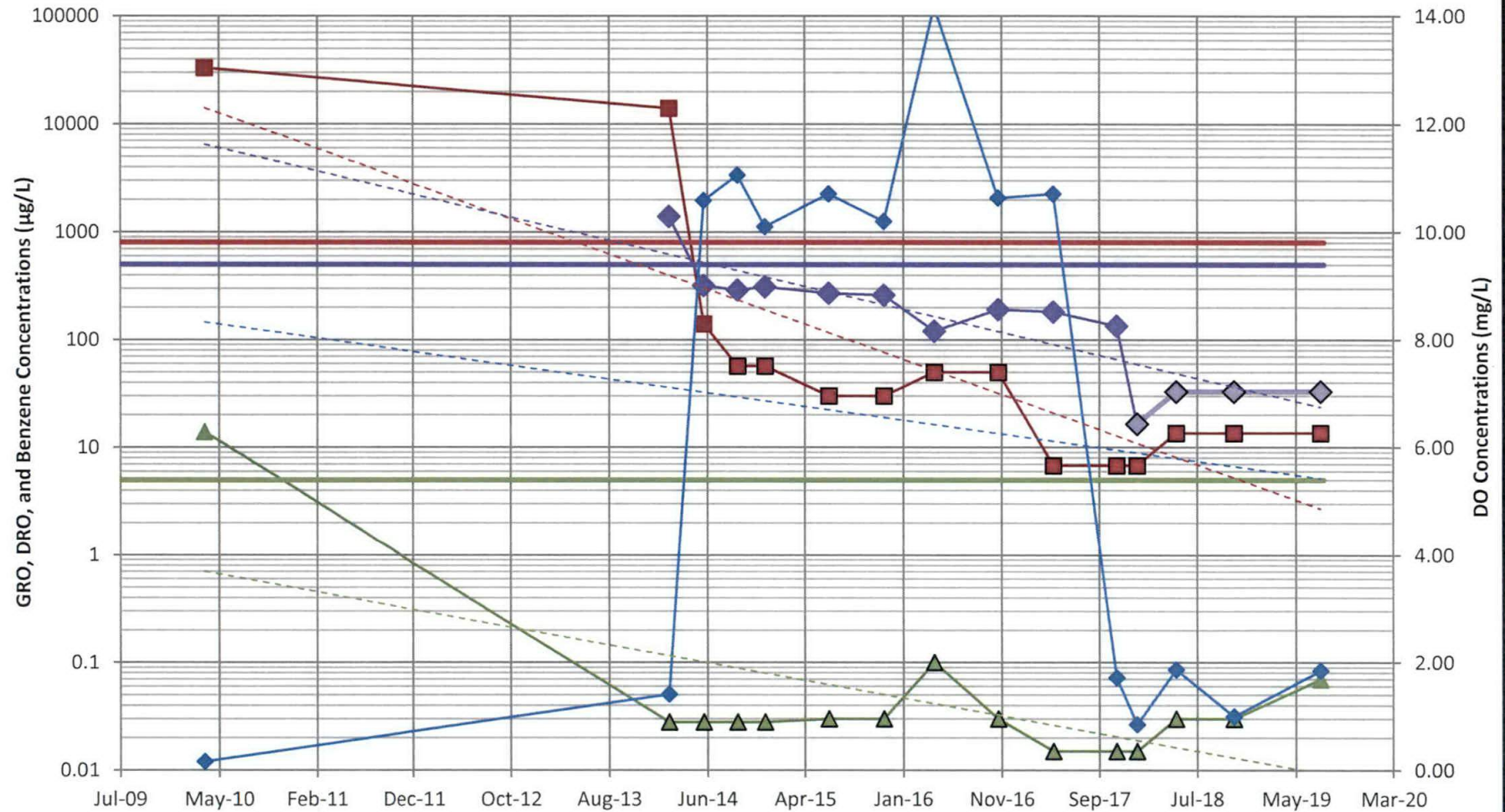
- GRO Concentrations
- GRO Cleanup Level (800 ug/L)
- ▲ Benzene Non-Detects
- ◆ DRO Concentrations
- Dissolved Oxygen (DO) Concentrations
- Benzene Trendline
- DO Trendline
- GRO Non-Detects
- ▲ Benzene Concentrations
- Benzene Cleanup Level (5 ug/L)
- DRO Cleanup Level (500 ug/L)
- GRO Trendline
- DRO Trendline

FIGURE B-3
GRO, Benzene, & DRO Concentrations in
MW-09
SeaTac Development Site

MW-12



MW-13

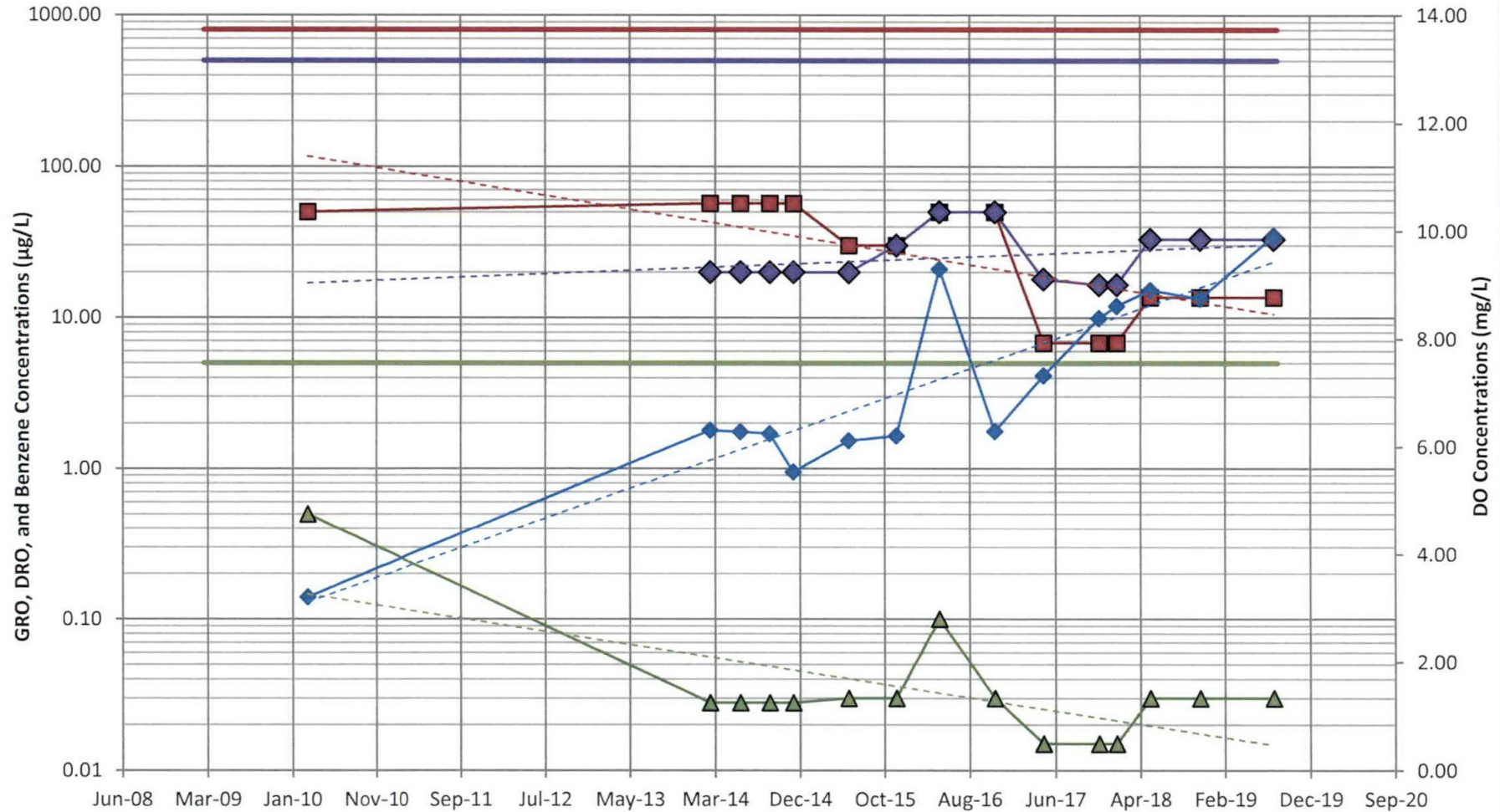


Legend

- GRO Concentrations
- GRO Cleanup Level (800 ug/L)
- ▲ Benzene Non-Detects
- ◆ DRO Concentrations
- ◇ DRO Non-Detects
- - - GRO Trendline
- - - Diesel Trendline
- GRO Non-Detects
- ▲ Benzene Concentrations
- Benzene Cleanup Level (5 ug/L)
- DRO Cleanup Level (500 ug/L)
- ◆ Dissolved Oxygen (DO) Concentrations
- - - Benzene Trendline
- - - DO Trendline

FIGURE B-5
GRO, Benzene, & DRO Concentrations in
MW-13
SeaTac Development Site

MW-21

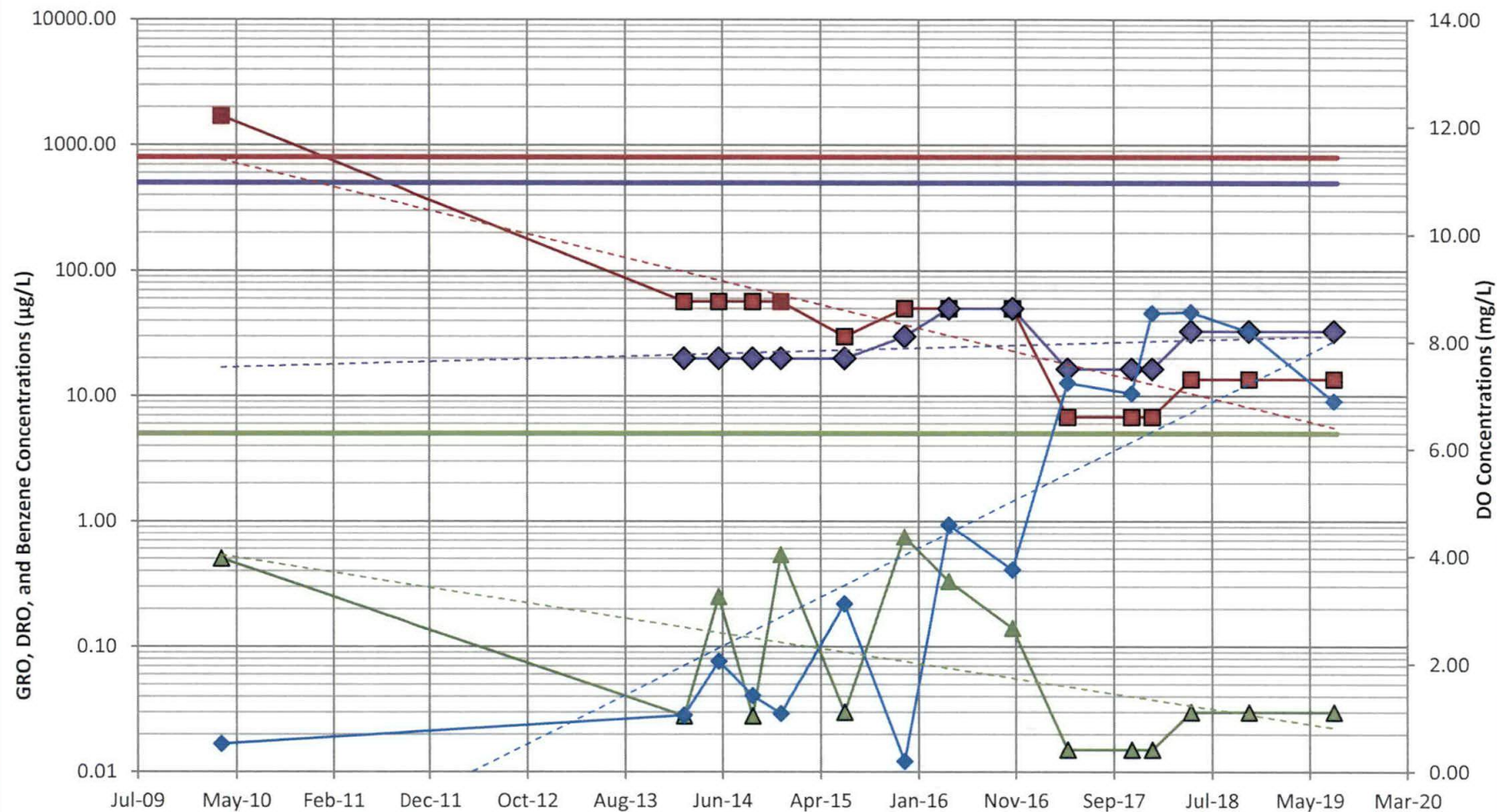


Legend

- GRO Concentrations
- GRO Cleanup Level (800 µg/L)
- ▲ Benzene Non-Detects
- ◆ DRO Concentrations
- DRO Cleanup Level (500 µg/L)
- - - GRO Trendline
- - - DRO Trendline
- GRO Non-Detects
- ▲ Benzene Concentrations
- ◆ DRO Non-Detects
- Benzene Cleanup Level (5 µg/L)
- - - Benzene Trendline
- - - DO Trendline

FIGURE B-10
GRO, Benzene, & DRO Concentrations in
MW-21
SeaTac Development

MW-17A



Legend

- GRO Concentrations
- GRO Cleanup Level (800 µg/L)
- ▲ Benzene Non-Detects
- ◆ DRO Concentrations
- DRO Cleanup Level (500 µg/L)
- - - GRO Trendline
- - - DRO Trendline
- GRO Non-Detects
- ▲ Benzene Concentrations
- Benzene Cleanup Level (5 µg/L)
- ◆ DRO Non-Detects
- ◆ Dissolved Oxygen (DO) Concentrations
- - - Benzene Trendline
- - - DO Trendline

FIGURE B-6
GRO, Benzene, & DRO Concentrations in
MW-17A
SeaTac Development Site

MW-18

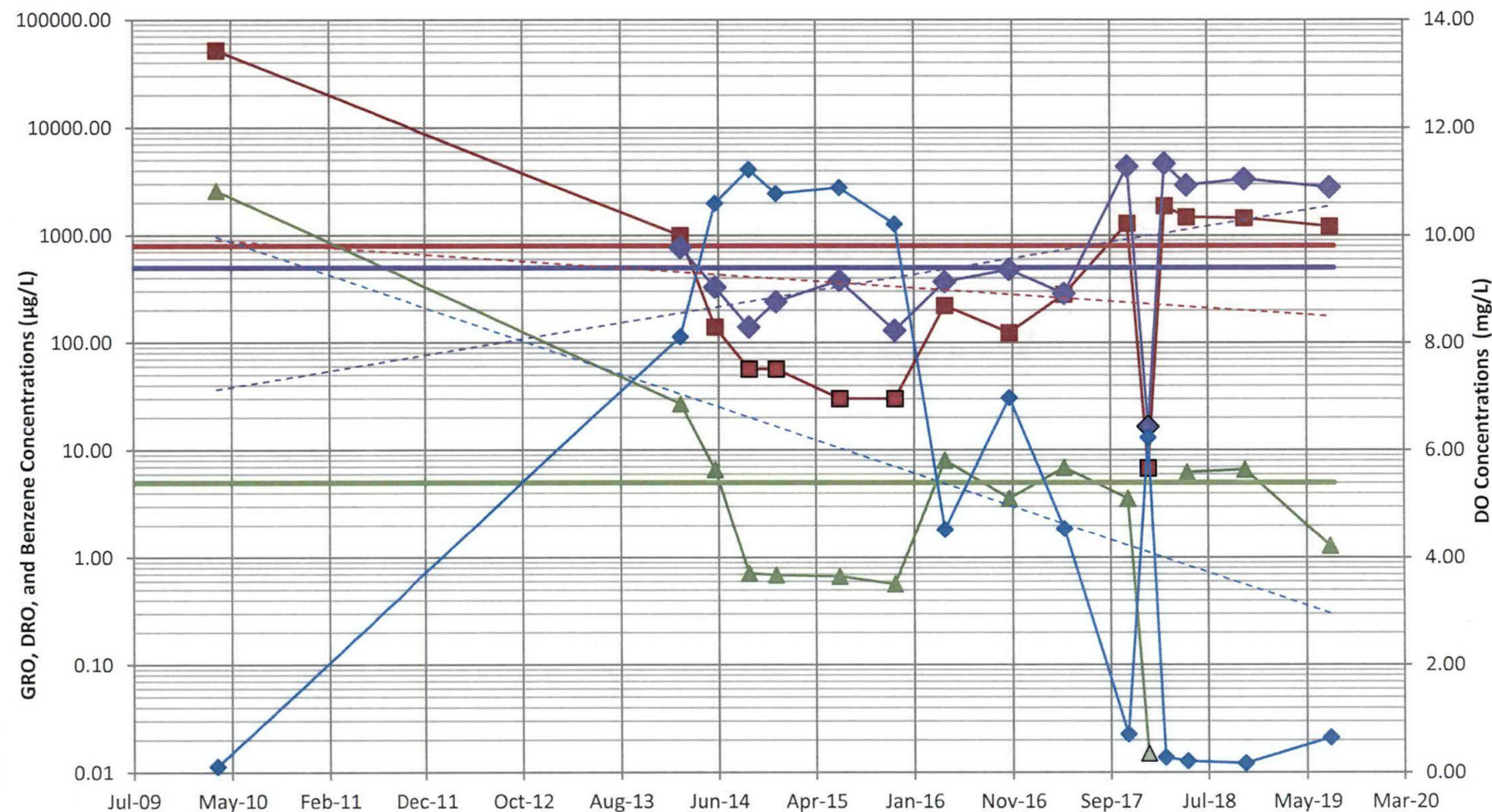
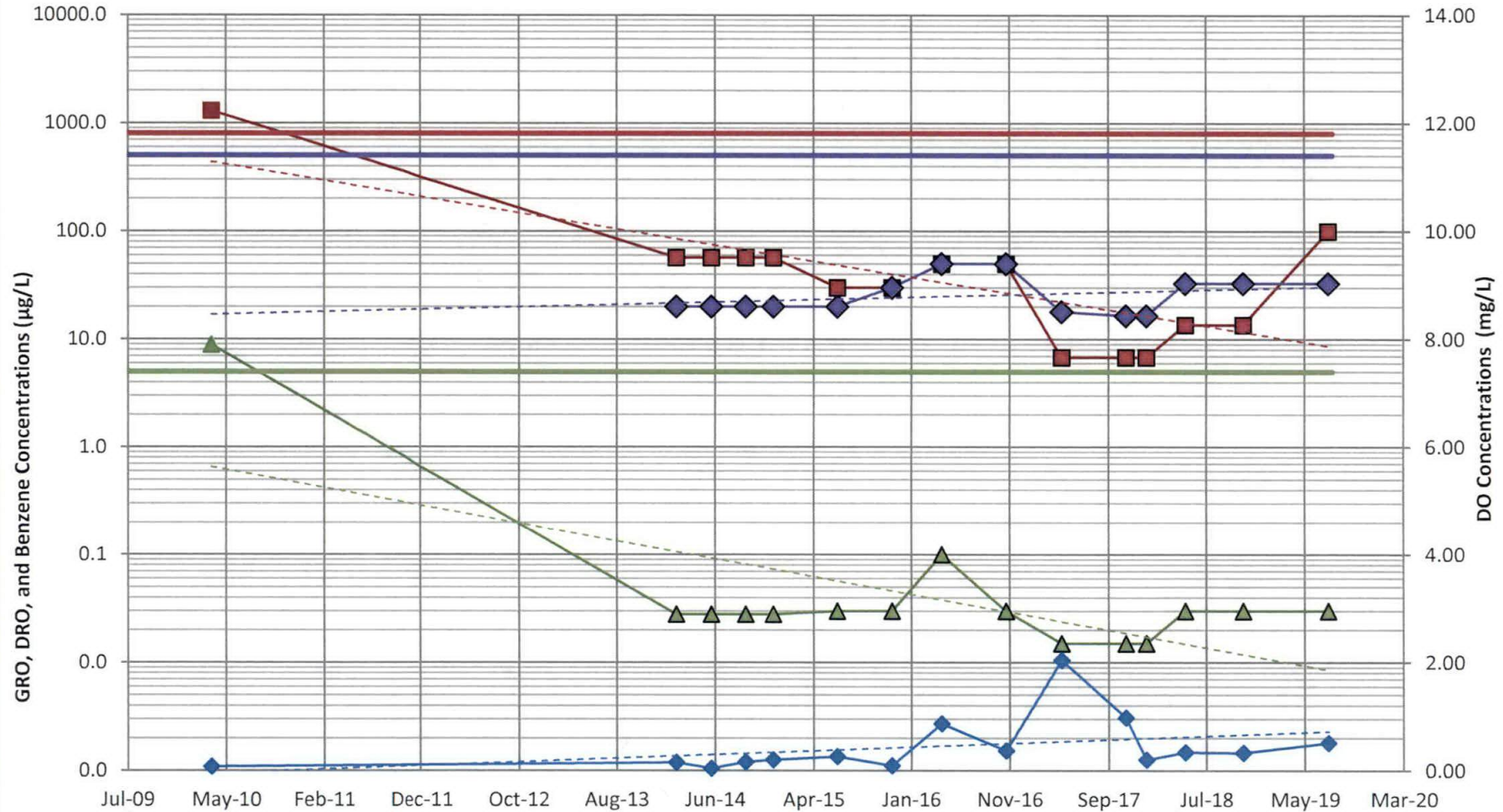


FIGURE B-7
GRO, Benzene, & DRO Concentrations in
MW-18
SeaTac Development Site

MW-19

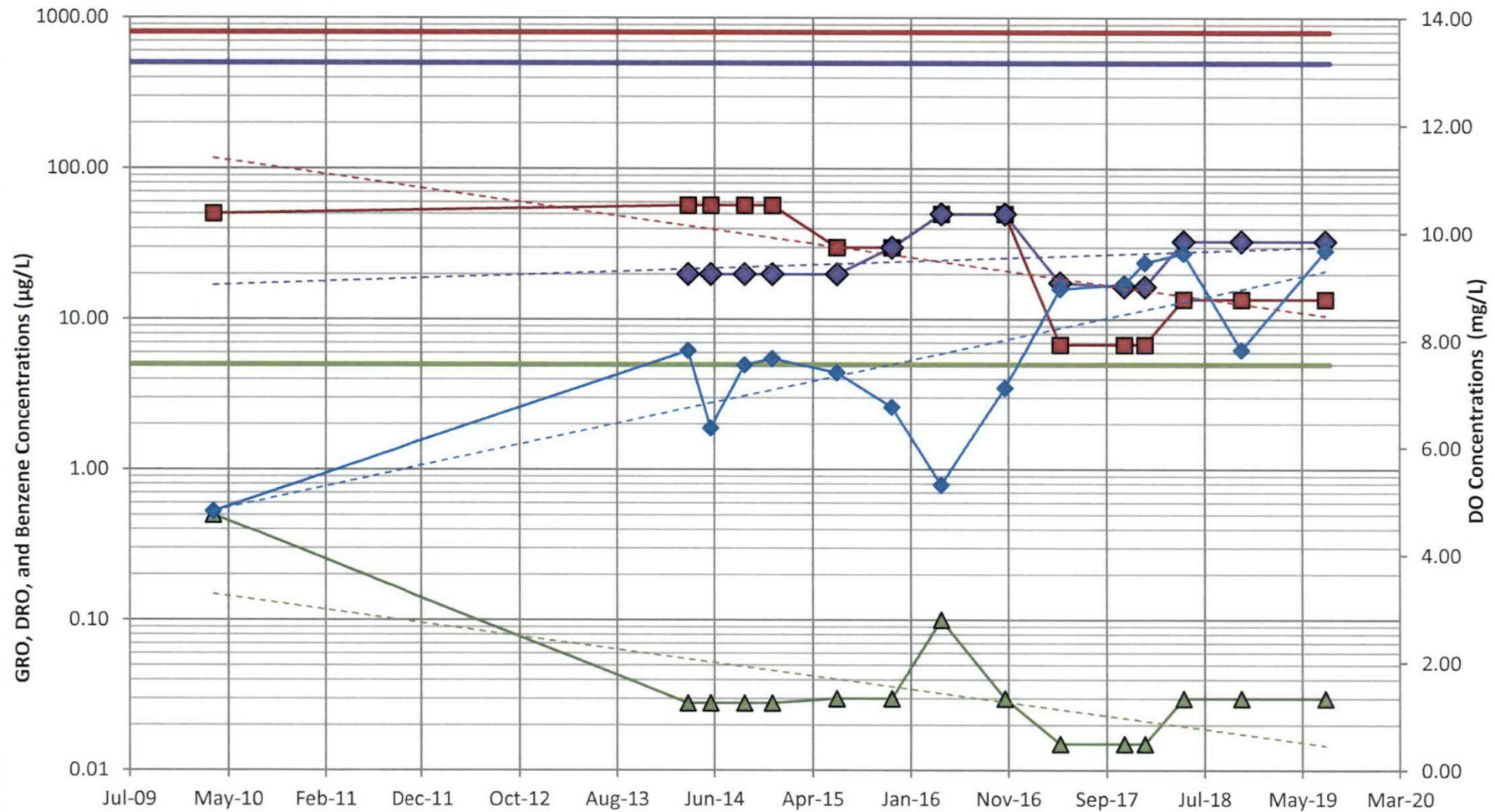


Legend

- GRO Concentrations
- GRO Cleanup Level (800 µg/L)
- ▲ Benzene Non-Detects
- ◆ DRO Concentrations
- DRO Cleanup Level (500 µg/L)
- - - GRO Trendline
- - - DRO Trendline
- GRO Non-Detects
- ▲ Benzene Concentrations
- ◆ DRO Non-Detects
- Benzene Cleanup Level (5 µg/L)
- - - Benzene Trendline
- - - DO Trendline

FIGURE B-8
GRO, Benzene, & DRO Concentrations in
MW-19
SeaTac Development Site

MW-20

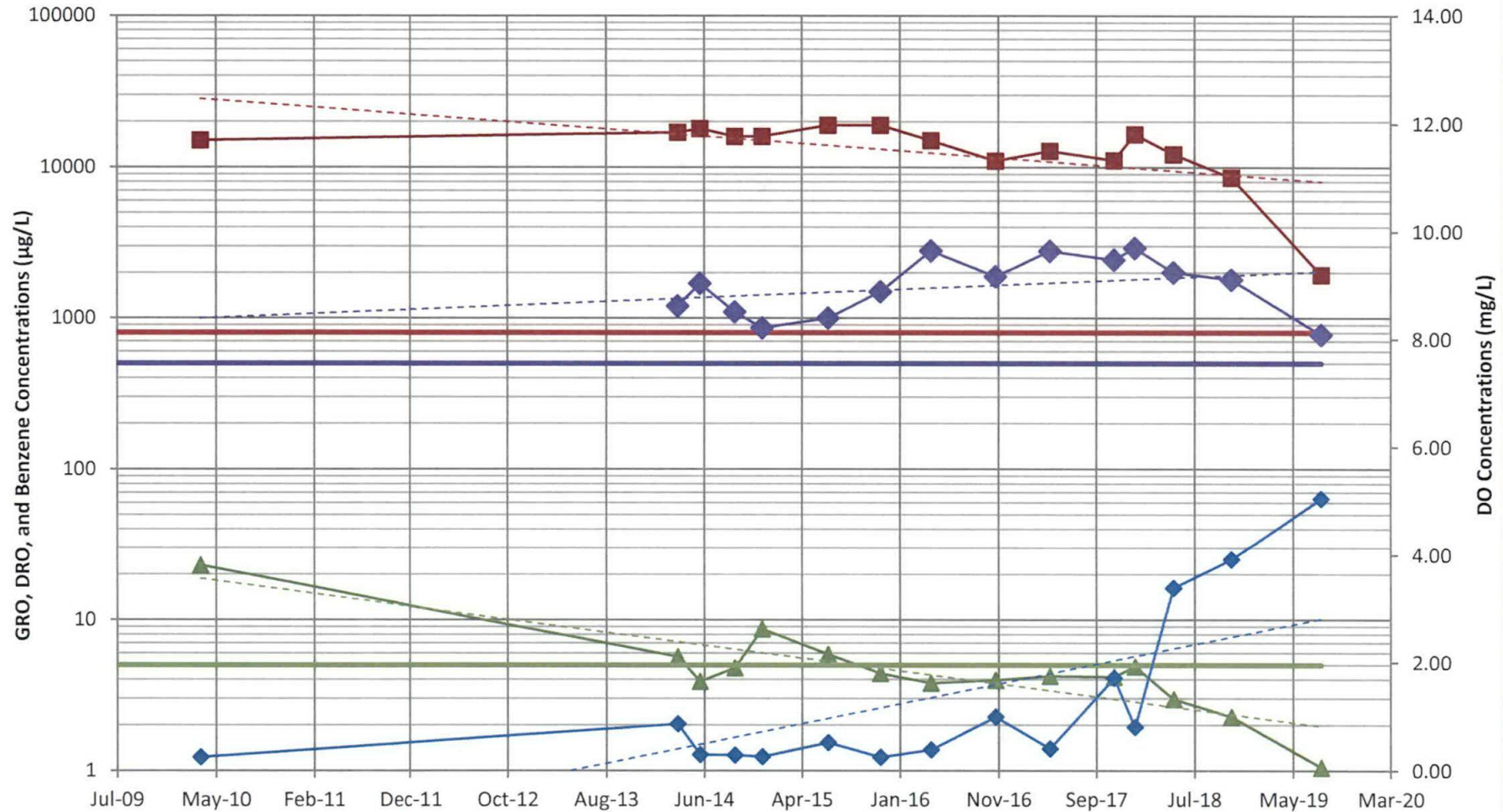


Legend

- GRO Concentrations
- GRO Cleanup Level (800 ug/L)
- ▲ Benzene Non-Detects
- ◆ DRO Concentrations
- DRO Cleanup Level (500 ug/L)
- - - GRO Trendline
- - - DRO Trendline
- GRO Non-Detects
- ▲ Benzene Concentrations
- Benzene Cleanup Level (5 ug/L)
- ◆ DRO Non-Detects
- Dissolved Oxygen (DO) Concentrations
- - - Benzene Trendline
- - - DO Trendline

FIGURE B-9
GRO, Benzene, & DRO Concentrations in
MW-20
SeaTac Development Site

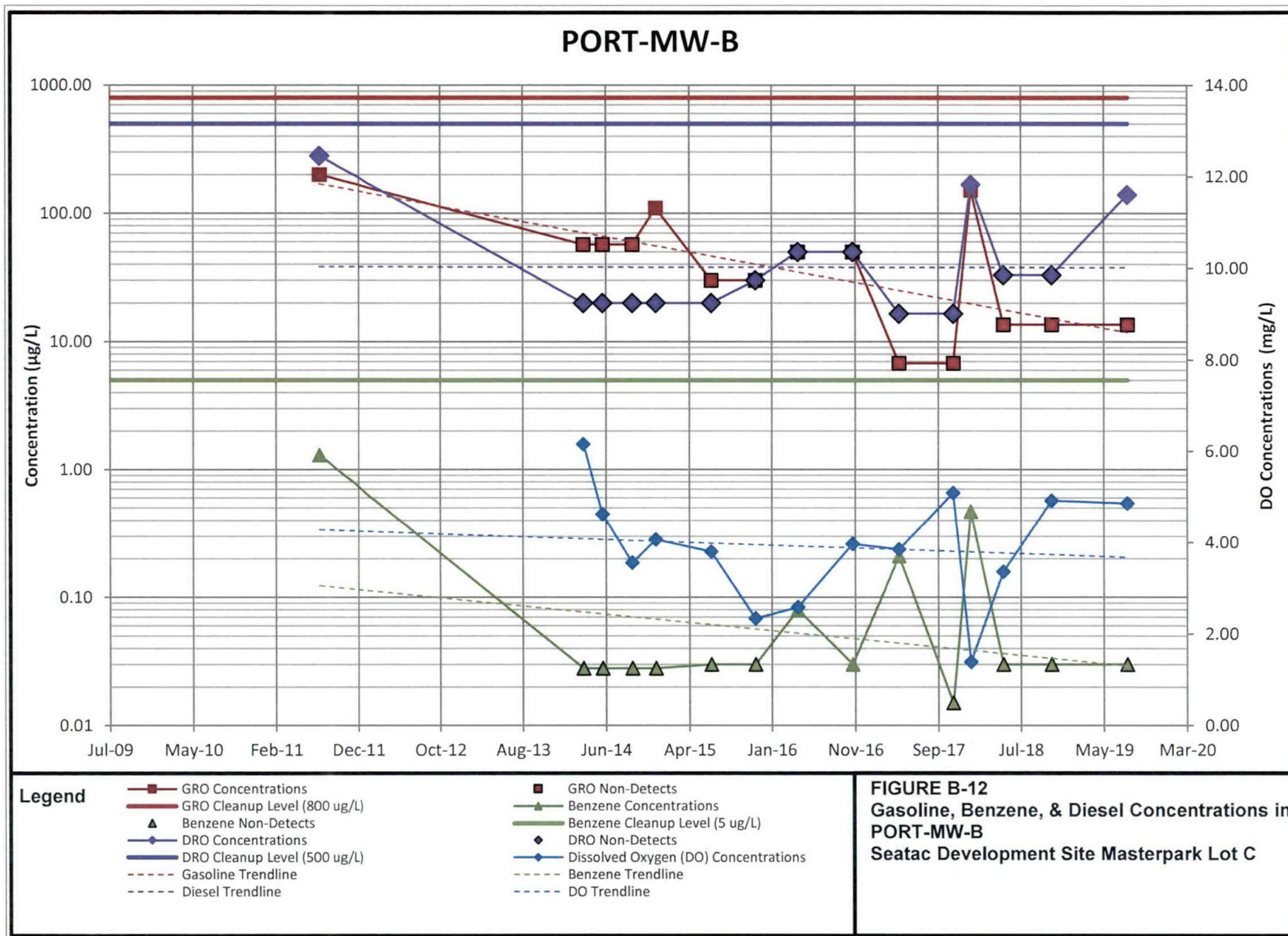
MW-22



Legend

- GRO Concentrations
- ▲ Benzene Concentrations
- ◆ DRO Concentrations
- ◆ Dissolved Oxygen (DO) Concentrations
- Benzene Trendline
- DO Trendline
- GRO Cleanup Level (800 µg/L)
- Benzene Cleanup Level (5 µg/L)
- DRO Cleanup Level (500 µg/L)

FIGURE B-11
GRO, Benzene, & DRO Concentrations in
MW-22
SeaTac Development Site



APPENDIX C

LABORATORY REPORTS



Analytical Resources, Incorporated
Analytical Chemists and Consultants

21 August 2019

Mike Staton
SLR International Corporation
22118 20th Avenue SE G202
Bothell, WA 98021

RE: Seatac Development Site Seatac

Please find enclosed sample receipt documentation and analytical results for samples from the project referenced above.

Sample analyses were performed according to ARI's Quality Assurance Plan and any provided project specific Quality Assurance Plan. Each analytical section of this report has been approved and reviewed by an analytical peer, the appropriate Laboratory Supervisor or qualified substitute, and a technical reviewer.

Should you have any questions or problems, please feel free to contact us at your convenience.

Associated Work Order(s)
19G0395

Associated SDG ID(s)
N/A

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the enclose Narrative. ARI, an accredited laboratory, certifies that the report results for which ARI is accredited meets all the requirements of the accrediting body. A list of certified analyses, accreditations, and expiration dates is included in this report.

Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.

Analytical Resources, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: <u>196-0395</u>		Turn-around Requested: <u>Standard</u>		Page: <u>1</u> of <u>2</u>								
ARI Client Company: <u>SLR</u>		Phone: <u>(425) 402-8800</u>		Date: <u>7/30/19</u>	Ice Present? <u>Yes</u>							
Client Contact: <u>Mike Station mstation@slrconsulting.com</u>		No. of Coolers: <u>2</u>		Cooler Temps: <u>4.8, 3.2</u>								
Client Project Name: <u>Seatac development site "Seatac"</u>		Analysis Requested										
Client Project #: <u>101.02207.00001</u>												
Samplers: <u>Steven Losleben</u>		Notes/Comments										
Sample ID	Date	Time	Matrix	No. Containers	VOCs by EPA 8260C	BTEX + Naphthalene #260C	EDB #260C	n-hexane #260C	GRX TPH-GX	ORO and ORO TPH-DX		
MW-06-0719	7/29/19	1224	water	7	X	X	X	X	X	X		
MW-07-0719	7/26/19	1438			X	X	X	X	X	X		
MW-09-0719	7/29/19	1449			X	X	X	X	X	X		
MW-12-0719	7/29/19	1344			X	X	X	X	X	X		
MW-13-0719	7/29/19	1117			X	X	X	X	X	X		
MW-16-0719	7/29/19	1704			X	X	X	X	X	X		
MW-17A-0719	7/29/19	1607			X	X	X	X	X	X		
MW-18-0719	7/26/19	1400			X	X	X	X	X	X		
MW-19-0719	7/26/19	1515			X	X	X	X	X	X		
MW-20-0719	7/26/19	1656	↓	↓	X	X	X	X	X	X		
Comments/Special Instructions	Relinquished by: (Signature) <u>Rachel Kane</u>		Received by: <u>[Signature]</u>		Relinquished by:		Received by:					
	Printed Name: <u>Rachel Kane</u>		Printed Name: <u>Kenny Dang</u>		Printed Name:		Printed Name:					
	Company: <u>SLR</u>		Company: <u>ARI</u>		Company:		Company:					
	Date & Time: <u>7/30/19 14:08</u>		Date & Time: <u>7/30/19 1409</u>		Date & Time:		Date & Time:					



Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)
www.arilabs.com

Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, notwithstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work order or contract.

ARI Assigned Number: 196-0395		Turn-around Requested: Standard		Page: 2 of 2		Analytical Resources, Incorporated Analytical Chemists and Consultants 4611 South 134th Place, Suite 100 Tukwila, WA 98168 206-695-6200 206-695-6201 (fax) www.arilabs.com							
ARI Client Company: SLR		Phone: (425) 402-8800		Date: 7/30/19				Ice Present? Yes					
Client Contact: Mike Stator				No. of Coolers: 2				Cooler Temps: 4.8, 3.2					
Client Project Name: Seatac development site				Analysis Requested								Notes/Comments	
Client Project #: 101.02307.00001		Samplers:		VOCs 102606 BTEX and naphthalene EDB n-hexane GRD DRO-ORO									
Sample ID	Date	Time	Matrix	No. Containers	VOCs 102606	BTEX and naphthalene	EDB	n-hexane	GRD	DRO-ORO			
MW-21-0719	7/26/19	1409	water	7	X	X	X	X	X	X			
Comments/Special Instructions	Relinquished by: (Signature) Rachel Kane		Received by: (Signature) Kenny Dang		Relinquished by: (Signature)				Received by: (Signature)				
	Printed Name: Rachel Kane		Printed Name: Kenny Dang		Printed Name:				Printed Name:				
	Company: SLR		Company: ARI		Company:				Company:				
	Date & Time: 7/30/19 1409		Date & Time: 7/30/19 1409		Date & Time:				Date & Time:				

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.



SLR International Corporation
22118 20th Avenue SE G202
Bothell WA, 98021

Project: Seatac Development Site Seatac
Project Number: Seatac Development Site Seatac
Project Manager: Mike Staton

Reported:
21-Aug-2019 14:40

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-06-0719	19G0395-01	Water	29-Jul-2019 12:24	30-Jul-2019 14:09
MW-07-0719	19G0395-02	Water	26-Jul-2019 14:38	30-Jul-2019 14:09
MW-09-0719	19G0395-03	Water	29-Jul-2019 14:49	30-Jul-2019 14:09
MW-12-0719	19G0395-04	Water	29-Jul-2019 13:44	30-Jul-2019 14:09
MW-13-0719	19G0395-05	Water	29-Jul-2019 11:17	30-Jul-2019 14:09
MW-16-0719	19G0395-06	Water	29-Jul-2019 17:04	30-Jul-2019 14:09
MW-17A-0719	19G0395-07	Water	29-Jul-2019 16:07	30-Jul-2019 14:09
MW-18-0719	19G0395-08	Water	26-Jul-2019 14:00	30-Jul-2019 14:09
MW-19-0719	19G0395-09	Water	26-Jul-2019 15:15	30-Jul-2019 14:09
MW-20-0719	19G0395-10	Water	26-Jul-2019 16:56	30-Jul-2019 14:09
MW-21-0719	19G0395-11	Water	26-Jul-2019 18:09	30-Jul-2019 14:09
Trip Blanks	19G0395-12	Water	26-Jul-2019 14:00	30-Jul-2019 14:09



SLR International Corporation
22118 20th Avenue SE G202
Bothell WA, 98021

Project: Seatac Development Site Seatac
Project Number: Seatac Development Site Seatac
Project Manager: Mike Staton

Reported:
21-Aug-2019 14:40

Work Order Case Narrative

Volatiles - EPA Method SW8260C

The sample(s) were run within the recommended holding times.

Initial and continuing calibrations were within method requirements.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank(s) were clean at the reporting limits.

The LCS/LCSD percent recoveries and RPD were within control limits.

Volatiles - EPA Method 8260C-SIM (Selected Ion Monitoring)

The sample(s) were run within the recommended holding times.

Initial and continuing calibrations were within method requirements.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits with the exception of surrogates flagged on the associated forms.

The method blank(s) were clean at the reporting limits.

The LCS percent recoveries were within control limits.

Gasoline by NWTPH-g (GC/MS)

The sample(s) were run within the recommended holding times.

Initial and continuing calibrations were within method requirements.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank(s) were clean at the reporting limits.



SLR International Corporation
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Reported:
21-Aug-2019 14:40

The LCS percent recoveries were within control limits.

Diesel/Heavy Oil Range Organics - WA-Ecology Method NW-TPHDx

The sample(s) were extracted and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

The surrogate percent recoveries were within control limits.

The method blank(s) were clean at the reporting limits.

The LCS percent recoveries were within control limits.

Diesel/Heavy Oil Range Organics - WA-Ecology Method NW-TPHDx (Ac/Si cleaned)

The sample(s) were extracted and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

The surrogate percent recoveries were within control limits.

The method blank(s) were clean at the reporting limits.

The LCS percent recoveries were within control limits.



WORK ORDER

19G0395

Client: SLR International Corporation

Project Manager: Kelly Bottem

Project: Seatac Development Site Seatac

Project Number: Seatac Development Site Seatac

Report To:

SLR International Corporation
Mike Station
22118 20th Avenue SE G202
Bothell, WA 98021
Phone: 425-402-8800
Fax: -

Invoice To:

SLR International Corporation
Mike Station
22118 20th Avenue SE G202
Bothell, WA 98021
Phone :425-402-8800
Fax: -

Date Due: 13-Aug-2019 18:00 (10 day TAT)

Received By: Kenny Dang

Date Received: 30-Jul-2019 14:09

Logged In By: Jacob Walter

Date Logged In: 30-Jul-2019 16:23

Samples Received at: 4.8°C

Intact, properly signed and dated custody seals attached to outside of cooler(s).....No
Custody papers properly filled out (in, signed, analyses requested, etc).....Yes
Was sufficient ice used (if appropriate).....Yes
All bottles arrived in good condition (unbroken).....Yes
Number of containers listed on COC match number received.....Yes
Correct bottles used for the requested analyses.....Yes
Analyses/bottles require preservation (attach preservation sheet excluding VOC). No
Sample split at ARI.....No

Custody papers included with the cooler..... Yes
Was a temperature blank included in the cooler..... No
All bottles sealed in individual plastic bags..... No
All bottle labels complete and legible..... Yes
Bottle labels and tags agree with COC..... Yes
All VOC vials free of air bubbles..... No
Sufficient amount of sample sent in each bottle..... Yes

Analysis	Due	TAT	Expires	Comments
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WORK ORDER

19G0395

Client: SLR International Corporation

Project Manager: Kelly Bottem

Project: Seatac Development Site Seatac

Project Number: Seatac Development Site Seatac

Analysis	Due	TAT	Expires	Comments
19G0395-01 MW-06-0719 [Water] Sampled 29-Jul-2019 12:24 (GMT-08:00)				
Pacific Time (US & Canada)				
<i>A = Glass NM, Amber, 500 mL</i>	<i>B = Glass NM, Amber, 500 mL</i>	<i>C = VOA Vial, Clear, 40 mL, HCL</i>	<i>D = VOA Vial, Clear, 40 mL, HCL</i>	
<i>E = VOA Vial, Clear, 40 mL, HCL</i>	<i>F = VOA Vial, Clear, 40 mL, HCL</i>	<i>G = VOA Vial, Clear, 40 mL, HCL</i>		
8260C VOA	13-Aug-2019 15:00	10	12-Aug-2019 12:24	
TPH NW (Extractables) low level	13-Aug-2019 15:00	10	05-Aug-2019 12:24	
8260C Gas (NWTPH)	13-Aug-2019 15:00	10	12-Aug-2019 12:24	
19G0395-02 MW-07-0719 [Water] Sampled 26-Jul-2019 14:38 (GMT-08:00)				
Pacific Time (US & Canada)				
<i>A = Glass NM, Amber, 500 mL</i>	<i>B = Glass NM, Amber, 500 mL</i>	<i>C = VOA Vial, Clear, 40 mL, HCL</i>	<i>D = VOA Vial, Clear, 40 mL, HCL</i>	
<i>E = VOA Vial, Clear, 40 mL, HCL</i>	<i>F = VOA Vial, Clear, 40 mL, HCL</i>	<i>G = VOA Vial, Clear, 40 mL, HCL</i>		
TPH NW (Extractables) low level	13-Aug-2019 15:00	10	02-Aug-2019 14:38	
8260C Gas (NWTPH)	13-Aug-2019 15:00	10	09-Aug-2019 14:38	
8260C VOA	13-Aug-2019 15:00	10	09-Aug-2019 14:38	
19G0395-03 MW-09-0719 [Water] Sampled 29-Jul-2019 14:49 (GMT-08:00)				
Pacific Time (US & Canada)				
<i>A = Glass NM, Amber, 500 mL</i>	<i>B = Glass NM, Amber, 500 mL</i>	<i>C = VOA Vial, Clear, 40 mL, HCL</i>	<i>D = VOA Vial, Clear, 40 mL, HCL</i>	
<i>E = VOA Vial, Clear, 40 mL, HCL</i>	<i>F = VOA Vial, Clear, 40 mL, HCL</i>	<i>G = VOA Vial, Clear, 40 mL, HCL</i>		
TPH NW (Extractables) low level	13-Aug-2019 15:00	10	05-Aug-2019 14:49	
8260C VOA	13-Aug-2019 15:00	10	12-Aug-2019 14:49	
8260C Gas (NWTPH)	13-Aug-2019 15:00	10	12-Aug-2019 14:49	
19G0395-04 MW-12-0719 [Water] Sampled 29-Jul-2019 13:44 (GMT-08:00)				
Pacific Time (US & Canada)				
<i>A = Glass NM, Amber, 500 mL</i>	<i>B = Glass NM, Amber, 500 mL</i>	<i>C = VOA Vial, Clear, 40 mL, HCL</i>	<i>D = VOA Vial, Clear, 40 mL, HCL</i>	
<i>E = VOA Vial, Clear, 40 mL, HCL</i>	<i>F = VOA Vial, Clear, 40 mL, HCL</i>	<i>G = VOA Vial, Clear, 40 mL, HCL</i>		
8260C Gas (NWTPH)	13-Aug-2019 15:00	10	12-Aug-2019 13:44	
8260C VOA	13-Aug-2019 15:00	10	12-Aug-2019 13:44	
TPH NW (Extractables) low level	13-Aug-2019 15:00	10	05-Aug-2019 13:44	
19G0395-05 MW-13-0719 [Water] Sampled 29-Jul-2019 11:17 (GMT-08:00)				
Pacific Time (US & Canada)				
<i>A = Glass NM, Amber, 500 mL</i>	<i>B = Glass NM, Amber, 500 mL</i>	<i>C = VOA Vial, Clear, 40 mL, HCL</i>	<i>D = VOA Vial, Clear, 40 mL, HCL</i>	
<i>E = VOA Vial, Clear, 40 mL, HCL</i>	<i>F = VOA Vial, Clear, 40 mL, HCL</i>	<i>G = VOA Vial, Clear, 40 mL, HCL</i>		
8260C VOA	13-Aug-2019 15:00	10	12-Aug-2019 11:17	
8260C Gas (NWTPH)	13-Aug-2019 15:00	10	12-Aug-2019 11:17	
TPH NW (Extractables) low level	13-Aug-2019 15:00	10	05-Aug-2019 11:17	



WORK ORDER

19G0395

Client: SLR International Corporation

Project Manager: Kelly Bottem

Project: Seatac Development Site Seatac

Project Number: Seatac Development Site Seatac

Analysis	Due	TAT	Expires	Comments
19G0395-06 MW-16-0719 [Water] Sampled 29-Jul-2019 17:04 (GMT-08:00)				
Pacific Time (US & Canada)				
A = Glass NM, Amber, 500 mL	B = Glass NM, Amber, 500 mL	C = VOA Vial, Clear, 40 mL, HCL	D = VOA Vial, Clear, 40 mL, HCL	
E = VOA Vial, Clear, 40 mL, HCL	F = VOA Vial, Clear, 40 mL, HCL	G = VOA Vial, Clear, 40 mL, HCL		
8260C Gas (NWTPH)	13-Aug-2019 15:00	10	12-Aug-2019 17:04	
TPH NW (Extractables) low level	13-Aug-2019 15:00	10	05-Aug-2019 17:04	
8260C VOA	13-Aug-2019 15:00	10	12-Aug-2019 17:04	
19G0395-07 MW-17A-0719 [Water] Sampled 29-Jul-2019 16:07 (GMT-08:00)				
Pacific Time (US & Canada)				
A = Glass NM, Amber, 500 mL	B = Glass NM, Amber, 500 mL	C = VOA Vial, Clear, 40 mL, HCL	D = VOA Vial, Clear, 40 mL, HCL	
E = VOA Vial, Clear, 40 mL, HCL	F = VOA Vial, Clear, 40 mL, HCL	G = VOA Vial, Clear, 40 mL, HCL		
8260C Gas (NWTPH)	13-Aug-2019 15:00	10	12-Aug-2019 16:07	
8260C VOA	13-Aug-2019 15:00	10	12-Aug-2019 16:07	
TPH NW (Extractables) low level	13-Aug-2019 15:00	10	05-Aug-2019 16:07	
19G0395-08 MW-18-0719 [Water] Sampled 26-Jul-2019 14:00 (GMT-08:00)				
Pacific Time (US & Canada)				
A = Glass NM, Amber, 500 mL	B = Glass NM, Amber, 500 mL	C = VOA Vial, Clear, 40 mL, HCL	D = VOA Vial, Clear, 40 mL, HCL	
E = VOA Vial, Clear, 40 mL, HCL	F = VOA Vial, Clear, 40 mL, HCL	G = VOA Vial, Clear, 40 mL, HCL		
TPH NW (Extractables) low level	13-Aug-2019 15:00	10	02-Aug-2019 14:00	
8260C Gas (NWTPH)	13-Aug-2019 15:00	10	09-Aug-2019 14:00	
8260C VOA	13-Aug-2019 15:00	10	09-Aug-2019 14:00	
19G0395-09 MW-19-0719 [Water] Sampled 26-Jul-2019 15:15 (GMT-08:00)				
Pacific Time (US & Canada)				
A = Glass NM, Amber, 500 mL	B = Glass NM, Amber, 500 mL	C = VOA Vial, Clear, 40 mL, HCL	D = VOA Vial, Clear, 40 mL, HCL	
E = VOA Vial, Clear, 40 mL, HCL	F = VOA Vial, Clear, 40 mL, HCL	G = VOA Vial, Clear, 40 mL, HCL		
8260C Gas (NWTPH)	13-Aug-2019 15:00	10	09-Aug-2019 15:15	
8260C VOA	13-Aug-2019 15:00	10	09-Aug-2019 15:15	
TPH NW (Extractables) low level	13-Aug-2019 15:00	10	02-Aug-2019 15:15	
19G0395-10 MW-20-0719 [Water] Sampled 26-Jul-2019 16:56 (GMT-08:00)				
Pacific Time (US & Canada)				
A = Glass NM, Amber, 500 mL	B = Glass NM, Amber, 500 mL	C = VOA Vial, Clear, 40 mL, HCL	D = VOA Vial, Clear, 40 mL, HCL	
E = VOA Vial, Clear, 40 mL, HCL	F = VOA Vial, Clear, 40 mL, HCL	G = VOA Vial, Clear, 40 mL, HCL		
TPH NW (Extractables) low level	13-Aug-2019 15:00	10	02-Aug-2019 16:56	
8260C VOA	13-Aug-2019 15:00	10	09-Aug-2019 16:56	
8260C Gas (NWTPH)	13-Aug-2019 15:00	10	09-Aug-2019 16:56	



WORK ORDER

19G0395

Client: SLR International Corporation

Project Manager: Kelly Bottem

Project: Seatac Development Site Seatac

Project Number: Seatac Development Site Seatac

Analysis	Due	TAT	Expires	Comments
19G0395-11 MW-21-0719 [Water] Sampled 26-Jul-2019 18:09 (GMT-08:00)				
Pacific Time (US & Canada)				
<i>A = Glass NM, Amber, 500 mL B = Glass NM, Amber, 500 mL C = VOA Vial, Clear, 40 mL, HCL D = VOA Vial, Clear, 40 mL, HCL</i>				
<i>E = VOA Vial, Clear, 40 mL, HCL F = VOA Vial, Clear, 40 mL, HCL G = VOA Vial, Clear, 40 mL, HCL</i>				
8260C Gas (NWTPH)	13-Aug-2019 15:00	10	09-Aug-2019 18:09	
8260C VOA	13-Aug-2019 15:00	10	09-Aug-2019 18:09	
TPH NW (Extractables) low level	13-Aug-2019 15:00	10	02-Aug-2019 18:09	
19G0395-12 Trip Blanks [Water] Sampled 26-Jul-2019 14:00 (GMT-08:00)				
Pacific Time (US & Canada)				
<i>A = VOA Vial, Clear, 40 mL, HCL B = VOA Vial, Clear, 40 mL, HCL C = VOA Vial, Clear, 40 mL, HCL D = VOA Vial, Clear, 40 mL, HCL</i>				
<i>E = VOA Vial, Clear, 40 mL, HCL F = VOA Vial, Clear, 40 mL, HCL G = VOA Vial, Clear, 40 mL, HCL H = VOA Vial, Clear, 40 mL, HCL</i>				
<i>I = VOA Vial, Clear, 40 mL, HCL J = VOA Vial, Clear, 40 mL, HCL</i>				
8260C VOA	13-Aug-2019 15:00	10	09-Aug-2019 14:00	
8260C Gas (NWTPH)	13-Aug-2019 15:00	10	09-Aug-2019 14:00	

Reviewed By

Date

Page 4 of 4



Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: SLR

Project Name: Seatac development Site

COC No(s): _____ (NA)

Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____

Assigned ARI Job No: 1960395

Tracking No: _____ (NA)

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of the cooler? YES ☒ NO ☐

Were custody papers included with the cooler? YES ☒ NO ☐

Were custody papers properly filled out (ink, signed, etc.) YES ☒ NO ☐

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry)

Time 1533

4.8°C 3.2°C

If cooler temperature is out of compliance fill out form 00070F

Temp Gun ID#: DOO 9206

Cooler Accepted by: KO Date: 7/30/19 Time: 1409

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler? YES ☐ NO ☒

What kind of packing material was used? ... Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other: _____

Was sufficient ice used (if appropriate)? NA ☒ YES ☐ NO ☐

How were bottles sealed in plastic bags? Individually ☐ Grouped ☒ NO ☐

Did all bottles arrive in good condition (unbroken)? YES ☒ NO ☐

Were all bottle labels complete and legible? YES ☒ NO ☐

Did the number of containers listed on COC match with the number of containers received? YES ☒ NO ☐

Did all bottle labels and tags agree with custody papers? YES ☒ NO ☐

Were all bottles used correct for the requested analyses? YES ☒ NO ☐

Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs) ... (NA) YES ☐ NO ☐

Were all VOC vials free of air bubbles? (NA) YES ☐ NO ☒

Was sufficient amount of sample sent in each bottle? JSW YES ☒ NO ☐

Date VOC Trip Blank was made at ARI: _____ JSW 7/26/19

Were the sample(s) split by ARI? (NA) YES ☐ Date/Time: _____ Equipment: _____ Split by: _____

Samples Logged by: JSW Date: 07/30/19 Time: 1624 Labels checked by: JSW

**** Notify Project Manager of discrepancies or concerns ****

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

vials w/ air bubbles marked as JSW
mw-09-0719 has 1 vial w/ an air bubble, logged
as 1960395-03 E. Lab to determine sizes.

By: JSW Date: 07/30/19



SLR International Corporation
22118 20th Avenue SE G202
Bothell WA, 98021

Project: Seatac Development Site Seatac
Project Number: Seatac Development Site Seatac
Project Manager: Mike Staton

Reported:
21-Aug-2019 14:40

MW-06-0719
19G0395-01 (Water)

Volatile Organic Compounds

Method: EPA 8260C

Sampled: 07/29/2019 12:24

Instrument: NT2 Analyst: PKC

Analyzed: 08/02/2019 19:28

Sample Preparation:

Preparation Method: EPA 5030 (Purge and Trap)

Extract ID: 19G0395-01 F

Preparation Batch: BHH0021

Sample Size: 10 mL

Prepared: 02-Aug-2019

Final Volume: 10 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Benzene	71-43-2	1	0.03	0.20	ND	ug/L	U
Toluene	108-88-3	1	0.04	0.20	ND	ug/L	U
Ethylbenzene	100-41-4	1	0.04	0.20	ND	ug/L	U
m,p-Xylene	179601-23-1	1	0.05	0.40	ND	ug/L	U
o-Xylene	95-47-6	1	0.03	0.20	ND	ug/L	U
Xylenes, total	1330-20-7	1	0.09	0.60	ND	ug/L	U
Naphthalene	91-20-3	1	0.12	0.50	ND	ug/L	U
n-Hexane	110-54-3	1	0.10	0.20	ND	ug/L	U
Surrogate: 1,2-Dichloroethane-d4				80-129 %	111	%	
Surrogate: Toluene-d8				80-120 %	94.9	%	
Surrogate: 4-Bromofluorobenzene				80-120 %	87.2	%	
Surrogate: 1,2-Dichlorobenzene-d4				80-120 %	103	%	



SLR International Corporation
22118 20th Avenue SE G202
Bothell WA, 98021

Project: Seatac Development Site Seatac
Project Number: Seatac Development Site Seatac
Project Manager: Mike Staton

Reported:
21-Aug-2019 14:40

MW-06-0719
19G0395-01 (Water)

Volatile Organic Compounds

Method: NWTPHg

Sampled: 07/29/2019 12:24

Instrument: NT2 Analyst: PKC

Analyzed: 08/02/2019 19:28

Sample Preparation:

Preparation Method: EPA 5030 (Purge and Trap)

Extract ID: 19G0395-01 F

Preparation Batch: BHH0021

Sample Size: 10 mL

Prepared: 02-Aug-2019

Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)	GRO	1	100	ND	ug/L	U
Surrogate: Toluene-d8			80-120 %	94.9	%	
Surrogate: 4-Bromofluorobenzene			80-120 %	87.2	%	



SLR International Corporation
22118 20th Avenue SE G202
Bothell WA, 98021

Project: Seatac Development Site Seatac
Project Number: Seatac Development Site Seatac
Project Manager: Mike Staton

Reported:
21-Aug-2019 14:40

MW-06-0719
19G0395-01 (Water)

Volatile Organic Compounds - SIM

Method: EPA 8260C-SIM

Sampled: 07/29/2019 12:24

Instrument: NT7 Analyst: PKC

Analyzed: 08/09/2019 15:21

Sample Preparation:

Preparation Method: EPA 5030 (Purge and Trap)

Extract ID: 19G0395-01 E

Preparation Batch: BHH0260

Sample Size: 10 mL

Prepared: 09-Aug-2019

Final Volume: 10 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
1,2-Dibromoethane	106-93-4	1	2.82	10.0	ND	ng/L	U
Surrogate: 1,2-Dichloroethane-d4				80-129 %	122	%	
Surrogate: Toluene-d8				80-120 %	94.3	%	
Surrogate: 4-Bromofluorobenzene				75-125 %	87.0	%	



SLR International Corporation
22118 20th Avenue SE G202
Bothell WA, 98021

Project: Seatac Development Site Seatac
Project Number: Seatac Development Site Seatac
Project Manager: Mike Staton

Reported:
21-Aug-2019 14:40

MW-06-0719
19G0395-01 (Water)

Petroleum Hydrocarbons

Method: NWTPH-Dx
Instrument: FID4 Analyst: WMT

Sampled: 07/29/2019 12:24

Analyzed: 08/06/2019 04:03

Sample Preparation: Preparation Method: EPA 3510C SepF
Preparation Batch: BHG0746 Sample Size: 500 mL
Prepared: 31-Jul-2019 Final Volume: 1 mL

Extract ID: 19G0395-01 A 01

Sample Cleanup: Cleanup Method: Silica Gel
Cleanup Batch: CHH0143 Initial Volume: 1 mL
Cleaned: 16-Aug-2019 Final Volume: 1 mL

Extract ID: 19G0395-01 A 01

Sample Cleanup: Cleanup Method: Sulfuric Acid
Cleanup Batch: CHH0142 Initial Volume: 1 mL
Cleaned: 16-Aug-2019 Final Volume: 1 mL

Extract ID: 19G0395-01 A 01

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	0.100	ND	mg/L	U
Motor Oil Range Organics (C24-C38)	RRO	1	0.200	ND	mg/L	U
Surrogate: o-Terphenyl			50-150 %	76.3	%	



SLR International Corporation
22118 20th Avenue SE G202
Bothell WA, 98021

Project: Seatac Development Site Seatac
Project Number: Seatac Development Site Seatac
Project Manager: Mike Staton

Reported:
21-Aug-2019 14:40

MW-06-0719
19G0395-01RE1 (Water)

Petroleum Hydrocarbons

Method: NWTPH-Dx

Sampled: 07/29/2019 12:24

Instrument: FID4 Analyst: WMT

Analyzed: 08/19/2019 18:23

Sample Preparation:	Preparation Method: EPA 3510C SepF Preparation Batch: BHG0746 Prepared: 31-Jul-2019	Sample Size: 500 mL Final Volume: 1 mL	Extract ID: 19G0395-01RE1 A 01
Sample Cleanup:	Cleanup Method: Silica Gel Cleanup Batch: CHH0143 Cleaned: 16-Aug-2019	Initial Volume: 1 mL Final Volume: 1 mL	Extract ID: 19G0395-01RE1 A 01
Sample Cleanup:	Cleanup Method: Sulfuric Acid Cleanup Batch: CHH0142 Cleaned: 16-Aug-2019	Initial Volume: 1 mL Final Volume: 1 mL	Extract ID: 19G0395-01RE1 A 01

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	0.100	ND	mg/L	U
Motor Oil Range Organics (C24-C38)	RRO	1	0.200	ND	mg/L	U
Surrogate: o-Terphenyl			50-150 %	89.2	%	



SLR International Corporation
22118 20th Avenue SE G202
Bothell WA, 98021

Project: Seatac Development Site Seatac
Project Number: Seatac Development Site Seatac
Project Manager: Mike Staton

Reported:
21-Aug-2019 14:40

MW-07-0719
19G0395-02 (Water)

Volatile Organic Compounds

Method: EPA 8260C

Sampled: 07/26/2019 14:38

Instrument: NT2 Analyst: PKC

Analyzed: 08/02/2019 12:52

Sample Preparation:

Preparation Method: EPA 5030 (Purge and Trap)

Extract ID: 19G0395-02 E

Preparation Batch: BHH0021

Sample Size: 10 mL

Prepared: 02-Aug-2019

Final Volume: 10 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Benzene	71-43-2	1	0.03	0.20	0.30	ug/L	
Toluene	108-88-3	1	0.04	0.20	0.27	ug/L	
Ethylbenzene	100-41-4	1	0.04	0.20	0.75	ug/L	
m,p-Xylene	179601-23-1	1	0.05	0.40	0.77	ug/L	
o-Xylene	95-47-6	1	0.03	0.20	0.36	ug/L	
Xylenes, total	1330-20-7	1	0.09	0.60	1.13	ug/L	
Naphthalene	91-20-3	1	0.12	0.50	1.63	ug/L	
n-Hexane	110-54-3	1	0.10	0.20	0.29	ug/L	
Surrogate: 1,2-Dichloroethane-d4				80-129 %	103	%	
Surrogate: Toluene-d8				80-120 %	96.5	%	
Surrogate: 4-Bromofluorobenzene				80-120 %	95.9	%	
Surrogate: 1,2-Dichlorobenzene-d4				80-120 %	104	%	



SLR International Corporation
22118 20th Avenue SE G202
Bothell WA, 98021

Project: Seatac Development Site Seatac
Project Number: Seatac Development Site Seatac
Project Manager: Mike Staton

Reported:
21-Aug-2019 14:40

MW-07-0719
19G0395-02 (Water)

Volatile Organic Compounds

Method: NWTPHg

Sampled: 07/26/2019 14:38

Instrument: NT2 Analyst: PKC

Analyzed: 08/02/2019 12:52

Sample Preparation:

Preparation Method: EPA 5030 (Purge and Trap)

Extract ID: 19G0395-02 E

Preparation Batch: BHH0021

Sample Size: 10 mL

Prepared: 02-Aug-2019

Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)	GRO	1	100	728	ug/L	
HC ID: GAS						
Surrogate: Toluene-d8			80-120 %	96.5	%	
Surrogate: 4-Bromofluorobenzene			80-120 %	95.9	%	



SLR International Corporation
22118 20th Avenue SE G202
Bothell WA, 98021

Project: Seatac Development Site Seatac
Project Number: Seatac Development Site Seatac
Project Manager: Mike Staton

Reported:
21-Aug-2019 14:40

MW-07-0719
19G0395-02 (Water)

Volatile Organic Compounds - SIM

Method: EPA 8260C-SIM

Sampled: 07/26/2019 14:38

Instrument: NT7 Analyst: PKC

Analyzed: 08/09/2019 15:46

Sample Preparation:

Preparation Method: EPA 5030 (Purge and Trap)

Extract ID: 19G0395-02 G

Preparation Batch: BHH0260

Sample Size: 10 mL

Prepared: 09-Aug-2019

Final Volume: 10 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
1,2-Dibromoethane	106-93-4	1	2.82	10.0	ND	ng/L	U
Surrogate: 1,2-Dichloroethane-d4				80-129 %	115	%	
Surrogate: Toluene-d8				80-120 %	100	%	
Surrogate: 4-Bromofluorobenzene				75-125 %	98.6	%	



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22118 20th Avenue SE G202
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Project: Seatac Development Site Seatac
Project Number: Seatac Development Site Seatac
Project Manager: Mike Staton

Reported:
21-Aug-2019 14:40

MW-07-0719
19G0395-02 (Water)

Petroleum Hydrocarbons

Method: NWTPH-Dx

Sampled: 07/26/2019 14:38

Instrument: FID4 Analyst: WMT

Analyzed: 08/06/2019 05:07

Sample Preparation:

Preparation Method: EPA 3510C SepF
Preparation Batch: BHG0746
Prepared: 31-Jul-2019

Sample Size: 500 mL
Final Volume: 1 mL

Extract ID: 19G0395-02 A 01

Sample Cleanup:

Cleanup Method: Silica Gel
Cleanup Batch: CHH0143
Cleaned: 16-Aug-2019

Initial Volume: 1 mL
Final Volume: 1 mL

Extract ID: 19G0395-02 A 01

Sample Cleanup:

Cleanup Method: Sulfuric Acid
Cleanup Batch: CHH0142
Cleaned: 16-Aug-2019

Initial Volume: 1 mL
Final Volume: 1 mL

Extract ID: 19G0395-02 A 01

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	0.100	0.166	mg/L	
HC ID: DRO						
Motor Oil Range Organics (C24-C38)	RRO	1	0.200	ND	mg/L	U
Surrogate: o-Terphenyl			50-150 %	78.0	%	



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Project: Seatac Development Site Seatac
Project Number: Seatac Development Site Seatac
Project Manager: Mike Staton

Reported:
21-Aug-2019 14:40

MW-07-0719
19G0395-02RE1 (Water)

Petroleum Hydrocarbons

Method: NWTPH-Dx

Sampled: 07/26/2019 14:38

Instrument: FID4 Analyst: WMT

Analyzed: 08/19/2019 18:45

Sample Preparation:	Preparation Method: EPA 3510C SepF	Extract ID: 19G0395-02RE1 A 01	
	Preparation Batch: BHG0746	Sample Size: 500 mL	
	Prepared: 31-Jul-2019	Final Volume: 1 mL	
Sample Cleanup:	Cleanup Method: Silica Gel	Extract ID: 19G0395-02RE1 A 01	
	Cleanup Batch: CHH0143	Initial Volume: 1 mL	
	Cleaned: 16-Aug-2019	Final Volume: 1 mL	
Sample Cleanup:	Cleanup Method: Sulfuric Acid	Extract ID: 19G0395-02RE1 A 01	
	Cleanup Batch: CHH0142	Initial Volume: 1 mL	
	Cleaned: 16-Aug-2019	Final Volume: 1 mL	

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	0.100	ND	mg/L	U
Motor Oil Range Organics (C24-C38)	RRO	1	0.200	ND	mg/L	U
Surrogate: o-Terphenyl			50-150 %	80.4	%	



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Project: Seatac Development Site Seatac
Project Number: Seatac Development Site Seatac
Project Manager: Mike Staton

Reported:
21-Aug-2019 14:40

MW-09-0719
19G0395-03 (Water)

Volatile Organic Compounds

Method: EPA 8260C

Sampled: 07/29/2019 14:49

Instrument: NT2 Analyst: PKC

Analyzed: 08/02/2019 13:34

Sample Preparation:

Preparation Method: EPA 5030 (Purge and Trap)

Extract ID: 19G0395-03 G

Preparation Batch: BHH0021

Sample Size: 10 mL

Prepared: 02-Aug-2019

Final Volume: 10 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Benzene	71-43-2	1	0.03	0.20	0.20	ug/L	J
Toluene	108-88-3	1	0.04	0.20	ND	ug/L	U
Ethylbenzene	100-41-4	1	0.04	0.20	ND	ug/L	U
m,p-Xylene	179601-23-1	1	0.05	0.40	0.05	ug/L	J
o-Xylene	95-47-6	1	0.03	0.20	ND	ug/L	U
Xylenes, total	1330-20-7	1	0.09	0.60	ND	ug/L	U
Naphthalene	91-20-3	1	0.12	0.50	ND	ug/L	U
n-Hexane	110-54-3	1	0.10	0.20	ND	ug/L	U
Surrogate: 1,2-Dichloroethane-d4				80-129 %	103	%	
Surrogate: Toluene-d8				80-120 %	97.0	%	
Surrogate: 4-Bromofluorobenzene				80-120 %	91.2	%	
Surrogate: 1,2-Dichlorobenzene-d4				80-120 %	100	%	



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Project: Seatac Development Site Seatac
Project Number: Seatac Development Site Seatac
Project Manager: Mike Staton

Reported:
21-Aug-2019 14:40

MW-09-0719
19G0395-03 (Water)

Volatile Organic Compounds

Method: NWTPHg

Sampled: 07/29/2019 14:49

Instrument: NT2 Analyst: PKC

Analyzed: 08/02/2019 13:34

Sample Preparation:

Preparation Method: EPA 5030 (Purge and Trap)

Extract ID: 19G0395-03 G

Preparation Batch: BHH0021

Sample Size: 10 mL

Prepared: 02-Aug-2019

Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)	GRO	1	100	ND	ug/L	U
Surrogate: Toluene-d8			80-120 %	97.0	%	
Surrogate: 4-Bromofluorobenzene			80-120 %	91.2	%	



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Project: Seatac Development Site Seatac
Project Number: Seatac Development Site Seatac
Project Manager: Mike Staton

Reported:
21-Aug-2019 14:40

MW-09-0719
19G0395-03 (Water)

Volatile Organic Compounds - SIM

Method: EPA 8260C-SIM

Sampled: 07/29/2019 14:49

Instrument: NT7 Analyst: PKC

Analyzed: 08/09/2019 16:12

Sample Preparation:

Preparation Method: EPA 5030 (Purge and Trap)

Extract ID: 19G0395-03 E

Preparation Batch: BHH0260

Sample Size: 10 mL

Prepared: 09-Aug-2019

Final Volume: 10 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
1,2-Dibromoethane	106-93-4	1	2.82	10.0	ND	ng/L	U
Surrogate: 1,2-Dichloroethane-d4				80-129 %	108	%	
Surrogate: Toluene-d8				80-120 %	95.6	%	
Surrogate: 4-Bromofluorobenzene				75-125 %	91.5	%	



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Project: Seatac Development Site Seatac
Project Number: Seatac Development Site Seatac
Project Manager: Mike Staton

Reported:
21-Aug-2019 14:40

MW-09-0719
19G0395-03 (Water)

Petroleum Hydrocarbons

Method: NWTPH-Dx

Sampled: 07/29/2019 14:49

Instrument: FID4 Analyst: WMT

Analyzed: 08/06/2019 05:27

Sample Preparation:

Preparation Method: EPA 3510C SepF
Preparation Batch: BHG0746
Prepared: 31-Jul-2019

Sample Size: 500 mL
Final Volume: 1 mL

Extract ID: 19G0395-03 A 01

Sample Cleanup:

Cleanup Method: Silica Gel
Cleanup Batch: CHH0143
Cleaned: 16-Aug-2019

Initial Volume: 1 mL
Final Volume: 1 mL

Extract ID: 19G0395-03 A 01

Sample Cleanup:

Cleanup Method: Sulfuric Acid
Cleanup Batch: CHH0142
Cleaned: 16-Aug-2019

Initial Volume: 1 mL
Final Volume: 1 mL

Extract ID: 19G0395-03 A 01

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	0.100	0.108	mg/L	
HC ID: DRO						
Motor Oil Range Organics (C24-C38)	RRO	1	0.200	ND	mg/L	U
Surrogate: o-Terphenyl			50-150 %	87.1	%	



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Project: Seatac Development Site Seatac
Project Number: Seatac Development Site Seatac
Project Manager: Mike Staton

Reported:
21-Aug-2019 14:40

MW-09-0719
19G0395-03RE1 (Water)

Petroleum Hydrocarbons

Method: NWTPH-Dx

Sampled: 07/29/2019 14:49

Instrument: FID4 Analyst: WMT

Analyzed: 08/19/2019 19:06

Sample Preparation:	Preparation Method: EPA 3510C SepF Preparation Batch: BHG0746 Prepared: 31-Jul-2019	Sample Size: 500 mL Final Volume: 1 mL	Extract ID: 19G0395-03RE1 A 01
Sample Cleanup:	Cleanup Method: Silica Gel Cleanup Batch: CHH0143 Cleaned: 16-Aug-2019	Initial Volume: 1 mL Final Volume: 1 mL	Extract ID: 19G0395-03RE1 A 01
Sample Cleanup:	Cleanup Method: Sulfuric Acid Cleanup Batch: CHH0142 Cleaned: 16-Aug-2019	Initial Volume: 1 mL Final Volume: 1 mL	Extract ID: 19G0395-03RE1 A 01

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	0.100	ND	mg/L	U
Motor Oil Range Organics (C24-C38)	RRO	1	0.200	ND	mg/L	U
Surrogate: o-Terphenyl			50-150 %	96.7	%	



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Project: Seatac Development Site Seatac
Project Number: Seatac Development Site Seatac
Project Manager: Mike Staton

Reported:
21-Aug-2019 14:40

MW-12-0719
19G0395-04 (Water)

Volatile Organic Compounds

Method: EPA 8260C

Sampled: 07/29/2019 13:44

Instrument: NT2 Analyst: PKC

Analyzed: 08/02/2019 13:55

Sample Preparation:

Preparation Method: EPA 5030 (Purge and Trap)

Extract ID: 19G0395-04 F

Preparation Batch: BHH0021

Sample Size: 10 mL

Prepared: 02-Aug-2019

Final Volume: 10 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Benzene	71-43-2	1	0.03	0.20	8.20	ug/L	
Toluene	108-88-3	1	0.04	0.20	2.90	ug/L	
Ethylbenzene	100-41-4	1	0.04	0.20	16.0	ug/L	
m,p-Xylene	179601-23-1	1	0.05	0.40	17.2	ug/L	
o-Xylene	95-47-6	1	0.03	0.20	7.81	ug/L	
Xylenes, total	1330-20-7	1	0.09	0.60	25.0	ug/L	
Naphthalene	91-20-3	1	0.12	0.50	14.1	ug/L	
n-Hexane	110-54-3	1	0.10	0.20	8.43	ug/L	
Surrogate: 1,2-Dichloroethane-d4				80-129 %	108	%	
Surrogate: Toluene-d8				80-120 %	99.4	%	
Surrogate: 4-Bromofluorobenzene				80-120 %	101	%	
Surrogate: 1,2-Dichlorobenzene-d4				80-120 %	102	%	



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Project: Seatac Development Site Seatac
Project Number: Seatac Development Site Seatac
Project Manager: Mike Staton

Reported:
21-Aug-2019 14:40

MW-12-0719
19G0395-04 (Water)

Volatile Organic Compounds

Method: NWTPHg

Sampled: 07/29/2019 13:44

Instrument: NT2 Analyst: PKC

Analyzed: 08/02/2019 13:55

Sample Preparation:

Preparation Method: EPA 5030 (Purge and Trap)

Extract ID: 19G0395-04 F

Preparation Batch: BHH0021

Sample Size: 10 mL

Prepared: 02-Aug-2019

Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)	GRO	1	100	2290	ug/L	
HC ID: GAS						
Surrogate: Toluene-d8			80-120 %	99.4	%	
Surrogate: 4-Bromofluorobenzene			80-120 %	101	%	



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Project: Seatac Development Site Seatac
Project Number: Seatac Development Site Seatac
Project Manager: Mike Staton

Reported:
21-Aug-2019 14:40

MW-12-0719
19G0395-04 (Water)

Volatile Organic Compounds - SIM

Method: EPA 8260C-SIM

Sampled: 07/29/2019 13:44

Instrument: NT7 Analyst: PKC

Analyzed: 08/09/2019 16:37

Sample Preparation:

Preparation Method: EPA 5030 (Purge and Trap)

Extract ID: 19G0395-04 G

Preparation Batch: BHH0260

Sample Size: 10 mL

Prepared: 09-Aug-2019

Final Volume: 10 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
1,2-Dibromoethane	106-93-4	1	2.82	10.0	ND	ng/L	U
Surrogate: 1,2-Dichloroethane-d4				80-129 %	102	%	
Surrogate: Toluene-d8				80-120 %	111	%	
Surrogate: 4-Bromofluorobenzene				75-125 %	104	%	



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Project: Seatac Development Site Seatac
Project Number: Seatac Development Site Seatac
Project Manager: Mike Staton

Reported:
21-Aug-2019 14:40

MW-12-0719
19G0395-04 (Water)

Petroleum Hydrocarbons

Method: NWTPH-Dx
Instrument: FID4 Analyst: WMT

Sampled: 07/29/2019 13:44

Analyzed: 08/06/2019 05:48

Sample Preparation: Preparation Method: EPA 3510C SepF
Preparation Batch: BHG0746 Sample Size: 500 mL
Prepared: 31-Jul-2019 Final Volume: 1 mL

Extract ID: 19G0395-04 A 01

Sample Cleanup: Cleanup Method: Silica Gel
Cleanup Batch: CHH0143 Initial Volume: 1 mL
Cleaned: 16-Aug-2019 Final Volume: 1 mL

Extract ID: 19G0395-04 A 01

Sample Cleanup: Cleanup Method: Sulfuric Acid
Cleanup Batch: CHH0142 Initial Volume: 1 mL
Cleaned: 16-Aug-2019 Final Volume: 1 mL

Extract ID: 19G0395-04 A 01

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	0.100	1.85	mg/L	
HC ID: DRO						
Motor Oil Range Organics (C24-C38)	RRO	1	0.200	ND	mg/L	U
Surrogate: o-Terphenyl			50-150 %	84.8	%	



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Bothell WA, 98021

Project: Seatac Development Site Seatac
Project Number: Seatac Development Site Seatac
Project Manager: Mike Staton

Reported:
21-Aug-2019 14:40

MW-12-0719
19G0395-04RE1 (Water)

Petroleum Hydrocarbons

Method: NWTPH-Dx

Sampled: 07/29/2019 13:44

Instrument: FID4 Analyst: WMT

Analyzed: 08/19/2019 19:27

Sample Preparation:	Preparation Method: EPA 3510C SepF	Extract ID: 19G0395-04RE1 A 01	
	Preparation Batch: BHG0746	Sample Size: 500 mL	
	Prepared: 31-Jul-2019	Final Volume: 1 mL	
Sample Cleanup:	Cleanup Method: Silica Gel	Extract ID: 19G0395-04RE1 A 01	
	Cleanup Batch: CHH0143	Initial Volume: 1 mL	
	Cleaned: 16-Aug-2019	Final Volume: 1 mL	
Sample Cleanup:	Cleanup Method: Sulfuric Acid	Extract ID: 19G0395-04RE1 A 01	
	Cleanup Batch: CHH0142	Initial Volume: 1 mL	
	Cleaned: 16-Aug-2019	Final Volume: 1 mL	

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	0.100	ND	mg/L	U
Motor Oil Range Organics (C24-C38)	RRO	1	0.200	ND	mg/L	U
Surrogate: o-Terphenyl			50-150 %	83.7	%	



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Project: Seatac Development Site Seatac
Project Number: Seatac Development Site Seatac
Project Manager: Mike Staton

Reported:
21-Aug-2019 14:40

MW-13-0719
19G0395-05 (Water)

Volatile Organic Compounds

Method: EPA 8260C

Sampled: 07/29/2019 11:17

Instrument: NT2 Analyst: PKC

Analyzed: 08/02/2019 14:36

Sample Preparation:

Preparation Method: EPA 5030 (Purge and Trap)

Extract ID: 19G0395-05 G

Preparation Batch: BHH0021

Sample Size: 10 mL

Prepared: 02-Aug-2019

Final Volume: 10 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Benzene	71-43-2	1	0.03	0.20	0.07	ug/L	J
Toluene	108-88-3	1	0.04	0.20	ND	ug/L	U
Ethylbenzene	100-41-4	1	0.04	0.20	ND	ug/L	U
m,p-Xylene	179601-23-1	1	0.05	0.40	ND	ug/L	U
o-Xylene	95-47-6	1	0.03	0.20	ND	ug/L	U
Xylenes, total	1330-20-7	1	0.09	0.60	ND	ug/L	U
Naphthalene	91-20-3	1	0.12	0.50	ND	ug/L	U
n-Hexane	110-54-3	1	0.10	0.20	ND	ug/L	U
Surrogate: 1,2-Dichloroethane-d4				80-129 %	103	%	
Surrogate: Toluene-d8				80-120 %	95.0	%	
Surrogate: 4-Bromofluorobenzene				80-120 %	92.5	%	
Surrogate: 1,2-Dichlorobenzene-d4				80-120 %	101	%	



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Bothell WA, 98021

Project: Seatac Development Site Seatac
Project Number: Seatac Development Site Seatac
Project Manager: Mike Staton

Reported:
21-Aug-2019 14:40

MW-13-0719
19G0395-05 (Water)

Volatile Organic Compounds

Method: NWTPHg

Sampled: 07/29/2019 11:17

Instrument: NT2 Analyst: PKC

Analyzed: 08/02/2019 14:36

Sample Preparation:

Preparation Method: EPA 5030 (Purge and Trap)

Extract ID: 19G0395-05 G

Preparation Batch: BHH0021

Sample Size: 10 mL

Prepared: 02-Aug-2019

Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)	GRO	1	100	ND	ug/L	U
Surrogate: Toluene-d8			80-120 %	95.0	%	
Surrogate: 4-Bromofluorobenzene			80-120 %	92.5	%	



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Bothell WA, 98021

Project: Seatac Development Site Seatac
Project Number: Seatac Development Site Seatac
Project Manager: Mike Staton

Reported:
21-Aug-2019 14:40

MW-13-0719
19G0395-05 (Water)

Volatile Organic Compounds - SIM

Method: EPA 8260C-SIM

Sampled: 07/29/2019 11:17

Instrument: NT7 Analyst: PKC

Analyzed: 08/09/2019 17:03

Sample Preparation:

Preparation Method: EPA 5030 (Purge and Trap)

Extract ID: 19G0395-05 D

Preparation Batch: BHH0260

Sample Size: 10 mL

Prepared: 09-Aug-2019

Final Volume: 10 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
1,2-Dibromoethane	106-93-4	1	2.82	10.0	ND	ng/L	U
Surrogate: 1,2-Dichloroethane-d4				80-129 %	81.0	%	
Surrogate: Toluene-d8				80-120 %	93.3	%	
Surrogate: 4-Bromofluorobenzene				75-125 %	93.7	%	



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Bothell WA, 98021

Project: Seatac Development Site Seatac
Project Number: Seatac Development Site Seatac
Project Manager: Mike Staton

Reported:
21-Aug-2019 14:40

MW-13-0719
19G0395-05 (Water)

Petroleum Hydrocarbons

Method: NWTPH-Dx

Sampled: 07/29/2019 11:17

Instrument: FID4 Analyst: WMT

Analyzed: 08/06/2019 06:08

Sample Preparation:

Preparation Method: EPA 3510C SepF
Preparation Batch: BHG0746
Prepared: 31-Jul-2019

Sample Size: 500 mL
Final Volume: 1 mL

Extract ID: 19G0395-05 A 01

Sample Cleanup:

Cleanup Method: Silica Gel
Cleanup Batch: CHH0143
Cleaned: 16-Aug-2019

Initial Volume: 1 mL
Final Volume: 1 mL

Extract ID: 19G0395-05 A 01

Sample Cleanup:

Cleanup Method: Sulfuric Acid
Cleanup Batch: CHH0142
Cleaned: 16-Aug-2019

Initial Volume: 1 mL
Final Volume: 1 mL

Extract ID: 19G0395-05 A 01

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	0.100	ND	mg/L	U
Motor Oil Range Organics (C24-C38)	RRO	1	0.200	ND	mg/L	U
Surrogate: o-Terphenyl			50-150 %	83.6	%	



SLR International Corporation
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Bothell WA, 98021

Project: Seatac Development Site Seatac
Project Number: Seatac Development Site Seatac
Project Manager: Mike Staton

Reported:
21-Aug-2019 14:40

MW-13-0719
19G0395-05RE1 (Water)

Petroleum Hydrocarbons

Method: NWTPH-Dx

Sampled: 07/29/2019 11:17

Instrument: FID4 Analyst: WMT

Analyzed: 08/19/2019 19:49

Sample Preparation:	Preparation Method: EPA 3510C SepF Preparation Batch: BHG0746 Prepared: 31-Jul-2019	Sample Size: 500 mL Final Volume: 1 mL	Extract ID: 19G0395-05RE1 A 01
Sample Cleanup:	Cleanup Method: Silica Gel Cleanup Batch: CHH0143 Cleaned: 16-Aug-2019	Initial Volume: 1 mL Final Volume: 1 mL	Extract ID: 19G0395-05RE1 A 01
Sample Cleanup:	Cleanup Method: Sulfuric Acid Cleanup Batch: CHH0142 Cleaned: 16-Aug-2019	Initial Volume: 1 mL Final Volume: 1 mL	Extract ID: 19G0395-05RE1 A 01

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	0.100	ND	mg/L	U
Motor Oil Range Organics (C24-C38)	RRO	1	0.200	ND	mg/L	U
Surrogate: o-Terphenyl			50-150 %	84.0	%	



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Bothell WA, 98021

Project: Seatac Development Site Seatac
Project Number: Seatac Development Site Seatac
Project Manager: Mike Staton

Reported:
21-Aug-2019 14:40

MW-16-0719
19G0395-06 (Water)

Volatile Organic Compounds

Method: EPA 8260C

Sampled: 07/29/2019 17:04

Instrument: NT2 Analyst: PKC

Analyzed: 08/02/2019 14:57

Sample Preparation:

Preparation Method: EPA 5030 (Purge and Trap)

Extract ID: 19G0395-06 F

Preparation Batch: BHH0021

Sample Size: 10 mL

Prepared: 02-Aug-2019

Final Volume: 10 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Benzene	71-43-2	1	0.03	0.20	0.64	ug/L	
Toluene	108-88-3	1	0.04	0.20	0.32	ug/L	
Ethylbenzene	100-41-4	1	0.04	0.20	0.45	ug/L	
m,p-Xylene	179601-23-1	1	0.05	0.40	0.29	ug/L	J
o-Xylene	95-47-6	1	0.03	0.20	0.19	ug/L	J
Xylenes, total	1330-20-7	1	0.09	0.60	0.48	ug/L	J
Naphthalene	91-20-3	1	0.12	0.50	1.04	ug/L	
n-Hexane	110-54-3	1	0.10	0.20	4.12	ug/L	
Surrogate: 1,2-Dichloroethane-d4					80-129 %	101	%
Surrogate: Toluene-d8					80-120 %	107	%
Surrogate: 4-Bromofluorobenzene					80-120 %	95.1	%
Surrogate: 1,2-Dichlorobenzene-d4					80-120 %	104	%



SLR International Corporation
22118 20th Avenue SE G202
Bothell WA, 98021

Project: Seatac Development Site Seatac
Project Number: Seatac Development Site Seatac
Project Manager: Mike Staton

Reported:
21-Aug-2019 14:40

MW-16-0719
19G0395-06 (Water)

Volatile Organic Compounds

Method: NWTPHg

Sampled: 07/29/2019 17:04

Instrument: NT2 Analyst: PKC

Analyzed: 08/02/2019 14:57

Sample Preparation:

Preparation Method: EPA 5030 (Purge and Trap)

Extract ID: 19G0395-06 F

Preparation Batch: BHH0021

Sample Size: 10 mL

Prepared: 02-Aug-2019

Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)	GRO	1	100	1730	ug/L	
HC ID: GAS						
Surrogate: Toluene-d8			80-120 %	107	%	
Surrogate: 4-Bromofluorobenzene			80-120 %	95.1	%	



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22118 20th Avenue SE G202
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Project: Seatac Development Site Seatac
Project Number: Seatac Development Site Seatac
Project Manager: Mike Staton

Reported:
21-Aug-2019 14:40

MW-16-0719
19G0395-06 (Water)

Volatile Organic Compounds - SIM

Method: EPA 8260C-SIM

Sampled: 07/29/2019 17:04

Instrument: NT7 Analyst: PKC

Analyzed: 08/09/2019 17:28

Sample Preparation:

Preparation Method: EPA 5030 (Purge and Trap)

Extract ID: 19G0395-06 E

Preparation Batch: BHH0260

Sample Size: 10 mL

Prepared: 09-Aug-2019

Final Volume: 10 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
1,2-Dibromoethane	106-93-4	1	2.82	10.0	ND	ng/L	U
Surrogate: 1,2-Dichloroethane-d4				80-129 %	82.9	%	
Surrogate: Toluene-d8				80-120 %	115	%	
Surrogate: 4-Bromofluorobenzene				75-125 %	112	%	



SLR International Corporation
22118 20th Avenue SE G202
Bothell WA, 98021

Project: Seatac Development Site Seatac
Project Number: Seatac Development Site Seatac
Project Manager: Mike Staton

Reported:
21-Aug-2019 14:40

MW-16-0719
19G0395-06 (Water)

Petroleum Hydrocarbons

Method: NWTPH-Dx

Sampled: 07/29/2019 17:04

Instrument: FID4 Analyst: WMT

Analyzed: 08/06/2019 06:29

Sample Preparation:

Preparation Method: EPA 3510C SepF
Preparation Batch: BHG0746
Prepared: 31-Jul-2019

Sample Size: 500 mL
Final Volume: 1 mL

Extract ID: 19G0395-06 A 01

Sample Cleanup:

Cleanup Method: Silica Gel
Cleanup Batch: CHH0143
Cleaned: 16-Aug-2019

Initial Volume: 1 mL
Final Volume: 1 mL

Extract ID: 19G0395-06 A 01

Sample Cleanup:

Cleanup Method: Sulfuric Acid
Cleanup Batch: CHH0142
Cleaned: 16-Aug-2019

Initial Volume: 1 mL
Final Volume: 1 mL

Extract ID: 19G0395-06 A 01

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	0.100	ND	mg/L	U
Motor Oil Range Organics (C24-C38)	RRO	1	0.200	ND	mg/L	U
Surrogate: o-Terphenyl			50-150 %	88.4	%	



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Project: Seatac Development Site Seatac
Project Number: Seatac Development Site Seatac
Project Manager: Mike Staton

Reported:
21-Aug-2019 14:40

MW-16-0719
19G0395-06RE1 (Water)

Petroleum Hydrocarbons

Method: NWTPH-Dx

Sampled: 07/29/2019 17:04

Instrument: FID4 Analyst: WMT

Analyzed: 08/19/2019 20:10

Sample Preparation:	Preparation Method: EPA 3510C SepF	Extract ID: 19G0395-06RE1 A 01	
	Preparation Batch: BHG0746	Sample Size: 500 mL	
	Prepared: 31-Jul-2019	Final Volume: 1 mL	
Sample Cleanup:	Cleanup Method: Silica Gel	Extract ID: 19G0395-06RE1 A 01	
	Cleanup Batch: CHH0143	Initial Volume: 1 mL	
	Cleaned: 16-Aug-2019	Final Volume: 1 mL	
Sample Cleanup:	Cleanup Method: Sulfuric Acid	Extract ID: 19G0395-06RE1 A 01	
	Cleanup Batch: CHH0142	Initial Volume: 1 mL	
	Cleaned: 16-Aug-2019	Final Volume: 1 mL	

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	0.100	ND	mg/L	U
Motor Oil Range Organics (C24-C38)	RRO	1	0.200	ND	mg/L	U
Surrogate: o-Terphenyl			50-150 %	85.3	%	



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Project: Seatac Development Site Seatac
Project Number: Seatac Development Site Seatac
Project Manager: Mike Staton

Reported:
21-Aug-2019 14:40

MW-17A-0719
19G0395-07 (Water)

Volatile Organic Compounds

Method: EPA 8260C

Sampled: 07/29/2019 16:07

Instrument: NT2 Analyst: PKC

Analyzed: 08/02/2019 15:18

Sample Preparation:

Preparation Method: EPA 5030 (Purge and Trap)

Extract ID: 19G0395-07 E

Preparation Batch: BHH0021

Sample Size: 10 mL

Prepared: 02-Aug-2019

Final Volume: 10 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Benzene	71-43-2	1	0.03	0.20	ND	ug/L	U
Toluene	108-88-3	1	0.04	0.20	ND	ug/L	U
Ethylbenzene	100-41-4	1	0.04	0.20	ND	ug/L	U
m,p-Xylene	179601-23-1	1	0.05	0.40	ND	ug/L	U
o-Xylene	95-47-6	1	0.03	0.20	ND	ug/L	U
Xylenes, total	1330-20-7	1	0.09	0.60	ND	ug/L	U
Naphthalene	91-20-3	1	0.12	0.50	ND	ug/L	U
n-Hexane	110-54-3	1	0.10	0.20	0.10	ug/L	J
Surrogate: 1,2-Dichloroethane-d4				80-129 %	102	%	
Surrogate: Toluene-d8				80-120 %	95.1	%	
Surrogate: 4-Bromofluorobenzene				80-120 %	94.7	%	
Surrogate: 1,2-Dichlorobenzene-d4				80-120 %	102	%	



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Project: Seatac Development Site Seatac
Project Number: Seatac Development Site Seatac
Project Manager: Mike Staton

Reported:
21-Aug-2019 14:40

MW-17A-0719
19G0395-07 (Water)

Volatile Organic Compounds

Method: NWTPHg
Instrument: NT2 Analyst: PKC
Sample Preparation: Preparation Method: EPA 5030 (Purge and Trap)
Preparation Batch: BHH0021 Sample Size: 10 mL
Prepared: 02-Aug-2019 Final Volume: 10 mL

Sampled: 07/29/2019 16:07

Analyzed: 08/02/2019 15:18

Extract ID: 19G0395-07 E

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)	GRO	1	100	ND	ug/L	U
Surrogate: Toluene-d8			80-120 %	95.1	%	
Surrogate: 4-Bromofluorobenzene			80-120 %	94.7	%	



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Project: Seatac Development Site Seatac
Project Number: Seatac Development Site Seatac
Project Manager: Mike Staton

Reported:
21-Aug-2019 14:40

MW-17A-0719
19G0395-07 (Water)

Volatile Organic Compounds - SIM

Method: EPA 8260C-SIM

Sampled: 07/29/2019 16:07

Instrument: NT7 Analyst: PKC

Analyzed: 08/09/2019 17:54

Sample Preparation:

Preparation Method: EPA 5030 (Purge and Trap)

Extract ID: 19G0395-07 G

Preparation Batch: BHH0260

Sample Size: 10 mL

Prepared: 09-Aug-2019

Final Volume: 10 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
1,2-Dibromoethane	106-93-4	1	2.82	10.0	ND	ng/L	U
Surrogate: 1,2-Dichloroethane-d4				80-129 %	79.6	%	*
Surrogate: Toluene-d8				80-120 %	93.8	%	
Surrogate: 4-Bromofluorobenzene				75-125 %	92.0	%	



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Project: Seatac Development Site Seatac
Project Number: Seatac Development Site Seatac
Project Manager: Mike Staton

Reported:
21-Aug-2019 14:40

MW-17A-0719
19G0395-07 (Water)

Petroleum Hydrocarbons

Method: NWTPH-Dx

Sampled: 07/29/2019 16:07

Instrument: FID4 Analyst: WMT

Analyzed: 08/06/2019 06:51

Sample Preparation:

Preparation Method: EPA 3510C SepF
Preparation Batch: BHG0746
Prepared: 31-Jul-2019

Sample Size: 500 mL
Final Volume: 1 mL

Extract ID: 19G0395-07 A 01

Sample Cleanup:

Cleanup Method: Silica Gel
Cleanup Batch: CHH0143
Cleaned: 16-Aug-2019

Initial Volume: 1 mL
Final Volume: 1 mL

Extract ID: 19G0395-07 A 01

Sample Cleanup:

Cleanup Method: Sulfuric Acid
Cleanup Batch: CHH0142
Cleaned: 16-Aug-2019

Initial Volume: 1 mL
Final Volume: 1 mL

Extract ID: 19G0395-07 A 01

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	0.100	ND	mg/L	U
Motor Oil Range Organics (C24-C38)	RRO	1	0.200	ND	mg/L	U
Surrogate: o-Terphenyl			50-150 %	97.7	%	



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Project: Seatac Development Site Seatac
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Project Manager: Mike Staton

Reported:
21-Aug-2019 14:40

MW-17A-0719
19G0395-07RE1 (Water)

Petroleum Hydrocarbons

Method: NWTPH-Dx

Sampled: 07/29/2019 16:07

Instrument: FID4 Analyst: WMT

Analyzed: 08/19/2019 20:31

Sample Preparation:

Preparation Method: EPA 3510C SepF
Preparation Batch: BHG0746
Prepared: 31-Jul-2019

Sample Size: 500 mL
Final Volume: 1 mL

Extract ID: 19G0395-07RE1 A 01

Sample Cleanup:

Cleanup Method: Silica Gel
Cleanup Batch: CHH0143
Cleaned: 16-Aug-2019

Initial Volume: 1 mL
Final Volume: 1 mL

Extract ID: 19G0395-07RE1 A 01

Sample Cleanup:

Cleanup Method: Sulfuric Acid
Cleanup Batch: CHH0142
Cleaned: 16-Aug-2019

Initial Volume: 1 mL
Final Volume: 1 mL

Extract ID: 19G0395-07RE1 A 01

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	0.100	ND	mg/L	U
Motor Oil Range Organics (C24-C38)	RRO	1	0.200	ND	mg/L	U
Surrogate: o-Terphenyl			50-150 %	99.4	%	



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Project: Seatac Development Site Seatac
Project Number: Seatac Development Site Seatac
Project Manager: Mike Staton

Reported:
21-Aug-2019 14:40

MW-18-0719
19G0395-08 (Water)

Volatile Organic Compounds

Method: EPA 8260C

Sampled: 07/26/2019 14:00

Instrument: NT2 Analyst: PKC

Analyzed: 08/02/2019 15:39

Sample Preparation:

Preparation Method: EPA 5030 (Purge and Trap)

Extract ID: 19G0395-08 F

Preparation Batch: BHH0021

Sample Size: 10 mL

Prepared: 02-Aug-2019

Final Volume: 10 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Benzene	71-43-2	1	0.03	0.20	1.29	ug/L	
Toluene	108-88-3	1	0.04	0.20	0.25	ug/L	
Ethylbenzene	100-41-4	1	0.04	0.20	1.22	ug/L	
m,p-Xylene	179601-23-1	1	0.05	0.40	1.59	ug/L	
o-Xylene	95-47-6	1	0.03	0.20	0.76	ug/L	
Xylenes, total	1330-20-7	1	0.09	0.60	2.35	ug/L	
Naphthalene	91-20-3	1	0.12	0.50	4.75	ug/L	
n-Hexane	110-54-3	1	0.10	0.20	0.22	ug/L	
Surrogate: 1,2-Dichloroethane-d4				80-129 %	101	%	
Surrogate: Toluene-d8				80-120 %	99.0	%	
Surrogate: 4-Bromofluorobenzene				80-120 %	103	%	
Surrogate: 1,2-Dichlorobenzene-d4				80-120 %	106	%	



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Bothell WA, 98021

Project: Seatac Development Site Seatac
Project Number: Seatac Development Site Seatac
Project Manager: Mike Staton

Reported:
21-Aug-2019 14:40

MW-18-0719
19G0395-08 (Water)

Volatile Organic Compounds

Method: NWTPHg

Sampled: 07/26/2019 14:00

Instrument: NT2 Analyst: PKC

Analyzed: 08/02/2019 15:39

Sample Preparation:

Preparation Method: EPA 5030 (Purge and Trap)

Extract ID: 19G0395-08 F

Preparation Batch: BHH0021

Sample Size: 10 mL

Prepared: 02-Aug-2019

Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)	GRO	1	100	1210	ug/L	
HC ID: GAS						
Surrogate: Toluene-d8			80-120 %	99.0	%	
Surrogate: 4-Bromofluorobenzene			80-120 %	103	%	



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Project: Seatac Development Site Seatac
Project Number: Seatac Development Site Seatac
Project Manager: Mike Staton

Reported:
21-Aug-2019 14:40

MW-18-0719
19G0395-08 (Water)

Volatile Organic Compounds - SIM

Method: EPA 8260C-SIM

Sampled: 07/26/2019 14:00

Instrument: NT7 Analyst: PKC

Analyzed: 08/09/2019 18:19

Sample Preparation:

Preparation Method: EPA 5030 (Purge and Trap)

Extract ID: 19G0395-08 E

Preparation Batch: BHH0260

Sample Size: 10 mL

Prepared: 09-Aug-2019

Final Volume: 10 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
1,2-Dibromoethane	106-93-4	1	2.82	10.0	ND	ng/L	U
Surrogate: 1,2-Dichloroethane-d4				80-129 %	80.8	%	
Surrogate: Toluene-d8				80-120 %	105	%	
Surrogate: 4-Bromofluorobenzene				75-125 %	115	%	



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Project: Seatac Development Site Seatac
Project Number: Seatac Development Site Seatac
Project Manager: Mike Staton

Reported:
21-Aug-2019 14:40

MW-18-0719
19G0395-08 (Water)

Petroleum Hydrocarbons

Method: NWTPH-Dx
Instrument: FID4 Analyst: WMT

Sampled: 07/26/2019 14:00

Analyzed: 08/06/2019 07:12

Sample Preparation: Preparation Method: EPA 3510C SepF
Preparation Batch: BHG0746 Sample Size: 500 mL
Prepared: 31-Jul-2019 Final Volume: 1 mL

Extract ID: 19G0395-08 A 01

Sample Cleanup: Cleanup Method: Silica Gel
Cleanup Batch: CHH0143 Initial Volume: 1 mL
Cleaned: 16-Aug-2019 Final Volume: 1 mL

Extract ID: 19G0395-08 A 01

Sample Cleanup: Cleanup Method: Sulfuric Acid
Cleanup Batch: CHH0142 Initial Volume: 1 mL
Cleaned: 16-Aug-2019 Final Volume: 1 mL

Extract ID: 19G0395-08 A 01

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	0.100	2.81	mg/L	
HC ID: DRO						
Motor Oil Range Organics (C24-C38)	RRO	1	0.200	0.222	mg/L	
HC ID: MOTOR OIL						
Surrogate: o-Terphenyl			50-150 %	88.7	%	



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Project: Seatac Development Site Seatac
Project Number: Seatac Development Site Seatac
Project Manager: Mike Staton

Reported:
21-Aug-2019 14:40

MW-18-0719
19G0395-08RE1 (Water)

Petroleum Hydrocarbons

Method: NWTPH-Dx
Instrument: FID4 Analyst: WMT

Sampled: 07/26/2019 14:00

Analyzed: 08/19/2019 20:53

Sample Preparation:	Preparation Method: EPA 3510C SepF Preparation Batch: BHG0746 Prepared: 31-Jul-2019	Sample Size: 500 mL Final Volume: 1 mL	Extract ID: 19G0395-08RE1 A 01
Sample Cleanup:	Cleanup Method: Silica Gel Cleanup Batch: CHH0143 Cleaned: 16-Aug-2019	Initial Volume: 1 mL Final Volume: 1 mL	Extract ID: 19G0395-08RE1 A 01
Sample Cleanup:	Cleanup Method: Sulfuric Acid Cleanup Batch: CHH0142 Cleaned: 16-Aug-2019	Initial Volume: 1 mL Final Volume: 1 mL	Extract ID: 19G0395-08RE1 A 01

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	0.100	ND	mg/L	U
Motor Oil Range Organics (C24-C38)	RRO	1	0.200	ND	mg/L	U
Surrogate: o-Terphenyl			50-150 %	91.2	%	



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Project: Seatac Development Site Seatac
Project Number: Seatac Development Site Seatac
Project Manager: Mike Staton

Reported:
21-Aug-2019 14:40

MW-19-0719
19G0395-09 (Water)

Volatile Organic Compounds

Method: EPA 8260C

Sampled: 07/26/2019 15:15

Instrument: NT2 Analyst: PKC

Analyzed: 08/02/2019 16:20

Sample Preparation:

Preparation Method: EPA 5030 (Purge and Trap)

Extract ID: 19G0395-09 F

Preparation Batch: BHH0021

Sample Size: 10 mL

Prepared: 02-Aug-2019

Final Volume: 10 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Benzene	71-43-2	1	0.03	0.20	ND	ug/L	U
Toluene	108-88-3	1	0.04	0.20	ND	ug/L	U
Ethylbenzene	100-41-4	1	0.04	0.20	ND	ug/L	U
m,p-Xylene	179601-23-1	1	0.05	0.40	ND	ug/L	U
o-Xylene	95-47-6	1	0.03	0.20	ND	ug/L	U
Xylenes, total	1330-20-7	1	0.09	0.60	ND	ug/L	U
Naphthalene	91-20-3	1	0.12	0.50	ND	ug/L	U
n-Hexane	110-54-3	1	0.10	0.20	ND	ug/L	U
Surrogate: 1,2-Dichloroethane-d4				80-129 %	104	%	
Surrogate: Toluene-d8				80-120 %	96.5	%	
Surrogate: 4-Bromofluorobenzene				80-120 %	94.2	%	
Surrogate: 1,2-Dichlorobenzene-d4				80-120 %	98.5	%	



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Project: Seatac Development Site Seatac
Project Number: Seatac Development Site Seatac
Project Manager: Mike Staton

Reported:
21-Aug-2019 14:40

MW-19-0719
19G0395-09 (Water)

Volatile Organic Compounds

Method: NWTPHg

Sampled: 07/26/2019 15:15

Instrument: NT2 Analyst: PKC

Analyzed: 08/02/2019 16:20

Sample Preparation:

Preparation Method: EPA 5030 (Purge and Trap)

Extract ID: 19G0395-09 F

Preparation Batch: BHH0021

Sample Size: 10 mL

Prepared: 02-Aug-2019

Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)	GRO	1	100	ND	ug/L	U
Surrogate: Toluene-d8			80-120 %	96.5	%	
Surrogate: 4-Bromofluorobenzene			80-120 %	94.2	%	



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Project: Seatac Development Site Seatac
Project Number: Seatac Development Site Seatac
Project Manager: Mike Staton

Reported:
21-Aug-2019 14:40

MW-19-0719
19G0395-09 (Water)

Volatile Organic Compounds - SIM

Method: EPA 8260C-SIM

Sampled: 07/26/2019 15:15

Instrument: NT7 Analyst: PKC

Analyzed: 08/09/2019 18:44

Sample Preparation:

Preparation Method: EPA 5030 (Purge and Trap)

Extract ID: 19G0395-09 E

Preparation Batch: BHH0260

Sample Size: 10 mL

Prepared: 09-Aug-2019

Final Volume: 10 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
1,2-Dibromoethane	106-93-4	1	2.82	10.0	ND	ng/L	U
Surrogate: 1,2-Dichloroethane-d4				80-129 %	75.1	%	*
Surrogate: Toluene-d8				80-120 %	92.8	%	
Surrogate: 4-Bromofluorobenzene				75-125 %	96.7	%	



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22118 20th Avenue SE G202
Bothell WA, 98021

Project: Seatac Development Site Seatac
Project Number: Seatac Development Site Seatac
Project Manager: Mike Staton

Reported:
21-Aug-2019 14:40

MW-19-0719
19G0395-09 (Water)

Petroleum Hydrocarbons

Method: NWTPH-Dx

Sampled: 07/26/2019 15:15

Instrument: FID4 Analyst: WMT

Analyzed: 08/06/2019 07:33

Sample Preparation:

Preparation Method: EPA 3510C SepF
Preparation Batch: BHG0746
Prepared: 31-Jul-2019

Sample Size: 500 mL
Final Volume: 1 mL

Extract ID: 19G0395-09 A 01

Sample Cleanup:

Cleanup Method: Silica Gel
Cleanup Batch: CHH0143
Cleaned: 16-Aug-2019

Initial Volume: 1 mL
Final Volume: 1 mL

Extract ID: 19G0395-09 A 01

Sample Cleanup:

Cleanup Method: Sulfuric Acid
Cleanup Batch: CHH0142
Cleaned: 16-Aug-2019

Initial Volume: 1 mL
Final Volume: 1 mL

Extract ID: 19G0395-09 A 01

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	0.100	ND	mg/L	U
Motor Oil Range Organics (C24-C38)	RRO	1	0.200	ND	mg/L	U
Surrogate: o-Terphenyl			50-150 %	90.7	%	



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Project: Seatac Development Site Seatac
Project Number: Seatac Development Site Seatac
Project Manager: Mike Staton

Reported:
21-Aug-2019 14:40

MW-19-0719
19G0395-09RE1 (Water)

Petroleum Hydrocarbons

Method: NWTPH-Dx

Sampled: 07/26/2019 15:15

Instrument: FID4 Analyst: WMT

Analyzed: 08/19/2019 21:13

Sample Preparation:	Preparation Method: EPA 3510C SepF	Sample Size: 500 mL	Extract ID: 19G0395-09RE1 A 01
	Preparation Batch: BHG0746		
	Prepared: 31-Jul-2019		
Sample Cleanup:	Cleanup Method: Silica Gel	Initial Volume: 1 mL	Extract ID: 19G0395-09RE1 A 01
	Cleanup Batch: CHH0143		
	Cleaned: 16-Aug-2019		
Sample Cleanup:	Cleanup Method: Sulfuric Acid	Initial Volume: 1 mL	Extract ID: 19G0395-09RE1 A 01
	Cleanup Batch: CHH0142		
	Cleaned: 16-Aug-2019		

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	0.100	ND	mg/L	U
Motor Oil Range Organics (C24-C38)	RRO	1	0.200	ND	mg/L	U
Surrogate: o-Terphenyl			50-150 %	92.8	%	



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22118 20th Avenue SE G202
Bothell WA, 98021

Project: Seatac Development Site Seatac
Project Number: Seatac Development Site Seatac
Project Manager: Mike Staton

Reported:
21-Aug-2019 14:40

MW-20-0719
19G0395-10 (Water)

Volatile Organic Compounds

Method: EPA 8260C

Sampled: 07/26/2019 16:56

Instrument: NT2 Analyst: PKC

Analyzed: 08/02/2019 16:41

Sample Preparation:

Preparation Method: EPA 5030 (Purge and Trap)

Extract ID: 19G0395-10 G

Preparation Batch: BHH0021

Sample Size: 10 mL

Prepared: 02-Aug-2019

Final Volume: 10 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Benzene	71-43-2	1	0.03	0.20	ND	ug/L	U
Toluene	108-88-3	1	0.04	0.20	ND	ug/L	U
Ethylbenzene	100-41-4	1	0.04	0.20	ND	ug/L	U
m,p-Xylene	179601-23-1	1	0.05	0.40	ND	ug/L	U
o-Xylene	95-47-6	1	0.03	0.20	ND	ug/L	U
Xylenes, total	1330-20-7	1	0.09	0.60	ND	ug/L	U
Naphthalene	91-20-3	1	0.12	0.50	ND	ug/L	U
n-Hexane	110-54-3	1	0.10	0.20	ND	ug/L	U
Surrogate: 1,2-Dichloroethane-d4				80-129 %	102	%	
Surrogate: Toluene-d8				80-120 %	95.8	%	
Surrogate: 4-Bromofluorobenzene				80-120 %	94.2	%	
Surrogate: 1,2-Dichlorobenzene-d4				80-120 %	100	%	



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Project: Seatac Development Site Seatac
Project Number: Seatac Development Site Seatac
Project Manager: Mike Staton

Reported:
21-Aug-2019 14:40

MW-20-0719
19G0395-10 (Water)

Volatile Organic Compounds

Method: NWTPHg

Sampled: 07/26/2019 16:56

Instrument: NT2 Analyst: PKC

Analyzed: 08/02/2019 16:41

Sample Preparation:

Preparation Method: EPA 5030 (Purge and Trap)

Extract ID: 19G0395-10 G

Preparation Batch: BHH0021

Sample Size: 10 mL

Prepared: 02-Aug-2019

Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)	GRO	1	100	ND	ug/L	U
Surrogate: Toluene-d8			80-120 %	95.8	%	
Surrogate: 4-Bromofluorobenzene			80-120 %	94.2	%	



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Project: Seatac Development Site Seatac
Project Number: Seatac Development Site Seatac
Project Manager: Mike Staton

Reported:
21-Aug-2019 14:40

MW-20-0719
19G0395-10 (Water)

Volatile Organic Compounds - SIM

Method: EPA 8260C-SIM

Sampled: 07/26/2019 16:56

Instrument: NT7 Analyst: PKC

Analyzed: 08/09/2019 19:10

Sample Preparation:

Preparation Method: EPA 5030 (Purge and Trap)

Extract ID: 19G0395-10 F

Preparation Batch: BHH0260

Sample Size: 10 mL

Prepared: 09-Aug-2019

Final Volume: 10 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
1,2-Dibromoethane	106-93-4	1	2.82	10.0	ND	ng/L	U
Surrogate: 1,2-Dichloroethane-d4				80-129 %	83.2	%	
Surrogate: Toluene-d8				80-120 %	92.0	%	
Surrogate: 4-Bromofluorobenzene				75-125 %	90.7	%	



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Project: Seatac Development Site Seatac
Project Number: Seatac Development Site Seatac
Project Manager: Mike Staton

Reported:
21-Aug-2019 14:40

MW-20-0719
19G0395-10 (Water)

Petroleum Hydrocarbons

Method: NWTPH-Dx

Sampled: 07/26/2019 16:56

Instrument: FID4 Analyst: WMT

Analyzed: 08/06/2019 07:54

Sample Preparation:

Preparation Method: EPA 3510C SepF
Preparation Batch: BHG0746
Prepared: 31-Jul-2019

Sample Size: 500 mL
Final Volume: 1 mL

Extract ID: 19G0395-10 A 01

Sample Cleanup:

Cleanup Method: Silica Gel
Cleanup Batch: CHH0143
Cleaned: 16-Aug-2019

Initial Volume: 1 mL
Final Volume: 1 mL

Extract ID: 19G0395-10 A 01

Sample Cleanup:

Cleanup Method: Sulfuric Acid
Cleanup Batch: CHH0142
Cleaned: 16-Aug-2019

Initial Volume: 1 mL
Final Volume: 1 mL

Extract ID: 19G0395-10 A 01

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	0.100	ND	mg/L	U
Motor Oil Range Organics (C24-C38)	RRO	1	0.200	ND	mg/L	U
Surrogate: o-Terphenyl			50-150 %	84.0	%	



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Project: Seatac Development Site Seatac
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Project Manager: Mike Staton

Reported:
21-Aug-2019 14:40

MW-20-0719
19G0395-10RE1 (Water)

Petroleum Hydrocarbons

Method: NWTPH-Dx

Sampled: 07/26/2019 16:56

Instrument: FID4 Analyst: WMT

Analyzed: 08/19/2019 21:33

Sample Preparation:	Preparation Method: EPA 3510C SepF Preparation Batch: BHG0746 Prepared: 31-Jul-2019	Sample Size: 500 mL Final Volume: 1 mL	Extract ID: 19G0395-10RE1 A 01
Sample Cleanup:	Cleanup Method: Silica Gel Cleanup Batch: CHH0143 Cleaned: 16-Aug-2019	Initial Volume: 1 mL Final Volume: 1 mL	Extract ID: 19G0395-10RE1 A 01
Sample Cleanup:	Cleanup Method: Sulfuric Acid Cleanup Batch: CHH0142 Cleaned: 16-Aug-2019	Initial Volume: 1 mL Final Volume: 1 mL	Extract ID: 19G0395-10RE1 A 01

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	0.100	ND	mg/L	U
Motor Oil Range Organics (C24-C38)	RRO	1	0.200	ND	mg/L	U
Surrogate: o-Terphenyl			50-150 %	86.8	%	



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Project: Seatac Development Site Seatac
Project Number: Seatac Development Site Seatac
Project Manager: Mike Staton

Reported:
21-Aug-2019 14:40

MW-21-0719
19G0395-11 (Water)

Volatile Organic Compounds

Method: EPA 8260C

Sampled: 07/26/2019 18:09

Instrument: NT2 Analyst: PKC

Analyzed: 08/02/2019 17:02

Sample Preparation:

Preparation Method: EPA 5030 (Purge and Trap)

Extract ID: 19G0395-11 G

Preparation Batch: BHH0021

Sample Size: 10 mL

Prepared: 02-Aug-2019

Final Volume: 10 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Benzene	71-43-2	1	0.03	0.20	ND	ug/L	U
Toluene	108-88-3	1	0.04	0.20	ND	ug/L	U
Ethylbenzene	100-41-4	1	0.04	0.20	ND	ug/L	U
m,p-Xylene	179601-23-1	1	0.05	0.40	ND	ug/L	U
o-Xylene	95-47-6	1	0.03	0.20	ND	ug/L	U
Xylenes, total	1330-20-7	1	0.09	0.60	ND	ug/L	U
Naphthalene	91-20-3	1	0.12	0.50	ND	ug/L	U
n-Hexane	110-54-3	1	0.10	0.20	ND	ug/L	U
Surrogate: 1,2-Dichloroethane-d4				80-129 %	104	%	
Surrogate: Toluene-d8				80-120 %	95.6	%	
Surrogate: 4-Bromofluorobenzene				80-120 %	90.9	%	
Surrogate: 1,2-Dichlorobenzene-d4				80-120 %	102	%	



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Project: Seatac Development Site Seatac
Project Number: Seatac Development Site Seatac
Project Manager: Mike Staton

Reported:
21-Aug-2019 14:40

MW-21-0719
19G0395-11 (Water)

Volatile Organic Compounds

Method: NWTPHg

Sampled: 07/26/2019 18:09

Instrument: NT2 Analyst: PKC

Analyzed: 08/02/2019 17:02

Sample Preparation:

Preparation Method: EPA 5030 (Purge and Trap)

Extract ID: 19G0395-11 G

Preparation Batch: BHH0021

Sample Size: 10 mL

Prepared: 02-Aug-2019

Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)	GRO	1	100	ND	ug/L	U
Surrogate: Toluene-d8			80-120 %	95.6	%	
Surrogate: 4-Bromofluorobenzene			80-120 %	90.9	%	



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Project: Seatac Development Site Seatac
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Project Manager: Mike Staton

Reported:
21-Aug-2019 14:40

MW-21-0719
19G0395-11 (Water)

Volatile Organic Compounds - SIM

Method: EPA 8260C-SIM

Sampled: 07/26/2019 18:09

Instrument: NT7 Analyst: PKC

Analyzed: 08/09/2019 19:35

Sample Preparation:

Preparation Method: EPA 5030 (Purge and Trap)

Extract ID: 19G0395-11 F

Preparation Batch: BHH0260

Sample Size: 10 mL

Prepared: 09-Aug-2019

Final Volume: 10 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
1,2-Dibromoethane	106-93-4	1	2.82	10.0	ND	ng/L	U
Surrogate: 1,2-Dichloroethane-d4				80-129 %	92.5	%	
Surrogate: Toluene-d8				80-120 %	99.0	%	
Surrogate: 4-Bromofluorobenzene				75-125 %	89.0	%	



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Project: Seatac Development Site Seatac
Project Number: Seatac Development Site Seatac
Project Manager: Mike Staton

Reported:
21-Aug-2019 14:40

MW-21-0719
19G0395-11 (Water)

Petroleum Hydrocarbons

Method: NWTPH-Dx

Sampled: 07/26/2019 18:09

Instrument: FID4 Analyst: WMT

Analyzed: 08/06/2019 08:14

Sample Preparation:

Preparation Method: EPA 3510C SepF
Preparation Batch: BHG0746
Prepared: 31-Jul-2019

Sample Size: 500 mL
Final Volume: 1 mL

Extract ID: 19G0395-11 A 01

Sample Cleanup:

Cleanup Method: Silica Gel
Cleanup Batch: CHH0143
Cleaned: 16-Aug-2019

Initial Volume: 1 mL
Final Volume: 1 mL

Extract ID: 19G0395-11 A 01

Sample Cleanup:

Cleanup Method: Sulfuric Acid
Cleanup Batch: CHH0142
Cleaned: 16-Aug-2019

Initial Volume: 1 mL
Final Volume: 1 mL

Extract ID: 19G0395-11 A 01

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	0.100	ND	mg/L	U
Motor Oil Range Organics (C24-C38)	RRO	1	0.200	ND	mg/L	U
Surrogate: o-Terphenyl			50-150 %	82.1	%	



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Project: Seatac Development Site Seatac
Project Number: Seatac Development Site Seatac
Project Manager: Mike Staton

Reported:
21-Aug-2019 14:40

Trip Blanks
19G0395-12 (Water)

Volatile Organic Compounds

Method: EPA 8260C

Sampled: 07/26/2019 14:00

Instrument: NT2 Analyst: PKC

Analyzed: 08/02/2019 11:49

Sample Preparation:

Preparation Method: EPA 5030 (Purge and Trap)

Extract ID: 19G0395-12 D

Preparation Batch: BHH0021

Sample Size: 10 mL

Prepared: 02-Aug-2019

Final Volume: 10 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Benzene	71-43-2	1	0.03	0.20	ND	ug/L	U
Toluene	108-88-3	1	0.04	0.20	ND	ug/L	U
Ethylbenzene	100-41-4	1	0.04	0.20	ND	ug/L	U
m,p-Xylene	179601-23-1	1	0.05	0.40	ND	ug/L	U
o-Xylene	95-47-6	1	0.03	0.20	ND	ug/L	U
Xylenes, total	1330-20-7	1	0.09	0.60	ND	ug/L	U
Naphthalene	91-20-3	1	0.12	0.50	ND	ug/L	U
n-Hexane	110-54-3	1	0.10	0.20	ND	ug/L	U
Surrogate: 1,2-Dichloroethane-d4				80-129 %	107	%	
Surrogate: Toluene-d8				80-120 %	96.6	%	
Surrogate: 4-Bromofluorobenzene				80-120 %	93.7	%	
Surrogate: 1,2-Dichlorobenzene-d4				80-120 %	103	%	



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Project: Seatac Development Site Seatac
Project Number: Seatac Development Site Seatac
Project Manager: Mike Staton

Reported:
21-Aug-2019 14:40

Trip Blanks
19G0395-12 (Water)

Volatile Organic Compounds

Method: NWTPHg

Sampled: 07/26/2019 14:00

Instrument: NT2 Analyst: PKC

Analyzed: 08/02/2019 11:49

Sample Preparation:

Preparation Method: EPA 5030 (Purge and Trap)

Extract ID: 19G0395-12 D

Preparation Batch: BHH0021

Sample Size: 10 mL

Prepared: 02-Aug-2019

Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)	GRO	1	100	ND	ug/L	U
Surrogate: Toluene-d8			80-120 %	96.6	%	
Surrogate: 4-Bromofluorobenzene			80-120 %	93.7	%	



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Project: Seatac Development Site Seatac
Project Number: Seatac Development Site Seatac
Project Manager: Mike Staton

Reported:
21-Aug-2019 14:40

Trip Blanks
19G0395-12 (Water)

Volatile Organic Compounds - SIM

Method: EPA 8260C-SIM

Sampled: 07/26/2019 14:00

Instrument: NT7 Analyst: PKC

Analyzed: 08/09/2019 14:56

Sample Preparation:

Preparation Method: EPA 5030 (Purge and Trap)

Extract ID: 19G0395-12 B

Preparation Batch: BHH0260

Sample Size: 10 mL

Prepared: 09-Aug-2019

Final Volume: 10 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
1,2-Dibromoethane	106-93-4	1	2.82	10.0	ND	ng/L	U
Surrogate: 1,2-Dichloroethane-d4				80-129 %	119	%	
Surrogate: Toluene-d8				80-120 %	94.4	%	
Surrogate: 4-Bromofluorobenzene				75-125 %	87.6	%	



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Project: Seatac Development Site Seatac
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Project Manager: Mike Staton

Reported:
21-Aug-2019 14:40

Volatile Organic Compounds - Quality Control

Batch BHH0021 - EPA 5030 (Purge and Trap)

Instrument: NT2 Analyst: PKC

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BHH0021-BLK1) Prepared: 02-Aug-2019 Analyzed: 02-Aug-2019 11:28										
Gasoline Range Organics (Tol-Nap)	ND	100	ug/L							U
Surrogate: Toluene-d8	4.76		ug/L	5.00		95.2	80-120			
Surrogate: 4-Bromofluorobenzene	4.70		ug/L	5.00		93.9	80-120			
Blank (BHH0021-BLK2) Prepared: 02-Aug-2019 Analyzed: 02-Aug-2019 11:28										
Benzene	ND	0.03	0.20	ug/L						U
Toluene	ND	0.04	0.20	ug/L						U
Ethylbenzene	ND	0.04	0.20	ug/L						U
m,p-Xylene	ND	0.05	0.40	ug/L						U
o-Xylene	ND	0.03	0.20	ug/L						U
Xylenes, total	ND	0.09	0.60	ug/L						U
Naphthalene	ND	0.12	0.50	ug/L						U
n-Hexane	0.11	0.10	0.20	ug/L						J
Surrogate: 1,2-Dichloroethane-d4	5.31		ug/L	5.00		106	80-129			
Surrogate: Toluene-d8	4.76		ug/L	5.00		95.2	80-120			
Surrogate: 4-Bromofluorobenzene	4.70		ug/L	5.00		93.9	80-120			
Surrogate: 1,2-Dichlorobenzene-d4	5.02		ug/L	5.00		100	80-120			
LCS (BHH0021-BS1) Prepared: 02-Aug-2019 Analyzed: 02-Aug-2019 09:15										
Gasoline Range Organics (Tol-Nap)	1010	100	ug/L	1000		101	72-128			
Surrogate: Toluene-d8	5.07		ug/L	5.00		101	80-120			
Surrogate: 4-Bromofluorobenzene	5.06		ug/L	5.00		101	80-120			
LCS (BHH0021-BS2) Prepared: 02-Aug-2019 Analyzed: 02-Aug-2019 09:57										
Benzene	9.82	0.03	0.20	ug/L	10.0	98.2	80-120			
Toluene	9.91	0.04	0.20	ug/L	10.0	99.1	80-120			
Ethylbenzene	9.86	0.04	0.20	ug/L	10.0	98.6	80-120			
m,p-Xylene	20.2	0.05	0.40	ug/L	20.0	101	80-121			
o-Xylene	10.3	0.03	0.20	ug/L	10.0	103	80-121			
Xylenes, total	30.6	0.09	0.60	ug/L	30.0	102	76-127			
Naphthalene	8.85	0.12	0.50	ug/L	10.0	88.5	50-134			
n-Hexane	11.8	0.10	0.20	ug/L	10.0	118	70-130			
Surrogate: 1,2-Dichloroethane-d4	5.01		ug/L	5.00		100	80-129			
Surrogate: Toluene-d8	4.92		ug/L	5.00		98.4	80-120			



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Project: Seatac Development Site Seatac
Project Number: Seatac Development Site Seatac
Project Manager: Mike Staton

Reported:
21-Aug-2019 14:40

Volatile Organic Compounds - Quality Control

Batch BHH0021 - EPA 5030 (Purge and Trap)

Instrument: NT2 Analyst: PKC

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS (BHH0021-BS2)					Prepared: 02-Aug-2019		Analyzed: 02-Aug-2019 09:57				
Surrogate: 4-Bromofluorobenzene	5.02			ug/L	5.00		100	80-120			
Surrogate: 1,2-Dichlorobenzene-d4	4.93			ug/L	5.00		98.6	80-120			
LCS Dup (BHH0021-BSD1)					Prepared: 02-Aug-2019		Analyzed: 02-Aug-2019 09:36				
Gasoline Range Organics (Tol-Nap)	1000		100	ug/L	1000		100	72-128	0.93	30	
Surrogate: Toluene-d8	5.10			ug/L	5.00		102	80-120			
Surrogate: 4-Bromofluorobenzene	5.05			ug/L	5.00		101	80-120			
LCS Dup (BHH0021-BSD2)					Prepared: 02-Aug-2019		Analyzed: 02-Aug-2019 10:18				
Benzene	9.82	0.03	0.20	ug/L	10.0		98.2	80-120	0.07	30	
Toluene	9.66	0.04	0.20	ug/L	10.0		96.6	80-120	2.55	30	
Ethylbenzene	9.68	0.04	0.20	ug/L	10.0		96.8	80-120	1.88	30	
m,p-Xylene	20.2	0.05	0.40	ug/L	20.0		101	80-121	0.32	30	
o-Xylene	10.2	0.03	0.20	ug/L	10.0		102	80-121	0.89	30	
Xylenes, total	30.4	0.09	0.60	ug/L	30.0		101	76-127	0.52	30	
Naphthalene	9.22	0.12	0.50	ug/L	10.0		92.2	50-134	4.11	30	
n-Hexane	11.9	0.10	0.20	ug/L	10.0		119	70-130	0.29	30	
Surrogate: 1,2-Dichloroethane-d4	4.91			ug/L	5.00		98.2	80-129			
Surrogate: Toluene-d8	4.93			ug/L	5.00		98.5	80-120			
Surrogate: 4-Bromofluorobenzene	4.93			ug/L	5.00		98.7	80-120			
Surrogate: 1,2-Dichlorobenzene-d4	5.01			ug/L	5.00		100	80-120			



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Project: Seatac Development Site Seatac
Project Number: Seatac Development Site Seatac
Project Manager: Mike Staton

Reported:
21-Aug-2019 14:40

Volatile Organic Compounds - SIM - Quality Control

Batch BHH0260 - EPA 5030 (Purge and Trap)

Instrument: NT7 Analyst: PKC

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BHH0260-BLK1)						Prepared: 09-Aug-2019 Analyzed: 09-Aug-2019 14:30					
1,2-Dibromoethane	ND	2.82	10.0	ng/L							U
Surrogate: 1,2-Dichloroethane-d4	5980			ng/L	5000	120		80-129			
Surrogate: Toluene-d8	4720			ng/L	5000	94.5		80-120			
Surrogate: 4-Bromofluorobenzene	4500			ng/L	5000	90.0		75-125			
LCS (BHH0260-BS1)						Prepared: 09-Aug-2019 Analyzed: 09-Aug-2019 13:39					
1,2-Dibromoethane	1890	2.82	10.0	ng/L	2000		94.5	80-120			
Surrogate: 1,2-Dichloroethane-d4	5490			ng/L	5000	110		80-129			
Surrogate: Toluene-d8	5340			ng/L	5000	107		80-120			
Surrogate: 4-Bromofluorobenzene	5160			ng/L	5000	103		75-125			
LCS Dup (BHH0260-BS1)						Prepared: 09-Aug-2019 Analyzed: 09-Aug-2019 14:05					
1,2-Dibromoethane	1820	2.82	10.0	ng/L	2000		91.1	80-120	3.75	30	
Surrogate: 1,2-Dichloroethane-d4	5570			ng/L	5000	111		80-129			
Surrogate: Toluene-d8	5340			ng/L	5000	107		80-120			
Surrogate: 4-Bromofluorobenzene	5200			ng/L	5000	104		75-125			



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22118 20th Avenue SE G202
Bothell WA, 98021

Project: Seatac Development Site Seatac
Project Number: Seatac Development Site Seatac
Project Manager: Mike Staton

Reported:
21-Aug-2019 14:40

Petroleum Hydrocarbons - Quality Control

Batch BHG0746 - EPA 3510C SepF

Instrument: FID4 Analyst: WMT

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BHG0746-BLK1) Prepared: 31-Jul-2019 Analyzed: 06-Aug-2019 03:01										
Diesel Range Organics (C12-C24)	ND	0.100	mg/L							U
Motor Oil Range Organics (C24-C38)	ND	0.200	mg/L							U
Surrogate: o-Terphenyl	0.187		mg/L	0.225		83.0	50-150			
LCS (BHG0746-BS1) Prepared: 31-Jul-2019 Analyzed: 06-Aug-2019 03:22										
Diesel Range Organics (C12-C24)	2.66	0.100	mg/L	3.00		88.8	56-120			
Surrogate: o-Terphenyl	0.191		mg/L	0.225		84.7	50-150			
LCS Dup (BHG0746-BSD1) Prepared: 31-Jul-2019 Analyzed: 06-Aug-2019 03:42										
Diesel Range Organics (C12-C24)	2.48	0.100	mg/L	3.00		82.7	56-120	7.08	30	
Surrogate: o-Terphenyl	0.191		mg/L	0.225		84.8	50-150			



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21-Aug-2019 14:40

Certified Analyses included in this Report

Analyte	Certifications
EPA 8260C in Water	
Chloromethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Vinyl Chloride	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Bromomethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Chloroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Trichlorofluoromethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Acrolein	DoD-ELAP,NELAP,CALAP,WADOE
1,1,2-Trichloro-1,2,2-Trifluoroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Acetone	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,1-Dichloroethene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Bromoethane	DoD-ELAP,NELAP,CALAP,WADOE
Iodomethane	DoD-ELAP,NELAP,CALAP,WADOE
Methylene Chloride	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Acrylonitrile	DoD-ELAP,NELAP,CALAP,WADOE
Carbon Disulfide	DoD-ELAP,NELAP,CALAP,WADOE
trans-1,2-Dichloroethene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Vinyl Acetate	DoD-ELAP,NELAP,CALAP,WADOE
1,1-Dichloroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
2-Butanone	DoD-ELAP,NELAP,CALAP,WADOE
2,2-Dichloropropane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
cis-1,2-Dichloroethene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Chloroform	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Bromochloromethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,1,1-Trichloroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,1-Dichloropropene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Carbon tetrachloride	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,2-Dichloroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Benzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Trichloroethene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,2-Dichloropropane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Bromodichloromethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Dibromomethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
2-Chloroethyl vinyl ether	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
4-Methyl-2-Pentanone	DoD-ELAP,NELAP,CALAP,WADOE
cis-1,3-Dichloropropene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Toluene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE



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trans-1,3-Dichloropropene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
2-Hexanone	DoD-ELAP,NELAP,CALAP,WADOE
1,1,2-Trichloroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,3-Dichloropropane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Tetrachloroethene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Dibromochloromethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,2-Dibromoethane	DoD-ELAP,NELAP,CALAP,WADOE
Chlorobenzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Ethylbenzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,1,1,2-Tetrachloroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
m,p-Xylene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
o-Xylene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Styrene	DoD-ELAP,NELAP,CALAP,WADOE
Bromoform	DoD-ELAP,NELAP,CALAP,WADOE
1,1,2,2-Tetrachloroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,2,3-Trichloropropane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
trans-1,4-Dichloro 2-Butene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
n-Propylbenzene	DoD-ELAP,NELAP,CALAP,WADOE
Bromobenzene	DoD-ELAP,NELAP,CALAP,WADOE
Isopropyl Benzene	DoD-ELAP,NELAP,CALAP,WADOE
2-Chlorotoluene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
4-Chlorotoluene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
t-Butylbenzene	DoD-ELAP,NELAP,CALAP,WADOE
1,3,5-Trimethylbenzene	DoD-ELAP,NELAP,CALAP,WADOE
1,2,4-Trimethylbenzene	DoD-ELAP,NELAP,CALAP,WADOE
s-Butylbenzene	DoD-ELAP,NELAP,CALAP,WADOE
4-Isopropyl Toluene	DoD-ELAP,NELAP,CALAP,WADOE
1,3-Dichlorobenzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,4-Dichlorobenzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
n-Butylbenzene	DoD-ELAP,NELAP,CALAP,WADOE
1,2-Dichlorobenzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,2-Dibromo-3-chloropropane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,2,4-Trichlorobenzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Hexachloro-1,3-Butadiene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Naphthalene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,2,3-Trichlorobenzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Dichlorodifluoromethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Methyl tert-butyl Ether	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
n-Hexane	WADOE
2-Pentanone	WADOE



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EPA 8260C-SIM in Water

Acrylonitrile	NELAP,CALAP,WADOE
Vinyl chloride	NELAP,CALAP,WADOE
1,1-Dichloroethene	NELAP,CALAP,WADOE
cis-1,2-Dichloroethene	NELAP,CALAP,WADOE
trans-1,2-Dichloroethene	NELAP,CALAP,WADOE
Trichloroethene	NELAP,CALAP,WADOE
Tetrachloroethene	NELAP,CALAP,WADOE
1,1,2,2-Tetrachloroethane	NELAP,CALAP,WADOE
1,2-Dichloroethane	NELAP,CALAP,WADOE
Benzene	NELAP,CALAP,WADOE

NWTPH-Dx in Water

Diesel Range Organics (C12-C24)	DoD-ELAP,NELAP,WADOE
Diesel Range Organics (C10-C25)	DoD-ELAP,NELAP,WADOE
Diesel Range Organics (Tol-C18)	DoD-ELAP,NELAP,WADOE
Diesel Range Organics (C10-C24)	DoD-ELAP,NELAP,WADOE
Diesel Range Organics (C10-C28)	DoD-ELAP,NELAP,WADOE
Diesel Range Organics (C12-C22)	DoD-ELAP
Diesel Range Organics (C12-C25)	DoD-ELAP
Motor Oil Range Organics (C24-C38)	DoD-ELAP,NELAP,WADOE
Motor Oil Range Organics (C25-C36)	DoD-ELAP,NELAP,WADOE
Motor Oil Range Organics (C24-C40)	DoD-ELAP,NELAP,WADOE
Residual Range Organics (C23-C32)	DoD-ELAP
Mineral Spirits Range Organics (Tol-C12)	DoD-ELAP,NELAP,WADOE
Mineral Oil Range Organics (C16-C28)	DoD-ELAP,NELAP,WADOE
Kerosene Range Organics (Tol-C18)	DoD-ELAP,NELAP,WADOE
JP8 Range Organics (C8-C18)	DoD-ELAP,NELAP,WADOE
JP5 Range Organics (C10-C16)	DoD-ELAP,NELAP,WADOE
JP4 Range Organics (Tol-C14)	DoD-ELAP,NELAP,WADOE
Jet-A Range Organics (C10-C18)	DoD-ELAP,NELAP,WADOE
Creosote Range Organics (C12-C22)	DoD-ELAP,NELAP,WADOE
Bunker C Range Organics (C10-C38)	DoD-ELAP,NELAP,WADOE
Stoddard Range Organics (C8-C12)	DoD-ELAP,NELAP,WADOE
Transformer Oil Range Organics (C12-C28)	DoD-ELAP,NELAP,WADOE

NWTPHg in Water

Gasoline Range Organics (Tol-Nap)	WADOE,DoD-ELAP
Gasoline Range Organics (2MP-TMB)	WADOE,DoD-ELAP
Gasoline Range Organics (Tol-C12)	WADOE,DoD-ELAP
Gasoline Range Organics (C6-C10)	WADOE,ADEC,DoD-ELAP



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Gasoline Range Organics (C5-C12)

WADOE, DoD-ELAP

Code	Description	Number	Expires
ADEC	Alaska Dept of Environmental Conservation	17-015	01/31/2021
CALAP	California Department of Public Health CAELAP	2748	06/30/2019
DoD-ELAP	DoD-Environmental Laboratory Accreditation Program	66169	01/01/2021
NELAP	ORELAP - Oregon Laboratory Accreditation Program	WA100006-012	05/12/2020
WADOE	WA Dept of Ecology	C558	06/30/2019
WA-DW	Ecology - Drinking Water	C558	06/30/2019



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Notes and Definitions

- * Flagged value is not within established control limits.
- D The reported value is from a dilution
- J Estimated concentration value detected below the reporting limit.
- Q Indicates a detected analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20% RSD, <20% drift or minimum RRF)
- U This analyte is not detected above the reporting limit (RL) or if noted, not detected above the limit of detection (LOD).
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- [2C] Indicates this result was quantified on the second column on a dual column analysis.



Analytical Resources, Incorporated
Analytical Chemists and Consultants

21 August 2019

Mike Staton
SLR International Corporation
22118 20th Avenue SE G202
Bothell, WA 98021

RE: Seatac Development Site Seatac

Please find enclosed sample receipt documentation and analytical results for samples from the project referenced above.

Sample analyses were performed according to ARI's Quality Assurance Plan and any provided project specific Quality Assurance Plan. Each analytical section of this report has been approved and reviewed by an analytical peer, the appropriate Laboratory Supervisor or qualified substitute, and a technical reviewer.

Should you have any questions or problems, please feel free to contact us at your convenience.

Associated Work Order(s)
19H0107

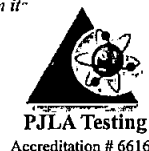
Associated SDG ID(s)
N/A

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the enclose Narrative. ARI, an accredited laboratory, certifies that the report results for which ARI is accredited meets all the requirements of the accrediting body. A list of certified analyses, accreditations, and expiration dates is included in this report.

Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.

Analytical Resources, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.





SLR International Corporation
22118 20th Avenue SE G202
Bothell WA, 98021

Project: Seatac Development Site Seatac
Project Number: Seatac Development Site Seatac
Project Manager: Mike Staton

Reported:
21-Aug-2019 14:34

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-22-0719	19H0107-01	Water	08-Aug-2019 10:39	08-Aug-2019 14:23
Port-MW-B-0719	19H0107-02	Water	08-Aug-2019 11:45	08-Aug-2019 14:23



SLR International Corporation
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Reported:
21-Aug-2019 14:34

Work Order Case Narrative

Diesel/Heavy Oil Range Organics - WA-Ecology Method NW-TPHDx

The sample(s) were extracted and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

The surrogate percent recoveries were within control limits.

The method blank(s) were clean at the reporting limits.

The LCS percent recoveries were within control limits.

Volatiles - EPA Method SW8260C

The sample(s) were run within the recommended holding times.

Initial and continuing calibrations were within method requirements.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank(s) were clean at the reporting limits.

The LCS/LCSD percent recoveries and RPD were within control limits.

Volatiles - EPA Method 8260C-SIM (Selected Ion Monitoring)

The sample(s) were run within the recommended holding times.

Initial and continuing calibrations were within method requirements.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank(s) were clean at the reporting limits.

The LCS percent recoveries were within control limits.



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Gasoline by NWTPH-q (GC/MS)

The sample(s) were run within the recommended holding times.
Initial and continuing calibrations were within method requirements.
Internal standard areas were within limits.
The surrogate percent recoveries were within control limits.
The method blank(s) were clean at the reporting limits.
The LCS percent recoveries were within control limits.

Diesel/Heavy Oil Range Organics - WA-Ecology Method NW-TPHDx (Ac/Si cleaned)

The sample(s) were extracted and analyzed within the recommended holding times.
Initial and continuing calibrations were within method requirements.
The surrogate percent recoveries were within control limits.
The method blank(s) were clean at the reporting limits.
The LCS percent recoveries were within control limits.



WORK ORDER

19H0107

Client: SLR International Corporation
Project: Seatac Development Site Seatac

Project Manager: Kelly Bottem
Project Number: Seatac Development Site Seatac

Report To:

SLR International Corporation
Mike Station
22118 20th Avenue SE G202
Bothell, WA 98021
Phone: 425-402-8800
Fax: -

Invoice To:

SLR International Corporation
Mike Station
22118 20th Avenue SE G202
Bothell, WA 98021
Phone: 425-402-8800
Fax: -

Date Due: 22-Aug-2019 18:00 (10 day TAT)

Received By: Jacob Walter

Date Received: 08-Aug-2019 14:23

Logged In By: Jacob Walter

Date Logged In: 08-Aug-2019 17:17

Samples Received at: 10.3°C

Intact, properly signed and dated custody seals attached to outside of cooler(s).....	No	Custody papers included with the cooler.....	Yes
Custody papers properly filled out (in, signed, analyses requested, etc).....	Yes	Was a temperature blank included in the cooler.....	No
Was sufficient ice used (if appropriate).....	No	All bottles sealed in individual plastic bags.....	Yes
All bottles arrived in good condition (unbroken).....	Yes	All bottle labels complete and legible.....	Yes
Number of containers listed on COC match number received.....	Yes	Bottle labels and tags agree with COC.....	Yes
Correct bottles used for the requested analyses.....	Yes	All VOC vials free of air bubbles.....	Yes
Analyses/bottles require preservation (attach preservation sheet excluding VOC).....	No	Sufficient amount of sample sent in each bottle.....	Yes
Sample split at ARI.....	No		

Analysis	Due	TAT	Expires	Comments
----------	-----	-----	---------	----------

19H0107-01 MW-22-0719 [Water] Sampled 08-Aug-2019 10:39 (GMT-08:00)

Pacific Time (US & Canada)

A = Glass NM, Amber, 500 mL B = Glass NM, Amber, 500 mL C = VOA Vial, Clear, 40 mL, HCL D = VOA Vial, Clear, 40 mL, HCL
E = VOA Vial, Clear, 40 mL, HCL F = VOA Vial, Clear, 40 mL, HCL G = VOA Vial, Clear, 40 mL, HCL

TPH NW (Extractables) low level	22-Aug-2019 15:00	10	15-Aug-2019 10:39
8260C VOA	22-Aug-2019 15:00	10	22-Aug-2019 10:39
8260C Gas (NWTPH)	22-Aug-2019 15:00	10	22-Aug-2019 10:39

19H0107-02 Port-MW-B-0719 [Water] Sampled 08-Aug-2019 11:45

(GMT-08:00) Pacific Time (US & Canada)

A = Glass NM, Amber, 500 mL B = Glass NM, Amber, 500 mL C = VOA Vial, Clear, 40 mL, HCL D = VOA Vial, Clear, 40 mL, HCL
E = VOA Vial, Clear, 40 mL, HCL F = VOA Vial, Clear, 40 mL, HCL G = VOA Vial, Clear, 40 mL, HCL

8260C Gas (NWTPH)	22-Aug-2019 15:00	10	22-Aug-2019 11:45
TPH NW (Extractables) low level	22-Aug-2019 15:00	10	15-Aug-2019 11:45
8260C VOA	22-Aug-2019 15:00	10	22-Aug-2019 11:45

Reviewed By

Date

Page 1 of 1



Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: SLR

Project Name: Satuc Development Site

COC No(s): _____ NA

Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____

Assigned ARI Job No: 19H0107

Tracking No: _____ NA

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of the cooler? YES NO

Were custody papers included with the cooler? YES NO

Were custody papers properly filled out (ink, signed, etc.) YES NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry)

Time 1423

10.3°C

If cooler temperature is out of compliance fill out form 00070F

Temp Gun ID#: DOO 5206

Cooler Accepted by: JBW Date: 08/08/19 Time: 1423

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler? YES NO

What kind of packing material was used? ... Bubble Wrap Veri Ice Gel Packs Baggies Foam Block Paper Other: _____

Was sufficient ice used (if appropriate)? NA YES NO

How were bottles sealed in plastic bags? Individually Grouped Not

Did all bottles arrive in good condition (unbroken)? YES NO

Were all bottle labels complete and legible? YES NO

Did the number of containers listed on COC match with the number of containers received? YES NO

Did all bottle labels and tags agree with custody papers? YES NO

Were all bottles used correct for the requested analyses? YES NO

Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs) ... NA YES NO

Were all VOC vials free of air bubbles? NA YES NO

Was sufficient amount of sample sent in each bottle? JBW YES NO

Date VOC Trip Blank was made at ARI NA

Were the sample(s) split by ARI? NA YES Date/Time: _____ Equipment: _____ Split by: _____

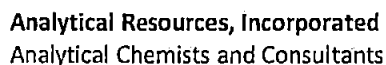
Samples Logged by: JBW Date: 08/08/19 Time: 1730 Labels checked by: JBW

**** Notify Project Manager of discrepancies or concerns ****

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By: _____ Date: _____

[illegible]

Cooler Temperature Compliance Form

Version 000
3/3/09



SLR International Corporation
22118 20th Avenue SE G202
Bothell WA, 98021

Project: Seatac Development Site Seatac
Project Number: Seatac Development Site Seatac
Project Manager: Mike Staton

Reported:
21-Aug-2019 14:34

MW-22-0719
19H0107-01 (Water)

Volatile Organic Compounds

Method: EPA 8260C

Sampled: 08/08/2019 10:39

Instrument: NT2 Analyst: PKC

Analyzed: 08/09/2019 14:05

Sample Preparation:

Preparation Method: EPA 5030 (Purge and Trap)

Extract ID: 19H0107-01 D

Preparation Batch: BHH0252

Sample Size: 10 mL

Prepared: 09-Aug-2019

Final Volume: 10 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Benzene	71-43-2	1	0.03	0.20	1.05	ug/L	
Toluene	108-88-3	1	0.04	0.20	0.33	ug/L	
Ethylbenzene	100-41-4	1	0.04	0.20	61.4	ug/L	
m,p-Xylene	179601-23-1	1	0.05	0.40	76.2	ug/L	
o-Xylene	95-47-6	1	0.03	0.20	0.18	ug/L	J
Xylenes, total	1330-20-7	1	0.09	0.60	76.3	ug/L	
Naphthalene	91-20-3	1	0.12	0.50	60.5	ug/L	
n-Hexane	110-54-3	1	0.10	0.20	0.47	ug/L	
Surrogate: 1,2-Dichloroethane-d4				80-129 %	107	%	
Surrogate: Toluene-d8				80-120 %	100	%	
Surrogate: 4-Bromofluorobenzene				80-120 %	95.7	%	
Surrogate: 1,2-Dichlorobenzene-d4				80-120 %	102	%	



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21-Aug-2019 14:34

MW-22-0719
19H0107-01 (Water)

Volatile Organic Compounds

Method: NWTPHg

Sampled: 08/08/2019 10:39

Instrument: NT2 Analyst: PKC

Analyzed: 08/09/2019 14:05

Sample Preparation:

Preparation Method: EPA 5030 (Purge and Trap)

Extract ID: 19H0107-01 D

Preparation Batch: BHH0252

Sample Size: 10 mL

Prepared: 09-Aug-2019

Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)	GRO	1	100	1940	ug/L	
HC ID: GAS						
Surrogate: Toluene-d8			80-120 %	100	%	
Surrogate: 4-Bromofluorobenzene			80-120 %	96.3	%	



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Reported:
21-Aug-2019 14:34

MW-22-0719
19H0107-01 (Water)

Volatile Organic Compounds - SIM

Method: EPA 8260C-SIM

Sampled: 08/08/2019 10:39

Instrument: NT7 Analyst: PKC

Analyzed: 08/09/2019 20:00

Sample Preparation:

Preparation Method: EPA 5030 (Purge and Trap)

Extract ID: 19H0107-01 E

Preparation Batch: BHH0260

Sample Size: 10 mL

Prepared: 09-Aug-2019

Final Volume: 10 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
1,2-Dibromoethane	106-93-4	1	2.82	10.0	ND	ng/L	U
Surrogate: 1,2-Dichloroethane-d4				80-129 %	94.9	%	
Surrogate: Toluene-d8				80-120 %	106	%	
Surrogate: 4-Bromofluorobenzene				75-125 %	91.1	%	



SLR International Corporation
22118 20th Avenue SE G202
Bothell WA, 98021

Project: Seatac Development Site Seatac
Project Number: Seatac Development Site Seatac
Project Manager: Mike Staton

Reported:
21-Aug-2019 14:34

MW-22-0719
19H0107-01 (Water)

Petroleum Hydrocarbons

Method: NWTPH-Dx

Sampled: 08/08/2019 10:39

Instrument: FID4 Analyst: WMT

Analyzed: 08/13/2019 15:22

Sample Preparation:

Preparation Method: EPA 3510C SepF
Preparation Batch: BHH0250
Prepared: 12-Aug-2019

Sample Size: 500 mL
Final Volume: 1 mL

Extract ID: 19H0107-01 A 01

Sample Cleanup:

Cleanup Method: Silica Gel
Cleanup Batch: CHH0130
Cleaned: 16-Aug-2019

Initial Volume: 1 mL
Final Volume: 1 mL

Extract ID: 19H0107-01 A 01

Sample Cleanup:

Cleanup Method: Sulfuric Acid
Cleanup Batch: CHH0129
Cleaned: 16-Aug-2019

Initial Volume: 1 mL
Final Volume: 1 mL

Extract ID: 19H0107-01 A 01

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	0.100	0.772	mg/L	
HC ID: DRO						
Motor Oil Range Organics (C24-C38)	RRO	1	0.200	ND	mg/L	U
Surrogate: o-Terphenyl			50-150 %	87.4	%	



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Project: Seatac Development Site Seatac
Project Number: Seatac Development Site Seatac
Project Manager: Mike Staton

Reported:
21-Aug-2019 14:34

MW-22-0719
19H0107-01RE1 (Water)

Petroleum Hydrocarbons

Method: NWTPH-Dx
Instrument: FID4 Analyst: WMT

Sampled: 08/08/2019 10:39

Analyzed: 08/16/2019 15:39

Sample Preparation:	Preparation Method: EPA 3510C SepF Preparation Batch: BHH0250 Prepared: 12-Aug-2019	Sample Size: 500 mL Final Volume: 1 mL	Extract ID: 19H0107-01RE1 A 01
Sample Cleanup:	Cleanup Method: Silica Gel Cleanup Batch: CHH0130 Cleaned: 16-Aug-2019	Initial Volume: 1 mL Final Volume: 1 mL	Extract ID: 19H0107-01RE1 A 01
Sample Cleanup:	Cleanup Method: Sulfuric Acid Cleanup Batch: CHH0129 Cleaned: 16-Aug-2019	Initial Volume: 1 mL Final Volume: 1 mL	Extract ID: 19H0107-01RE1 A 01

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	0.100	ND	mg/L	U
Motor Oil Range Organics (C24-C38)	RRO	1	0.200	ND	mg/L	U
Surrogate: o-Terphenyl			50-150 %	80.6	%	



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Project: Seatac Development Site Seatac
Project Number: Seatac Development Site Seatac
Project Manager: Mike Staton

Reported:
21-Aug-2019 14:34

Port-MW-B-0719
19H0107-02 (Water)

Volatile Organic Compounds

Method: EPA 8260C

Sampled: 08/08/2019 11:45

Instrument: NT2 Analyst: PKC

Analyzed: 08/12/2019 13:36

Sample Preparation:

Preparation Method: EPA 5030 (Purge and Trap)

Extract ID: 19H0107-02 E

Preparation Batch: BHH0286

Sample Size: 10 mL

Prepared: 12-Aug-2019

Final Volume: 10 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Benzene	71-43-2	1	0.03	0.20	ND	ug/L	U
Toluene	108-88-3	1	0.04	0.20	ND	ug/L	U
Ethylbenzene	100-41-4	1	0.04	0.20	ND	ug/L	U
m,p-Xylene	179601-23-1	1	0.05	0.40	ND	ug/L	U
o-Xylene	95-47-6	1	0.03	0.20	ND	ug/L	U
Xylenes, total	1330-20-7	1	0.09	0.60	ND	ug/L	U
Naphthalene	91-20-3	1	0.12	0.50	ND	ug/L	U
n-Hexane	110-54-3	1	0.10	0.20	0.11	ug/L	J
Surrogate: 1,2-Dichloroethane-d4				80-129 %	107	%	
Surrogate: Toluene-d8				80-120 %	98.1	%	
Surrogate: 4-Bromofluorobenzene				80-120 %	85.6	%	
Surrogate: 1,2-Dichlorobenzene-d4				80-120 %	101	%	



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Project: Seatac Development Site Seatac
Project Number: Seatac Development Site Seatac
Project Manager: Mike Staton

Reported:
21-Aug-2019 14:34

Port-MW-B-0719
19H0107-02 (Water)

Volatile Organic Compounds

Method: NWTPHg

Sampled: 08/08/2019 11:45

Instrument: NT2 Analyst: PKC

Analyzed: 08/12/2019 13:36

Sample Preparation:

Preparation Method: EPA 5030 (Purge and Trap)

Extract ID: 19H0107-02 E

Preparation Batch: BHH0286

Sample Size: 10 mL

Prepared: 12-Aug-2019

Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)	GRO	1	100	ND	ug/L	U
Surrogate: Toluene-d8			80-120 %	98.1	%	
Surrogate: 4-Bromofluorobenzene			80-120 %	85.6	%	



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Project: Seatac Development Site Seatac
Project Number: Seatac Development Site Seatac
Project Manager: Mike Staton

Reported:
21-Aug-2019 14:34

Port-MW-B-0719

19H0107-02 (Water)

Volatile Organic Compounds - SIM

Method: EPA 8260C-SIM

Sampled: 08/08/2019 11:45

Instrument: NT7 Analyst: PKC

Analyzed: 08/09/2019 20:26

Sample Preparation:

Preparation Method: EPA 5030 (Purge and Trap)

Extract ID: 19H0107-02 G

Preparation Batch: BHH0260

Sample Size: 10 mL

Prepared: 09-Aug-2019

Final Volume: 10 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
1,2-Dibromoethane	106-93-4	1	2.82	10.0	ND	ng/L	U
Surrogate: 1,2-Dichloroethane-d4				80-129 %	92.0	%	
Surrogate: Toluene-d8				80-120 %	93.1	%	
Surrogate: 4-Bromofluorobenzene				75-125 %	90.1	%	



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Project: Seatac Development Site Seatac
Project Number: Seatac Development Site Seatac
Project Manager: Mike Staton

Reported:
21-Aug-2019 14:34

Port-MW-B-0719
19H0107-02 (Water)

Petroleum Hydrocarbons

Method: NWTPH-Dx

Sampled: 08/08/2019 11:45

Instrument: FID4 Analyst: WMT

Analyzed: 08/13/2019 15:44

Sample Preparation:

Preparation Method: EPA 3510C SepF
Preparation Batch: BHH0250
Prepared: 12-Aug-2019

Sample Size: 500 mL
Final Volume: 1 mL

Extract ID: 19H0107-02 A 01

Sample Cleanup:

Cleanup Method: Silica Gel
Cleanup Batch: CHH0130
Cleaned: 16-Aug-2019

Initial Volume: 1 mL
Final Volume: 1 mL

Extract ID: 19H0107-02 A 01

Sample Cleanup:

Cleanup Method: Sulfuric Acid
Cleanup Batch: CHH0129
Cleaned: 16-Aug-2019

Initial Volume: 1 mL
Final Volume: 1 mL

Extract ID: 19H0107-02 A 01

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	0.100	0.139	mg/L	
HC ID: DRO						
Motor Oil Range Organics (C24-C38)	RRO	1	0.200	ND	mg/L	U
Surrogate: o-Terphenyl			50-150 %	91.9	%	



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Project: Seatac Development Site Seatac
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Reported:
21-Aug-2019 14:34

Port-MW-B-0719
19H0107-02RE1 (Water)

Petroleum Hydrocarbons

Method: NWTPH-Dx

Sampled: 08/08/2019 11:45

Instrument: FID4 Analyst: WMT

Analyzed: 08/16/2019 16:01

Sample Preparation:	Preparation Method: EPA 3510C SepF Preparation Batch: BHH0250 Prepared: 12-Aug-2019	Sample Size: 500 mL Final Volume: 1 mL	Extract ID: 19H0107-02RE1 A 01
Sample Cleanup:	Cleanup Method: Silica Gel Cleanup Batch: CHH0130 Cleaned: 16-Aug-2019	Initial Volume: 1 mL Final Volume: 1 mL	Extract ID: 19H0107-02RE1 A 01
Sample Cleanup:	Cleanup Method: Sulfuric Acid Cleanup Batch: CHH0129 Cleaned: 16-Aug-2019	Initial Volume: 1 mL Final Volume: 1 mL	Extract ID: 19H0107-02RE1 A 01

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	0.100	ND	mg/L	U
Motor Oil Range Organics (C24-C38)	RRO	1	0.200	ND	mg/L	U
Surrogate: o-Terphenyl			50-150 %	91.5	%	



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Project: Seatac Development Site Seatac
Project Number: Seatac Development Site Seatac
Project Manager: Mike Staton

Reported:
21-Aug-2019 14:34

Volatile Organic Compounds - Quality Control

Batch BHH0252 - EPA 5030 (Purge and Trap)

Instrument: NT2 Analyst: PKC

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BHH0252-BLK1) Prepared: 09-Aug-2019 Analyzed: 09-Aug-2019 11:58										
Gasoline Range Organics (Tol-Nap)	ND	100	ug/L							U
Surrogate: Toluene-d8	4.79		ug/L	5.00		95.9	80-120			
Surrogate: 4-Bromofluorobenzene	4.24		ug/L	5.00		84.7	80-120			
Blank (BHH0252-BLK2) Prepared: 09-Aug-2019 Analyzed: 09-Aug-2019 11:58										
Benzene	ND	0.03	0.20	ug/L						U
Toluene	ND	0.04	0.20	ug/L						U
Ethylbenzene	ND	0.04	0.20	ug/L						U
m,p-Xylene	ND	0.05	0.40	ug/L						U
o-Xylene	ND	0.03	0.20	ug/L						U
Xylenes, total	ND	0.09	0.60	ug/L						U
Naphthalene	ND	0.12	0.50	ug/L						U
n-Hexane	0.10	0.10	0.20	ug/L						J
Surrogate: 1,2-Dichloroethane-d4	5.50		ug/L	5.00		110	80-129			
Surrogate: Toluene-d8	4.79		ug/L	5.00		95.9	80-120			
Surrogate: 4-Bromofluorobenzene	4.30		ug/L	5.00		86.1	80-120			
Surrogate: 1,2-Dichlorobenzene-d4	5.06		ug/L	5.00		101	80-120			
LCS (BHH0252-BS1) Prepared: 09-Aug-2019 Analyzed: 09-Aug-2019 10:09										
Gasoline Range Organics (Tol-Nap)	1000	100	ug/L	1000		100	72-128			
Surrogate: Toluene-d8	4.93		ug/L	5.00		98.7	80-120			
Surrogate: 4-Bromofluorobenzene	4.79		ug/L	5.00		95.8	80-120			
LCS (BHH0252-BS2) Prepared: 09-Aug-2019 Analyzed: 09-Aug-2019 10:50										
Benzene	9.63	0.03	0.20	ug/L	10.0	96.3	80-120			
Toluene	9.13	0.04	0.20	ug/L	10.0	91.3	80-120			
Ethylbenzene	9.61	0.04	0.20	ug/L	10.0	96.1	80-120			
m,p-Xylene	19.8	0.05	0.40	ug/L	20.0	99.1	80-121			
o-Xylene	10.1	0.03	0.20	ug/L	10.0	101	80-121			
Xylenes, total	29.9	0.09	0.60	ug/L	30.0	99.6	76-127			
Naphthalene	8.71	0.12	0.50	ug/L	10.0	87.1	50-134			
n-Hexane	11.1	0.10	0.20	ug/L	10.0	111	70-130			
Surrogate: 1,2-Dichloroethane-d4	5.04		ug/L	5.00		101	80-129			
Surrogate: Toluene-d8	5.00		ug/L	5.00		100	80-120			



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Bothell WA, 98021

Project: Seatac Development Site Seatac
Project Number: Seatac Development Site Seatac
Project Manager: Mike Staton

Reported:
21-Aug-2019 14:34

Volatile Organic Compounds - Quality Control

Batch BHH0252 - EPA 5030 (Purge and Trap)

Instrument: NT2 Analyst: PKC

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS (BHH0252-BS2) Prepared: 09-Aug-2019 Analyzed: 09-Aug-2019 10:50											
Surrogate: 4-Bromofluorobenzene	4.85			ug/L	5.00		96.9	80-120			
Surrogate: 1,2-Dichlorobenzene-d4	5.00			ug/L	5.00		100	80-120			
LCS Dup (BHH0252-BSD1) Prepared: 09-Aug-2019 Analyzed: 09-Aug-2019 10:29											
Gasoline Range Organics (Tol-Nap)	1060		100	ug/L	1000		106	72-128	5.54	30	
Surrogate: Toluene-d8	5.00			ug/L	5.00		99.9	80-120			
Surrogate: 4-Bromofluorobenzene	4.80			ug/L	5.00		95.9	80-120			
LCS Dup (BHH0252-BSD2) Prepared: 09-Aug-2019 Analyzed: 09-Aug-2019 11:11											
Benzene	9.93	0.03	0.20	ug/L	10.0		99.3	80-120	3.04	30	
Toluene	9.46	0.04	0.20	ug/L	10.0		94.6	80-120	3.58	30	
Ethylbenzene	9.94	0.04	0.20	ug/L	10.0		99.4	80-120	3.38	30	
m,p-Xylene	20.4	0.05	0.40	ug/L	20.0		102	80-121	3.07	30	
o-Xylene	10.4	0.03	0.20	ug/L	10.0		104	80-121	3.32	30	
Xylenes, total	30.8	0.09	0.60	ug/L	30.0		103	76-127	3.16	30	
Naphthalene	9.59	0.12	0.50	ug/L	10.0		95.9	50-134	9.55	30	
n-Hexane	10.8	0.10	0.20	ug/L	10.0		108	70-130	2.11	30	
Surrogate: 1,2-Dichloroethane-d4	4.79			ug/L	5.00		95.9	80-129			
Surrogate: Toluene-d8	4.92			ug/L	5.00		98.5	80-120			
Surrogate: 4-Bromofluorobenzene	4.80			ug/L	5.00		96.1	80-120			
Surrogate: 1,2-Dichlorobenzene-d4	4.98			ug/L	5.00		99.5	80-120			



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Project: Seatac Development Site Seatac
Project Number: Seatac Development Site Seatac
Project Manager: Mike Staton

Reported:
21-Aug-2019 14:34

Volatile Organic Compounds - Quality Control

Batch BHH0286 - EPA 5030 (Purge and Trap)

Instrument: NT2 Analyst: PKC

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BHH0286-BLK1) Prepared: 12-Aug-2019 Analyzed: 12-Aug-2019 12:20										
Gasoline Range Organics (Tol-Nap)	ND	100	ug/L							U
Surrogate: Toluene-d8	4.59		ug/L	5.00		91.9	80-120			
Surrogate: 4-Bromofluorobenzene	4.41		ug/L	5.00		88.1	80-120			
Blank (BHH0286-BLK2) Prepared: 12-Aug-2019 Analyzed: 12-Aug-2019 12:20										
Benzene	ND	0.03	0.20	ug/L						U
Toluene	ND	0.04	0.20	ug/L						U
Ethylbenzene	ND	0.04	0.20	ug/L						U
m,p-Xylene	0.06	0.05	0.40	ug/L						J
o-Xylene	ND	0.03	0.20	ug/L						U
Xylenes, total	ND	0.09	0.60	ug/L						U
Naphthalene	0.14	0.12	0.50	ug/L						J
n-Hexane	0.11	0.10	0.20	ug/L						J
Surrogate: 1,2-Dichloroethane-d4	5.19		ug/L	5.00		104	80-129			
Surrogate: Toluene-d8	4.59		ug/L	5.00		91.9	80-120			
Surrogate: 4-Bromofluorobenzene	4.41		ug/L	5.00		88.1	80-120			
Surrogate: 1,2-Dichlorobenzene-d4	5.06		ug/L	5.00		101	80-120			
LCS (BHH0286-BS1) Prepared: 12-Aug-2019 Analyzed: 12-Aug-2019 09:55										
Gasoline Range Organics (Tol-Nap)	875	100	ug/L	1000		87.5	72-128			
Surrogate: Toluene-d8	5.08		ug/L	5.00		102	80-120			
Surrogate: 4-Bromofluorobenzene	4.92		ug/L	5.00		98.4	80-120			
LCS (BHH0286-BS2) Prepared: 12-Aug-2019 Analyzed: 12-Aug-2019 10:58										
Benzene	9.92	0.03	0.20	ug/L	10.0	99.2	80-120			
Toluene	8.90	0.04	0.20	ug/L	10.0	89.0	80-120			
Ethylbenzene	9.23	0.04	0.20	ug/L	10.0	92.3	80-120			
m,p-Xylene	20.1	0.05	0.40	ug/L	20.0	100	80-121			
o-Xylene	11.5	0.03	0.20	ug/L	10.0	115	80-121			
Xylenes, total	31.6	0.09	0.60	ug/L	30.0	105	76-127			
Naphthalene	10.5	0.12	0.50	ug/L	10.0	105	50-134			
n-Hexane	10.1	0.10	0.20	ug/L	10.0	101	70-130			
Surrogate: 1,2-Dichloroethane-d4	4.70		ug/L	5.00		93.9	80-129			
Surrogate: Toluene-d8	4.74		ug/L	5.00		94.7	80-120			



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22118 20th Avenue SE G202
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Project: Seatac Development Site Seatac
Project Number: Seatac Development Site Seatac
Project Manager: Mike Staton

Reported:
21-Aug-2019 14:34

Volatile Organic Compounds - Quality Control

Batch BHH0286 - EPA 5030 (Purge and Trap)

Instrument: NT2 Analyst: PKC

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS (BHH0286-BS2)					Prepared: 12-Aug-2019 Analyzed: 12-Aug-2019 10:58						
Surrogate: 4-Bromofluorobenzene	5.61			ug/L	5.00		112	80-120			
Surrogate: 1,2-Dichlorobenzene-d4	5.13			ug/L	5.00		103	80-120			
LCS Dup (BHH0286-BSD1)					Prepared: 12-Aug-2019 Analyzed: 12-Aug-2019 10:16						
Gasoline Range Organics (Tol-Nap)	907		100	ug/L	1000		90.7	72-128	3.67	30	
Surrogate: Toluene-d8	4.79			ug/L	5.00		95.7	80-120			
Surrogate: 4-Bromofluorobenzene	4.90			ug/L	5.00		97.9	80-120			
LCS Dup (BHH0286-BSD2)					Prepared: 12-Aug-2019 Analyzed: 12-Aug-2019 11:38						
Benzene	9.81	0.03	0.20	ug/L	10.0		98.1	80-120	1.03	30	
Toluene	8.52	0.04	0.20	ug/L	10.0		85.2	80-120	4.41	30	
Ethylbenzene	9.61	0.04	0.20	ug/L	10.0		96.1	80-120	4.09	30	
m,p-Xylene	19.9	0.05	0.40	ug/L	20.0		99.3	80-121	1.03	30	
o-Xylene	10.4	0.03	0.20	ug/L	10.0		104	80-121	9.86	30	
Xylenes, total	30.3	0.09	0.60	ug/L	30.0		101	76-127	4.17	30	
Naphthalene	8.25	0.12	0.50	ug/L	10.0		82.5	50-134	23.80	30	
n-Hexane	10.6	0.10	0.20	ug/L	10.0		106	70-130	5.09	30	
Surrogate: 1,2-Dichloroethane-d4	4.54			ug/L	5.00		90.8	80-129			
Surrogate: Toluene-d8	4.70			ug/L	5.00		94.1	80-120			
Surrogate: 4-Bromofluorobenzene	5.08			ug/L	5.00		102	80-120			
Surrogate: 1,2-Dichlorobenzene-d4	4.80			ug/L	5.00		95.9	80-120			



SLR International Corporation
22118 20th Avenue SE G202
Bothell WA, 98021

Project: Seatac Development Site Seatac
Project Number: Seatac Development Site Seatac
Project Manager: Mike Staton

Reported:
21-Aug-2019 14:34

Volatile Organic Compounds - SIM - Quality Control

Batch BHH0260 - EPA 5030 (Purge and Trap)

Instrument: NT7 Analyst: PKC

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BHH0260-BLK1)						Prepared: 09-Aug-2019 Analyzed: 09-Aug-2019 14:30					
1,2-Dibromoethane	ND	2.82	10.0	ng/L							U
Surrogate: 1,2-Dichloroethane-d4	5980			ng/L	5000		120	80-129			
Surrogate: Toluene-d8	4720			ng/L	5000		94.5	80-120			
Surrogate: 4-Bromofluorobenzene	4500			ng/L	5000		90.0	75-125			
LCS (BHH0260-BS1)						Prepared: 09-Aug-2019 Analyzed: 09-Aug-2019 13:39					
1,2-Dibromoethane	1890	2.82	10.0	ng/L	2000		94.5	80-120			
Surrogate: 1,2-Dichloroethane-d4	5490			ng/L	5000		110	80-129			
Surrogate: Toluene-d8	5340			ng/L	5000		107	80-120			
Surrogate: 4-Bromofluorobenzene	5160			ng/L	5000		103	75-125			
LCS Dup (BHH0260-BSD1)						Prepared: 09-Aug-2019 Analyzed: 09-Aug-2019 14:05					
1,2-Dibromoethane	1820	2.82	10.0	ng/L	2000		91.1	80-120	3.75	30	
Surrogate: 1,2-Dichloroethane-d4	5570			ng/L	5000		111	80-129			
Surrogate: Toluene-d8	5340			ng/L	5000		107	80-120			
Surrogate: 4-Bromofluorobenzene	5200			ng/L	5000		104	75-125			



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Petroleum Hydrocarbons - Quality Control

Batch BHH0250 - EPA 3510C SepF

Instrument: FID4 Analyst: WMT

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BHH0250-BLK1)		Prepared: 12-Aug-2019 Analyzed: 13-Aug-2019 14:17								
Diesel Range Organics (C12-C24)	ND	0.100	mg/L							U
Motor Oil Range Organics (C24-C38)	ND	0.200	mg/L							U
Surrogate: o-Terphenyl	0.188		mg/L	0.225		83.6	50-150			
LCS (BHH0250-BS1)		Prepared: 12-Aug-2019 Analyzed: 13-Aug-2019 14:39								
Diesel Range Organics (C12-C24)	2.59	0.100	mg/L	3.00		86.4	56-120			
Surrogate: o-Terphenyl	0.198		mg/L	0.225		87.8	50-150			



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Certified Analyses included in this Report

Analyte	Certifications
EPA 8260C in Water	
Chloromethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Vinyl Chloride	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Bromomethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Chloroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Trichlorofluoromethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Acrolein	DoD-ELAP,NELAP,CALAP,WADOE
1,1,2-Trichloro-1,2,2-Trifluoroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Acetone	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,1-Dichloroethene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Bromoethane	DoD-ELAP,NELAP,CALAP,WADOE
Iodomethane	DoD-ELAP,NELAP,CALAP,WADOE
Methylene Chloride	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Acrylonitrile	DoD-ELAP,NELAP,CALAP,WADOE
Carbon Disulfide	DoD-ELAP,NELAP,CALAP,WADOE
trans-1,2-Dichloroethene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Vinyl Acetate	DoD-ELAP,NELAP,CALAP,WADOE
1,1-Dichloroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
2-Butanone	DoD-ELAP,NELAP,CALAP,WADOE
2,2-Dichloropropane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
cis-1,2-Dichloroethene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Chloroform	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Bromochloromethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,1,1-Trichloroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,1-Dichloropropene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Carbon tetrachloride	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,2-Dichloroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Benzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Trichloroethene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,2-Dichloropropane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Bromodichloromethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Dibromomethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
2-Chloroethyl vinyl ether	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
4-Methyl-2-Pentanone	DoD-ELAP,NELAP,CALAP,WADOE
cis-1,3-Dichloropropene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Toluene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE



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trans-1,3-Dichloropropene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
2-Hexanone	DoD-ELAP,NELAP,CALAP,WADOE
1,1,2-Trichloroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,3-Dichloropropane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Tetrachloroethene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Dibromochloromethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,2-Dibromoethane	DoD-ELAP,NELAP,CALAP,WADOE
Chlorobenzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Ethylbenzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,1,1,2-Tetrachloroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
m,p-Xylene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
o-Xylene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Styrene	DoD-ELAP,NELAP,CALAP,WADOE
Bromoform	DoD-ELAP,NELAP,CALAP,WADOE
1,1,2,2-Tetrachloroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,2,3-Trichloropropane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
trans-1,4-Dichloro 2-Butene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
n-Propylbenzene	DoD-ELAP,NELAP,CALAP,WADOE
Bromobenzene	DoD-ELAP,NELAP,CALAP,WADOE
Isopropyl Benzene	DoD-ELAP,NELAP,CALAP,WADOE
2-Chlorotoluene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
4-Chlorotoluene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
t-Butylbenzene	DoD-ELAP,NELAP,CALAP,WADOE
1,3,5-Trimethylbenzene	DoD-ELAP,NELAP,CALAP,WADOE
1,2,4-Trimethylbenzene	DoD-ELAP,NELAP,CALAP,WADOE
s-Butylbenzene	DoD-ELAP,NELAP,CALAP,WADOE
4-Isopropyl Toluene	DoD-ELAP,NELAP,CALAP,WADOE
1,3-Dichlorobenzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,4-Dichlorobenzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
n-Butylbenzene	DoD-ELAP,NELAP,CALAP,WADOE
1,2-Dichlorobenzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,2-Dibromo-3-chloropropane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,2,4-Trichlorobenzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Hexachloro-1,3-Butadiene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Naphthalene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,2,3-Trichlorobenzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Dichlorodifluoromethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Methyl tert-butyl Ether	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
n-Hexane	WADOE
2-Pentanone	WADOE



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EPA 8260C-SIM in Water

Acrylonitrile	NELAP,CALAP,WADOE
Vinyl chloride	NELAP,CALAP,WADOE
1,1-Dichloroethene	NELAP,CALAP,WADOE
cis-1,2-Dichloroethene	NELAP,CALAP,WADOE
trans-1,2-Dichloroethene	NELAP,CALAP,WADOE
Trichloroethene	NELAP,CALAP,WADOE
Tetrachloroethene	NELAP,CALAP,WADOE
1,1,2,2-Tetrachloroethane	NELAP,CALAP,WADOE
1,2-Dichloroethane	NELAP,CALAP,WADOE
Benzene	NELAP,CALAP,WADOE

NWTPH-Dx in Water

Diesel Range Organics (C12-C24)	DoD-ELAP,NELAP,WADOE
Diesel Range Organics (C10-C25)	DoD-ELAP,NELAP,WADOE
Diesel Range Organics (Tol-C18)	DoD-ELAP,NELAP,WADOE
Diesel Range Organics (C10-C24)	DoD-ELAP,NELAP,WADOE
Diesel Range Organics (C10-C28)	DoD-ELAP,NELAP,WADOE
Diesel Range Organics (C12-C22)	DoD-ELAP
Diesel Range Organics (C12-C25)	DoD-ELAP
Motor Oil Range Organics (C24-C38)	DoD-ELAP,NELAP,WADOE
Motor Oil Range Organics (C25-C36)	DoD-ELAP,NELAP,WADOE
Motor Oil Range Organics (C24-C40)	DoD-ELAP,NELAP,WADOE
Residual Range Organics (C23-C32)	DoD-ELAP
Mineral Spirits Range Organics (Tol-C12)	DoD-ELAP,NELAP,WADOE
Mineral Oil Range Organics (C16-C28)	DoD-ELAP,NELAP,WADOE
Kerosene Range Organics (Tol-C18)	DoD-ELAP,NELAP,WADOE
JP8 Range Organics (C8-C18)	DoD-ELAP,NELAP,WADOE
JP5 Range Organics (C10-C16)	DoD-ELAP,NELAP,WADOE
JP4 Range Organics (Tol-C14)	DoD-ELAP,NELAP,WADOE
Jet-A Range Organics (C10-C18)	DoD-ELAP,NELAP,WADOE
Creosote Range Organics (C12-C22)	DoD-ELAP,NELAP,WADOE
Bunker C Range Organics (C10-C38)	DoD-ELAP,NELAP,WADOE
Stoddard Range Organics (C8-C12)	DoD-ELAP,NELAP,WADOE
Transformer Oil Range Organics (C12-C28)	DoD-ELAP,NELAP,WADOE

NWTPHg in Water

Gasoline Range Organics (Tol-Nap)	WADOE,DoD-ELAP
Gasoline Range Organics (2MP-TMB)	WADOE,DoD-ELAP
Gasoline Range Organics (Tol-C12)	WADOE,DoD-ELAP
Gasoline Range Organics (C6-C10)	WADOE,ADEC,DoD-ELAP



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Gasoline Range Organics (C5-C12)

WADOE, DoD-ELAP

Code	Description	Number	Expires
ADEC	Alaska Dept of Environmental Conservation	17-015	01/31/2021
CALAP	California Department of Public Health CAELAP	2748	06/30/2019
DoD-ELAP	DoD-Environmental Laboratory Accreditation Program	66169	01/01/2021
NELAP	ORELAP - Oregon Laboratory Accreditation Program	WA100006-012	05/12/2020
WADOE	WA Dept of Ecology	C558	06/30/2019
WA-DW	Ecology - Drinking Water	C558	06/30/2019



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Notes and Definitions

- * Flagged value is not within established control limits.
- D The reported value is from a dilution
- E The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL)
- J Estimated concentration value detected below the reporting limit.
- Q Indicates a detected analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20% RSD, <20% drift or minimum RRF)
- U This analyte is not detected above the reporting limit (RL) or if noted, not detected above the limit of detection (LOD).
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- [2C] Indicates this result was quantified on the second column on a dual column analysis.

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