



CONFIRMATIONAL GROUNDWATER MONITORING REPORT

January 2024 Sampling Event

**SeaTac Development Site (MasterPark Lot C Property)
SeaTac, Washington**

March 28, 2024

Prepared for

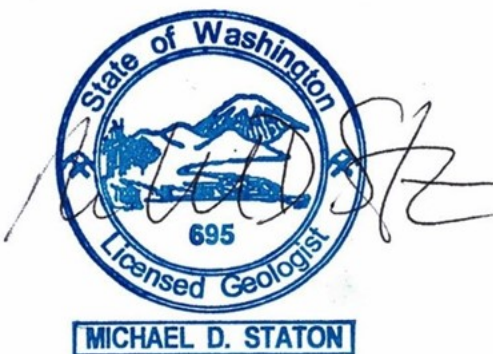
**SeaTac Investments, LLC
Scarsella Bros., Inc.**

Confirmational Groundwater Monitoring Report January 2024 Sampling Event SeaTac Development Site SeaTac, Washington

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LIST OF ABBREVIATIONS AND ACRONYMS

µg/L	micrograms per liter
Apex	Apex Laboratories, LLC
ASTM	ASTM International
BTEX	benzene, toluene, ethylbenzene, and xylenes
CMP	compliance monitoring plan
COC	contaminant of concern
DO	dissolved oxygen
Ecology	Washington State Department of Ecology
EDB	1,2-dibromoethane
EPA	US Environmental Protection Agency
ft	feet, foot
Golder	Golder Associates, Inc.
GRO	gasoline-range organics
IAS/SVE	<i>in situ</i> air sparging and soil vapor extraction
Landau	Landau Associates, Inc.
mg/L	milligrams per liter
MNA	monitored natural attenuation
MSL	mean sea level
MTCA	Model Toxics Control Act
ORP	oxidation reduction potential
Site	SeaTac Development Site (MasterPark Lot C Property)
SLR	SLR International Corporation
subject property	16025 International Boulevard, SeaTac, Washington

1.0 INTRODUCTION

On January 17 and 23, 2024, Landau Associates, Inc. (Landau) conducted quarterly confirmational groundwater monitoring at the SeaTac Development Site (Site), which is primarily located at 16025 International Boulevard in SeaTac, Washington (subject property). The location of the subject property, which is occupied by the MasterPark Lot C parking lot, is shown on Figure 1.

An *in situ* air sparging and soil vapor extraction (IAS/SVE) system was operated at the Site by Golder Associates, Inc. (Golder) from approximately May to July 2013, and December 2013 through July 2017 to remediate petroleum hydrocarbon-impacted groundwater. After the IAS/SVE system was deactivated in July 2017, performance groundwater monitoring was conducted on a semiannual basis from November 2017 through July 2019 to monitor changes in the petroleum hydrocarbon concentrations over time. The results of the performance groundwater monitoring showed that petroleum hydrocarbon concentrations in the groundwater beneath the northern and northwestern parts of the subject property remained above the Model Toxics Control Act (MTCA) Method A cleanup levels by July 2019 (SLR International Corporation [SLR] 2019). To reduce the remaining petroleum hydrocarbon concentrations in groundwater, SLR reactivated the IAS/SVE system on September 5, 2019. The system was operated through July 15, 2020, when it was deactivated prior to the July 2020 performance groundwater monitoring event. Based on the results of the January and July 2020 performance groundwater monitoring events (SLR 2020a, b), it appeared that the IAS/SVE system had effectively reduced the petroleum hydrocarbon concentrations in the groundwater beneath the subject property to levels that should naturally attenuate to below cleanup levels within a reasonable time frame. It was also determined that the system performance had reached asymptotic conditions. Therefore, the IAS/SVE system was not reactivated after the July 2020 performance groundwater monitoring event and has not been active at the Site since July 2020. Because the system will not be used in the future, Landau requested that it be decommissioned in a letter dated December 6, 2023 (Landau 2023b). The Washington State Department of Ecology (Ecology) approved the request in its letter dated January 30, 2024 (Ecology 2024). System decommissioning is planned for Spring 2024.

In accordance with the Compliance Monitoring Plan (CMP; Golder 2011) for the Site, the confirmational groundwater monitoring program has been conducted to evaluate the potential rebound of contaminant concentrations after the deactivation of the IAS/SVE system, and, if there is minimal rebound, to demonstrate that the contaminant concentrations have been reduced to below the cleanup levels or to concentrations that will naturally attenuate to below the cleanup levels within a reasonable time frame. Quarterly confirmational groundwater monitoring events were conducted in October 2020, January 2021, April 2021, and July 2021. The groundwater sample analytical results showed some localized rebound of the gasoline-range organics (GRO) concentrations at monitoring wells MW-07, MW-12, and MW-22; however, the GRO concentrations were not at levels that justified reactivation of the IAS/SVE system (SLR 2020d, 2021a, b, c).

Semiannual confirmational groundwater monitoring was conducted in January and July 2022 in accordance with the CMP for the Site, as well as with the modifications to the confirmational groundwater monitoring program (SLR 2020c) that were approved by Ecology (2020). The groundwater

sample analytical results from January 2022 showed that the sample from well MW-07 contained a GRO concentration that exceeded the MTCA Method A cleanup level. The groundwater samples from the other sampled wells did not contain analyte concentrations greater than the Method A or Method B cleanup levels (SLR 2022a). In July 2022, none of the groundwater samples contained analyte concentrations greater than the MTCA Method A or Method B cleanup levels (SLR 2022b). Because there were no groundwater contaminant of concern (COC) concentrations greater than the Site cleanup levels, SLR verbally requested to Ecology that the confirmational groundwater monitoring proceed on a quarterly basis and that the July 2022 sampling event be considered the first quarterly sampling event, with subsequent sampling events to be conducted in October 2022, January 2023, and April 2023. To support that request, SLR formally requested modifications to the confirmational groundwater monitoring program (Staton 2022). On October 10, 2022, Ecology agreed with the requested changes to the confirmational groundwater monitoring program as long as the groundwater COC concentrations remain below the Site cleanup levels (Atkins 2022).

The groundwater sample analytical results from the October 2022 and January 2023 quarterly monitoring events showed that none of the samples contained analyte concentrations greater than the Site cleanup levels (SLR 2023a, b). The groundwater sample analytical results from the April 2023 quarterly monitoring event showed that samples collected from only one location, MW-12, contained analyte concentrations greater than Site cleanup levels (SLR 2023c). The sample from MW-12 contained a benzene concentration (7.02 micrograms per liter [$\mu\text{g/L}$]) that exceeded the cleanup level; a duplicate sample collected from MW-12 contained a GRO concentration (0.90 milligrams [mg/L]) and a benzene concentration (8.04 $\mu\text{g/L}$) that exceeded the cleanup levels. Because the four quarterly confirmational sampling event results showed that the contaminant concentrations have been reduced to below the cleanup levels or, at one localized area, to concentrations that will naturally attenuate to below the cleanup levels within a reasonable time frame, Landau formally requested Ecology's approval to discontinue the groundwater monitoring program at the Site to conclude the confirmational groundwater monitoring phase and proceed with Site closure (Landau 2023c). The request letter also emphasized that there is already a restrictive covenant in place for the subject property that states that "No groundwater may be taken for any use from the property excepting for purposes required by possible remedial actions." Ecology agreed to review the request but asked that the July 2023 quarterly confirmational groundwater monitoring event be conducted in the meantime. The results of the July 2023 monitoring event showed that the GRO concentration (an estimated value of 1.05 mg/L) at MW-12 exceeded the cleanup level. Based on these results, Ecology requested quarterly monitoring be conducted at MW-12 only, for 1 year, to evaluate if rebound is occurring at this location (Ecology 2023).

Quarterly monitoring resumed in October 2023 and sampling was conducted at MW-12. The sample analytical results showed that the sample from MW-12 contained a benzene concentration that was below the MTCA Method A cleanup level. The other analytes were not detected at concentrations above the laboratory's method reporting limits (Landau 2023a). In January 2024, Ecology requested that monitored natural attenuation (MNA) sampling and analysis be added to the quarterly groundwater monitoring program over four quarters (Ecology 2024).

Quarterly confirmational monitoring was completed in January 2024 at MW-12, and MNA sampling was completed at wells MW-07, MW-12, MW-17A, and MW-19 as proposed in Landau’s letter dated December 6, 2023 (Landau 2023b), and accepted by Ecology (Ecology 2024). The results of the January 2024 monitoring event are reported in the following sections.

2.0 JANUARY 2024 GROUNDWATER MONITORING EVENT

On January 17 and 23, 2024, Landau personnel collected groundwater samples from monitoring wells MW-07, MW-12, MW-17A, and MW-19. The location of each well is shown on Figure 2.

Prior to collecting the groundwater sample, Landau personnel measured the depths to groundwater in the Site monitoring wells (with the exception of those located within South 160th Street due to access restrictions) by using an electronic water level meter. On January 17, 2024, it was determined that a longer water level meter was needed to measure the depths to groundwater in monitoring wells MW-20 and MW-21; measurements at these wells were recorded on January 23, 2024. During sample collection, Landau used the existing dedicated submersible bladder pumping system located in the wells to purge approximately 1 to 2 gallons of water from the wells. Due to freezing weather, the well plug in MW-12 was observed to have been dislodged; therefore, Landau pumped approximately 3 gallons of water from the well prior to purging to ensure any stormwater that recently entered the well had been removed prior to collecting the sample. The pH, specific conductance, temperature, oxidation reduction potential (ORP), dissolved oxygen (DO), and turbidity of the extracted water were measured approximately every 3 minutes. A 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 Tables 1 and 2. The groundwater samples were collected in the appropriate sample containers provided by Apex Laboratories, LLC (Apex) of Tigard, Oregon. Landau documented the groundwater purging and sampling activities on Low-Flow Groundwater Sampling Field Data Sheets, which are presented in Appendix A.

In accordance with the CMP and the modifications to the confirmational groundwater monitoring program, the groundwater sample from MW-12 was submitted to Apex for analysis of the groundwater COCs for the Site (benzene, toluene, ethylbenzene, total xylenes [BTEX], naphthalene, and n-hexane by US Environmental Protection Agency [EPA] Method 8260D; 1,2-dibromoethane [EDB] by EPA Method 8260D selected ion monitoring; and GRO by Ecology Method NWTPH-Gx). Based on the MNA analytical parameters proposed in Landau's letter dated December 6, 2023, the groundwater samples from MW-07, MW-12, MW-17A, and MW-19 were analyzed for nitrate, nitrite, and sulfate by EPA Method 300.0; ammonia as nitrogen by ASTM International (ASTM) Method SM4500-NH3 G; and total organic carbon by ASTM Method 5310C (Landau 2023b). The groundwater monitoring event occurred prior to Ecology's request to add well MW-16 to the MNA monitoring as well as manganese, methane, and alkalinity to the MNA analytical parameters (Ecology 2024).

Due to severe winter weather conditions in the Portland, Oregon area, shipment of the cooler containing the original samples collected on January 17, 2024, was delayed and groundwater samples for nitrate by EPA Method 300.0 were received after the method-recommended hold time had expired. The wells were re-sampled for the EPA Method 300.0 constituents (nitrate, nitrite, and sulfate) only on January 23, 2024.

The sampling purge water is stored in a properly labeled 55-gallon drum at the subject property. The water will be transported to a licensed facility for off-site treatment and disposal.

2.1 Groundwater Monitoring Results

On January 17 and 23, 2024, the depths to groundwater in the monitoring wells ranged from 46.75 to 107.72 feet (ft) below the top of each well casing. The groundwater elevations in the wells ranged from 308.54 to 313.47 ft above mean sea level (MSL). The depth to groundwater measurements and groundwater elevations in the monitoring wells on January 17 and 23, 2024, are presented in Table 3.

Based on the groundwater elevations on January 17 and 23, 2024, the general groundwater flow direction beneath the subject property area was primarily to the west and west-southwest. Due to anomalous depth to groundwater measurements, the groundwater elevation in wells MW-1 and MW-14 were not used to evaluate the groundwater flow direction. MW-1 is screened less than 3 ft below the high seasonal groundwater table and is frequently dry. The groundwater elevation in MW-10 was also not used to evaluate the groundwater flow direction because the top of the well screen was more than 30 ft below the groundwater table. A groundwater elevation contour map of the data collected on January 17 and 23, 2024, is presented on Figure 3.

2.2 Groundwater Sample Analytical Results

The groundwater sample analytical results showed that the sample from MW-12 contained a GRO concentration (0.5 mg/L) and a benzene concentration (0.52 µg/L) that were below the MTCA Method A cleanup levels (0.8 mg/L and 5.0 µg/L, respectively). The other analytes were not detected at concentrations above the MTCA Method A or Method B cleanup levels. A Method B cleanup level was only used if a Method A cleanup level was not available for an analyte.

Geochemical conditions for the aquifer beneath the northern part of the Site were characterized using field readings for DO, ORP, and ferrous iron, as well as the groundwater sample analytical results for the MNA parameters. The redox conditions at the Site were determined using a weight of evidence approach to evaluate the DO, ORP, nitrate, nitrite, ferrous iron, and sulfate data. When oxygen is depleted (definition of anaerobic conditions), microorganisms preferentially use less-oxidized natural electron acceptors in the following order: nitrate, manganese (IV), iron (III), sulfate, and carbon dioxide. Anaerobic conditions can range from mildly reducing (nitrate-reducing) to highly reducing (sulfate-reducing to carbon dioxide-reducing [methanogenic] conditions). The redox conditions at the Site in January 2024 were generally as follows:

- MW-07 (previously impacted well): anaerobic (iron to sulfate-reducing)
- MW-12 (remaining impacted well): a mix of aerobic and anaerobic conditions
- MW-17A (hydraulically downgradient well): aerobic
- MW-19 (hydraulically upgradient well): aerobic.

Based on this evaluation, the groundwater redox conditions beneath the northern part of the Site include both aerobic and anaerobic conditions.

The January 2024 groundwater sample analytical results are presented in Tables 1 and 2, and the GRO and benzene concentrations are also presented on Figure 2. The groundwater sample analytical results

(COCs only) from the January 2024 monitoring event, as well as from the previous groundwater monitoring events (groundwater COCs only), are presented in data tables and on trend plots in Appendix B. The laboratory report from the January 2024 sampling event is included in Appendix C.

3.0 DATA QUALITY ASSURANCE AND VALIDATION

Based on the results of a data validation review, the groundwater sample analytical data were acceptable without data qualifications.

Landau collected an equipment blank sample, and a trip blank sample was provided by the laboratory. Both samples were analyzed for BTEX and GRO. The analytical results showed that the equipment blank and trip blank samples did not contain any analyte concentrations greater than the method detection limits, indicating detected concentrations in the samples were not affected by potential field contamination.

4.0 CONCLUSIONS

On January 17 and 23, 2023, Landau conducted a quarterly confirmational groundwater monitoring event at the SeaTac Development Site. The objectives of the confirmational groundwater monitoring program are to evaluate the potential rebound of contaminant concentrations after the deactivation of the IAS/SVE system in July 2020, and evaluate if natural attenuation of the remaining petroleum hydrocarbon concentrations is occurring.

The groundwater sample analytical results from the seven quarterly confirmational monitoring events since July 2022 indicate localized, seasonal rebound of the GRO and benzene concentrations beneath the northwestern corner of the subject property; however, the previous IAS/SVE operations and natural attenuation have reduced the volatile petroleum hydrocarbon concentrations at the Site to below the cleanup levels or to levels that should naturally attenuate to below the cleanup levels within a reasonable time frame. The anaerobic conditions to mix of aerobic and anaerobic conditions at the formerly impacted and currently impacted wells, respectively, show that natural biodegradation of the remaining contamination is occurring. The presence of aerobic conditions at the hydraulically upgradient and downgradient wells further demonstrate that bacteria are using oxygen within the area of remaining contamination.

In accordance with Ecology’s request (Ecology 2024), quarterly sampling at MW-12 for the COCs and at MW-07, MW-12, MW-17A, and MW-19 for MNA analysis will continue through at least July 2024 to further evaluate if contaminant rebound is occurring at the MW-12 area and to monitor the natural attenuation of the remaining concentrations. Starting in April 2024, one additional well (MW-16) will be added to the MNA sampling and three additional MNA constituents (soluble manganese, methane, and alkalinity) will be included.

5.0 USE OF THIS REPORT

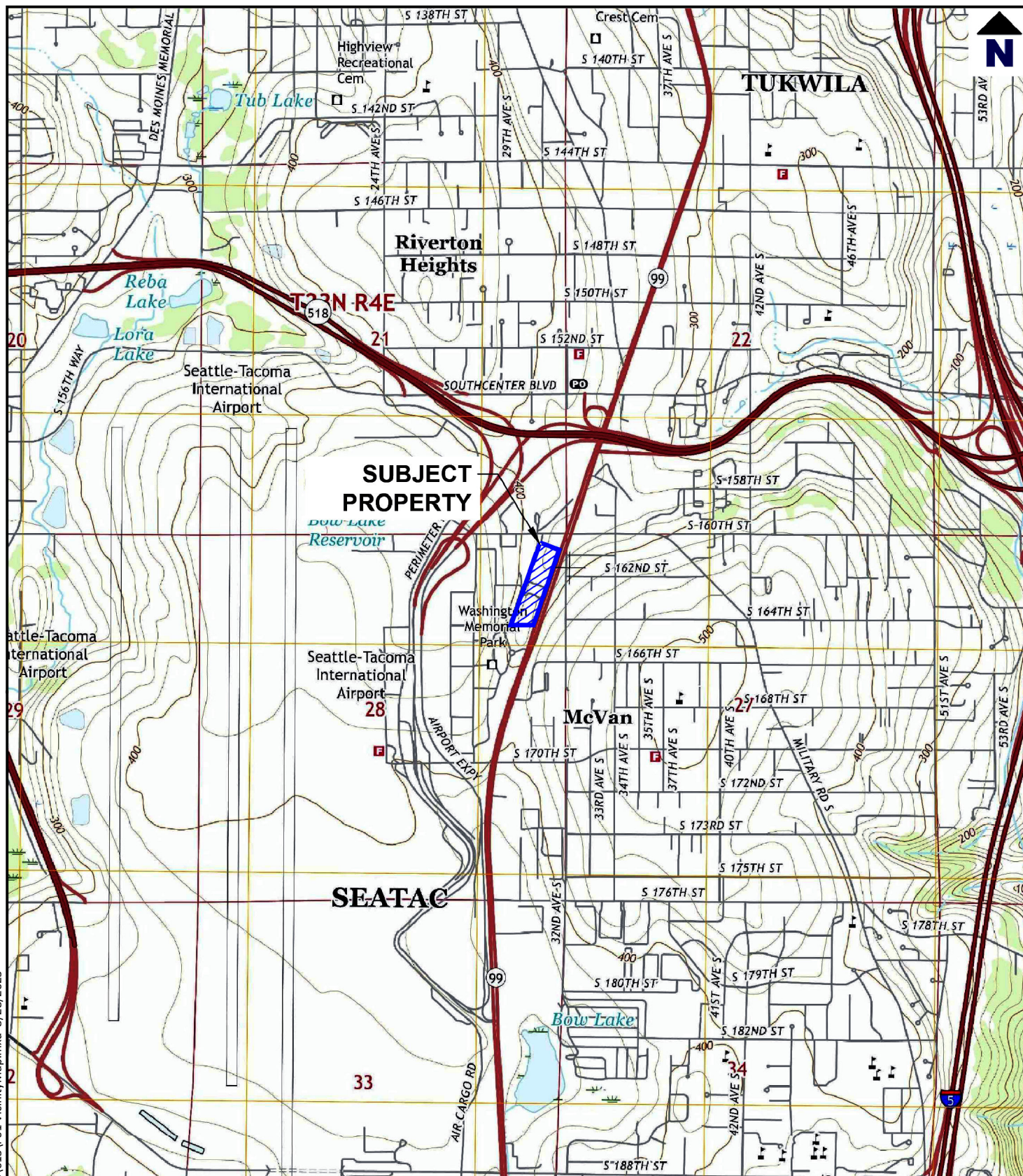
This report has been prepared for the exclusive use of SeaTac Investments, LLC and Scarsella Bros., Inc., for specific application to the SeaTac Development Site. No other party is entitled to rely on the information, conclusions, and recommendations included in this document without the express written consent of Landau. Further, the reuse of information, conclusions, and recommendations provided herein for extensions of the project or for any other project, without review and authorization by Landau, shall be at the user's sole risk. Landau warrants that within the limitations of scope, schedule, and budget, our services have been provided in a manner consistent with that level of care and skill ordinarily exercised by members of the profession currently practicing in the same locality under similar conditions as this project. Landau makes no other warranty, either express or implied.

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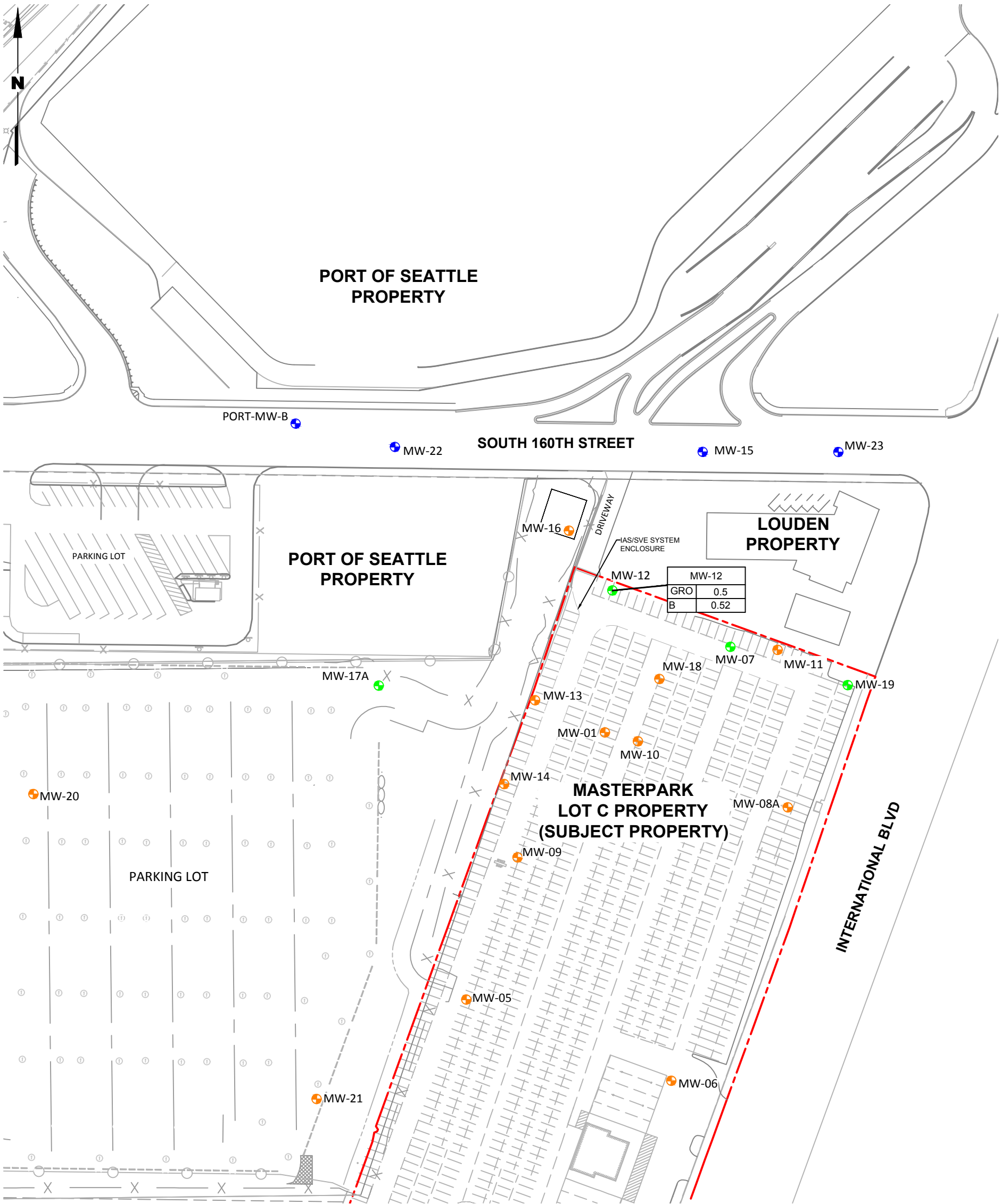
REFERENCED FROM :
USGS 7.5 MINUTE QUADRANGLE DES MOINES, 2017

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SeaTac Development Site
SeaTac, Washington

Subject Property Location Map

Figure
1



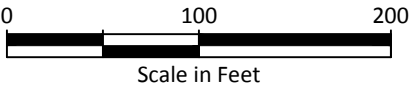
Legend

- MW-14 SITE MONITORING WELL LOCATION AND DESIGNATION - GROUNDWATER ELEVATIONS MEASURED
- MW-12 SITE MONITORING WELL LOCATION AND DESIGNATION - NATURAL ATTENUATION MONITORING WELL
- MW-22 SITE MONITORING WELL LOCATION AND DESIGNATION
- SUBJECT PROPERTY LINE
- FENCE

Notes

1. BASE MAP BASED ON IAS AND SVE PIPING LAYOUT FIGURE (12/02/15) AND GROUNDWATER MONITORING LOCATIONS MAP (05/01/19) PRODUCED BY GOLDER ASSOCIATES, INC.
2. CONCENTRATIONS IN **BOLD AND RED** EXCEEDED THE MTCA METHOD A GROUNDWATER CLEANUP LEVEL.
3. mg/L = MILIGRAMS PER LITER
4. µg/L = MICROGRAMS PER LITER
5. BLACK AND WHITE REPRODUCTION OF THIS COLOR ORIGINAL MAY REDUCE ITS EFFECTIVENESS AND LEAD TO INCORRECT INTERPRETATION.

MW-12		SAMPLE LOCATION
GASOLINE-RANGE ORGANICS	GRO 0.50	
BENZENE	B 0.52	ANALYTICAL RESULT IN µg/L

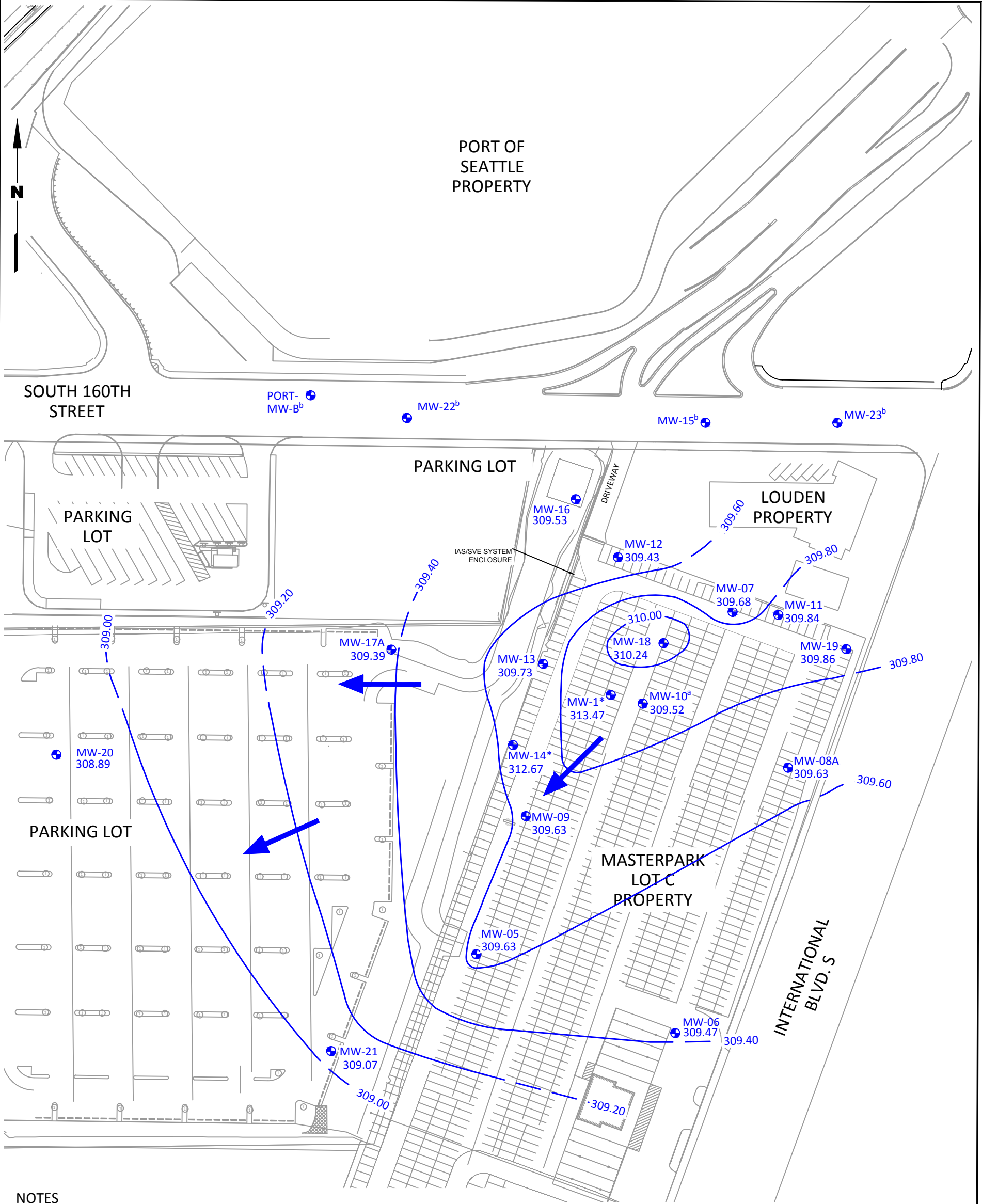


Source: SLR, 2023

Seatac Development Site
Seatac, Washington

GRO and Benzene Concentrations
in Groundwater Samples
January 2024

Figure
2

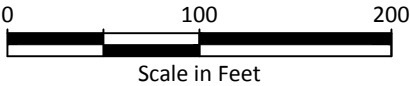


NOTES

1. BASEMAP BASED ON IAS AND SVE PIPING LAYOUT FIGURE (12/02/15) AND GROUNDWATER MONITORING LOCATIONS MAP (05/01/19) PRODUCED BY GOLDER ASSOCIATES, INC.
2. * = DUE TO AN ANOMALOUS DEPTH TO GROUNDWATER MEASUREMENT, THE GROUNDWATER ELEVATION WAS NOT USED FOR CONTOURING.
3. a = SINCE WELL MW-10 IS SCREENED OVER 30 FEET BELOW THE GROUNDWATER TABLE, THE GROUNDWATER ELEVATION IN MW-10 WAS NOT USED FOR CONTOURING.
4. b = DUE TO ACCESS RESTRICTIONS, THE WELL WAS NOT MEASURED DURING THE JANUARY 2024 EVENT.
5. BLACK AND WHITE REPRODUCTION OF THIS COLOR ORIGINAL MAY REDUCE ITS EFFECTIVENESS AND LEAD TO INCORRECT INTERPRETATION.

LEGEND

- MW-21 SITE MONITORING WELL LOCATION AND DESIGNATION
- 310.17 GROUNDWATER SURFACE ELEVATION (IN FEET ABOVE MEAN SEA LEVEL) ON JANUARY 17 OR 23, 2024
- 310.10'— GROUNDWATER SURFACE ELEVATION CONTOUR LINE (IN FEET ABOVE MEAN SEA LEVEL)
- GENERAL GROUNDWATER FLOW DIRECTION



Source: SLR, 2023

Seatac Development Site
Seatac, Washington

Groundwater Elevation
Contour Map
January 2024

Figure
3

Table 1
Groundwater Field Parameters and Sample Analytical Results for Groundwater COCs
January 2024 Sampling Event
SeaTac Development Site
SeaTac, Washington

Well ID	Date Sampled	Analytical Data											
		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 Silica Gel Cleanup (mg/L)	ORO ^d after 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-12	1/17/2024	0.5	0.52	1.11	10.1	34.3	<0.0100	5.30 J	3.79 J	NA	NA	NA	NA

Notes:

J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

^a Analyzed by Ecology Method NWTPH-Gx.

^b Analyzed by EPA Method 8260D.

^c Analyzed by EPA Method 8260D 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) online database (January 2023).

Abbreviations and Acronyms:

°C = degrees Celsius

µg/L = micrograms per liter

µmhos/cm = micromhos per centimeter

COCs = contaminants of concern

DRO = diesel-range organics

EDB = 1,2-dibromoethane

GRO = gasoline-range organics

ID = identification

mg/L = milligrams per liter

mV = millivolts

NA = not analyzed

NTU = nephelometric turbidity unit

ORO = oil-range organics

Table 2
Geochemical Sampling Analytical Results for Groundwater
January 2024 Sampling Event
SeaTac Development Site
SeaTac, Washington

Well ID	Date Sampled	Geochemical Parameters					Field Parameters					Aquifer Redox State
		Nitrate-N ^a (mg/L)	Nitrite-N ^a (mg/L)	Sulfate ^a (mg/L)	Ammonia ^b (mg/L)	Total Organic Carbon ^c (mg/L)	Temperature (°C)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	pH	Ferrous Iron (m/L)	
MW-07	1/17/2024	<0.250	<0.250	5.64	0.137	1.80	12.4	1.08	-33.5	6.13	5.5	Anerobic (iron to sulfate reducing)
MW-12	1/17/2024	<0.250	<0.250	0.956 J	0.137	1.50	11.9	2.41	114.3	6.89	0	Aerobic/sulfate reducing
MW-17A	1/17/2024	5.99	<0.250	31.1	<0.0200	0.50	12.1	1.62	209.3	6.29	0	Aerobic
MW-19	1/17/2024	0.201 J	<0.250	15.5	<0.0200	0.32 J	12.8	1.73	245.4	6.72	0	Aerobic

Notes:

J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

^a Analyzed by US Environmental Protection Agency (EPA) Method 300.0. The EPA Method 300.0 constituents were sampled on January 23, 2024.

^b Analyzed by SM 4500-NH3-G.

^c Analyzed by SM 5310C.

Abbreviations and Acronyms:

°C = degrees Celsius

EPA = US Environmental Protection Agency

ID = identification

mg/L = milligrams per liter

mV = millivolts

Table 3
Groundwater Monitoring Data - January 2024
SeaTac Development Site
SeaTac, Washington

Well Number	Top of Casing Elevation ^a (ft)	Approximate Depth of Well Screen (ft bgs)	Date Measured	Depth to Groundwater (ft)	Groundwater Elevation (ft)
MW-01	361.38	41 to 51	1/17/2024	47.91	313.47
MW-05	364.26	48 to 58	1/17/2024	54.63	309.63
MW-06	369.68	50 to 60	1/17/2024	60.21	309.47
MW-07	358.69	43.5 to 53.5	1/17/2024	49.01	309.68
MW-08A	359.16	44 to 54	1/17/2024	49.53	309.63
MW-09	362.13	47.5 to 57	1/17/2024	52.50	309.63
MW-10	360.18	80 to 90	1/17/2024	50.66	309.52
MW-11	357.53	42 to 57	1/17/2024	47.69	309.84
MW-12	364.83	52 to 67	1/17/2024	55.40	309.43
MW-13	365.42	50 to 65	1/17/2024	55.69	309.73
MW-14	363.76	50 to 65	1/17/2024	51.09	312.67
MW-16	377.63	64 to 74	1/17/2024	68.10	309.53
MW-17A	394.44	80 to 95	1/17/2024	85.05	309.39
MW-18	360.45	47 to 62	1/17/2024	50.21	310.24
MW-19	356.61	43 to 58	1/17/2024	46.75	309.86
MW-20	416.61	103 to 113	1/23/2024	107.72	308.89
MW-21	412.85	95 to 110	1/23/2024	103.78	309.07

Notes:

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

Abbreviations and Acronyms:

bgs = below ground surface

ft = feet

Low-Flow Groundwater Sampling Field Data Sheets



Project Number: 2218001.010.012
Well ID: MW-~~12~~ 07
Sample ID: MW-~~12~~ 240117
Date: 01/17/24 Time: 1414

Screened Interval: Top (ft): 43.00 Bottom (ft): 58.00 Well Secure? ☐ No ☒ Yes Damaged? ☒ No ☐ Yes
DTW After Cap Opened (ft): _____ Time: _____ Describe: Fluv Mount
Static DTW (ft): 49.01 Time: 1351 Flow-Thru Cell Vol.: 200ml WQM No.: _____ YSI # 3
Begin Purge (Date/Time): 1/17/2024 1353 End Purge (Date/Time): 1/17/2024 1410 Gallons Purged: 2
Water Disposal: ☒ 55-gal drum ☐ Storage tank ☐ Ground ☐ Other: _____

[illegible]

PUMP AND MATERIAL INFORMATION

Collection Method: ☐ Bailer ☒ Pump Type: QED Bladder

Material: ☒ Stainless Steel ☒ PVC ☐ Teflon ☒ Polyethylene ☐ Other ☒ Dedicated

Decon Procedure: ☒ Alconox Wash ☐ Tap Rinse ☒ DI Water ☒ Dedicated

☐ Other (describe sequence):

☒ Applicable[illegible]

Scheduled Analysis (Circle/Bold Applicable)						Bottle Information	
	Number	Type					
Volatiles:	8160	8260 SIM	8021	524	624		
Semivolatiles:	8270	8270 SIM	8011	625			
Petroleum Hydrocarbons:	NWTPH-HCID	NWTPH-Gx	NWTPH-Dx	NWTPH-Dx SGC			
Total/Dissolved Metals:	6010	6020	200.7	200.8	7471	☐ Field Filtered	
PCBs & Nitroaromatics:	8082	1668	608	8330			
Dioxin-Furans:	1613	8290					
PFAS:	1633	537.1	533	SOP			
Conventionals:	300.0	SM2450C	SM2450D	SM5310C	RSK175		
Other:	SM4500-NH3 G						

Duplicate or Parent Sample ID: _____

Comments: _____
Signature: [Signature]

☐ MS/MSD

Date: 01/17/24

Project Name: SeaTac Development Site
 Event: Quarterly Groundwater Monitoring
 Weather: 30s rain, cloudy
 Landau Representative: KVP/ADG

Project Number: 2218001.010.012
 Well ID: MW-12
 Sample ID: MW-12- 240117
 Date: 01/17/24 Time: 1304

WELL INFORMATION

Screened Interval: Top (ft): 52.00 Bottom (ft): 67.00 Well Secure? ☐ No ☒ Yes Damaged? ☒ No ☐ Yes
 DTW After Cap Opened (ft): Time: Describe: Flush main
 Static DTW (ft): 51.73 Time: 1210 Flow-Thru Cell Vol.: 100ml WQM No.: YSI # 3
 Begin Purge (Date/Time): 1/17/2024 1215 End Purge (Date/Time): 1/17/2024 1305 Gallons Purged: ~4
 Water Disposal: ☒ 55-gal drum ☐ Storage tank ☐ Ground ☐ Other:

PURGE DATA

Time	Temp (°C)	DO (mg/L)	Cond (µS/cm)	pH (S.U)	ORP (mV)	Turbidity (NTU)	DTW (ft)	Purge Vol 21 flow-thru cell vol. (Yes/No)	Comments/ Observations
Stabilization →	± 3%	± 10%	± 3%	± 0.1 units	± 10 mV	± 10%	± 0.00 ft	(Yes/No)	
1252	12.6	2.68	76.1	6.65	141.5	53.10	55.39	49	
1255	12.0	2.50	75.5	6.65	141.2	34.12	55.40	↓	
1258	12.0	2.72	70.9	6.67	111.4	30.37	55.40	↓	
1301	12.0	2.58	72.5	6.67	113.9	25.77	55.40	↓	

Sample Description (turbidity, color, odor, sheen, etc.): Clear, colorless, some particles, no odor Fe 2+ (mg/L): 0.0

PUMP AND MATERIAL INFORMATION

Collection Method: ☐ Bailor ☒ Pump Type: RED BAKER
 Material: ☒ Stainless Steel ☒ PVC ☐ Teflon ☒ Polyethylene ☐ Other ☒ Dedicated
 Decon Procedure: ☒ Alconox Wash ☐ Tap Rinse ☒ DI Water ☐ Dedicated
☐ Other (describe sequence):

CONFIRMATION PARAMETERS (if applicable per Landau Field Manual)

☒ Applicable

Time	Temp (°C)	DO (mg/L)	Cond (µS/cm)	pH (S.U)	ORP (mV)	Turbidity (NTU)	DTW (ft)	Comments/Observations
1305	11.9	2.41	77.6	6.89	114.3	26.19	55.40	

Scheduled Analysis (Circle/Bold Applicable)						Bottle Information	
						Number	Type
Volatiles:	8260	8260 SIM	8021	524	624	33	40 mL HCl VOAs
Semivolatiles:	8270	8270 SIM	8011	625		1	250 mL unpreserved poly
Petroleum Hydrocarbons:	NWTPH-HCID	NWTPH-Gx	NWTPH-Dx	NWTPH-Dx SGC		2	250 mL H2SO4 preserved
Total/Dissolved Metals:	6010	6020	200.7	200.8	7471		☐ Field Filtered
PCBs & Nitroaromatics:	8082	1668	608	8330			
Dioxin-Furans:	1613	8290					
PFAS:	1633	537.1	533	SOP			
Conventionals:	300.0	SM2450C	SM2450D	SM5310C	RSK175		
Other:	SM4500-NH3 G						

Duplicate or Parent Sample ID: duplicate ID = MW-32-240117

Comments: water level down well during low flow survey, 2 gallons purge before sample
 Signature: [Signature] Date: 01/17/24

Project Name: SeaTac Development Site
 Event: Quarterly Groundwater Monitoring
 Weather: Rain, 30S
 Landau Representative: KVP/ADG

Project Number: 2218001.010.012
 Well ID: MW-17A
 Sample ID: MW-17A- 240117
 Date: 01/17/24 Time: 1428

WELL INFORMATION

Screened Interval: Top (ft): 80.00 Bottom (ft): 95.00 Well Secure? ☐ No ☒ Yes Damaged? ☒ No ☐ Yes
 DTW After Cap Opened (ft): Time: Describe: Flush mount
 Static DTW (ft): 85.05 Time: 14:04 Flow-Thru Cell Vol.: 200 ml WQM No.: YSI # 4
 Begin Purge (Date/Time): 1/17/2024 14:06 End Purge (Date/Time): 1/17/2024 14:28 Gallons Purged: ~2
 Water Disposal: ☒ 55-gal drum ☐ Storage tank ☐ Ground ☐ Other:

PURGE DATA

Time	Temp (°C)	DO (mg/L)	Cond (µS/cm)	pH (S.U)	ORP (mV)	Turbidity (NTU)	DTW (ft)	Purge Vol ±1 flow-thru cell vol. (Yes/No)	Comments/ Observations
Stabilization →	± 3%	± 10%	± 3%	± 0.1 units	± 10 mV	± 10%	± 0.00 ft	(Yes/No)	
14:06	11.0	3.05	181.3	10.34	167.1	271.0	85.05	✓	
14:11	11.4	2.57	182.8	10.33	179.9	270.3	85.05	✓	cloudy
14:15	12.3	2.00	185.1	10.31	189.8	228.7	85.05	✓	
14:18	12.1	1.98	185.4	10.31	195.8	229.6	"	✓	more clear; black sed
14:21	12.1	1.65	186.0	10.29	207.4	187.9	"	✓	
14:24	12.1	1.02	185.8	10.29	209.3	145.10	"		

Sample Description (turbidity, color, odor, sheen, etc.): C.C. NO O/S: clear, colorless, Noodor, Fe 2' (mg/L): 0.0
green

PUMP AND MATERIAL INFORMATION

Collection Method: ☐ Bailer ☒ Pump Type: QED Black IV
 Material: ☒ Stainless Steel ☒ PVC ☐ Teflon ☒ Polyethylene ☐ Other ☐ Dedicated
 Decon Procedure: ☒ Alconox Wash ☐ Tap Rinse ☒ DI Water ☐ Dedicated
☐ Other (describe sequence):

CONFIRMATION PARAMETERS (if applicable per Landau Field Manual)

☒ Applicable

Time	Temp (°C)	DO (mg/L)	Cond (µS/cm)	pH (S.U)	ORP (mV)	Turbidity (NTU)	DTW (ft)	Comments/Observations

Scheduled Analysis (Circle/Bold Applicable)							Bottle Information	
							Number	Type
Volatiles:	8250	8260 SIM	8021	524	624		3	40 mL HCFV GAS
Semivolatiles:	8270	8270 SIM	8011	625			1	250 mL unpreserved poly
Petroleum Hydrocarbons:	NWTPH-HCID	NWTPH-GX	NWTPH-Dx	NWTPH-Dx SGC			2	250 mL H2SO4 preserved
Total/Dissolved Metals:	6010	6020	200.7	200.8	7471	☐ Field Filtered		
PCBs & Nitroaromatics:	8082	1668	608	8330				
Dioxin-Furans:	1613	8290						
PFAS:	1633	537.1	533	SOP				
Conventionals:	300.0	SM2450C	SM2450D	SM5310C	RSK175			
Other:	SM4500-NH3 G							

Duplicate or Parent Sample ID:

☐ MS/MSD

Comments:

Signature:

Date: 01/17/24

Project Name: SeaTac Development Site
 Event: Quarterly Groundwater Monitoring
 Weather: Part. Sols
 Landau Representative: KVP/ADG

Project Number: 2218001.010.012
 Well ID: MW-19
 Sample ID: MW-19 ~~240117~~
 Date: 01/17/24 Time: 13:06

WELL INFORMATION

Screened Interval: Top (ft): 43.50 Bottom (ft): 53.50 Well Secure? ☐ No ☒ Yes Damaged? ☒ No ☐ Yes
 DTW After Cap Opened (ft): _____ Time: _____ Describe: Flush man!
 Static DTW (ft): 410.87 Time: 12:33 Flow-Thru Cell Vol.: 200mL WQM No.: _____ YSI # 4
 Begin Purge (Date/Time): 1/17/2024 12:32 End Purge (Date/Time): 1/17/2024 1305 Gallons Purged: 22
 Water Disposal: ☒ 55-gal drum ☐ Storage tank ☐ Ground ☐ Other: _____

PURGE DATA

Time	Temp (°C)	DO (mg/L)	Cond (µS/cm)	pH (S.U)	ORP (mV)	Turbidity (NTU)	DTW (ft)	Purge Vol 21 flow-thru cell vol. (Yes/No)	Comments/Observations
Stabilization →	± 3%	± 10%	± 3%	± 0.1 units	± 10 mV	± 10%	± 0.00 ft	(Yes/No)	
12:37	12.8	6.03	163.5	6.73	258.5	70.03	46.91	✓	some sediment
12:41	12.1	3.10	157.7	6.72	257.3				
12:45	11.1	3.10	153.3	6.72	255.9	107.95	47.00	✓	
12:48	12.0	2.54	163.5	6.71	253.8	37.88	46.99	✓	still sed.
12:51	12.10	2.40	162.2	6.71	252.4	38.57	46.97	✓	"
12:54	12.10	2.17	162.0	6.71	250.3	34.64	46.95	✓	"
12:57	12.08	2.03	163.4	6.71	249.0	30.10	46.98	✓	"
1:00	12.09	1.81	164.4	6.72	246.1	29.74	46.98	✓	
1:03	12.8	1.73	164.2	6.72	245.4	27.64	46.98	✓	

Sample Description (turbidity, color, odor, sheen, etc.): LC NO O/S. Hach - 0 @ 1.05 Fe 2+ (mg/L): 0
Clear colorless, NO odor or sheen

PUMP AND MATERIAL INFORMATION

Collection Method: ☐ Bailor ☒ Pump Type: RED Bladder
 Material: ☒ Stainless Steel ☒ PVC ☐ Teflon ☒ Polyethylene ☐ Other ☐ Dedicated
 Decon Procedure: ☒ Alconox Wash ☐ Tap Rinse ☒ DI Water ☐ Dedicated
☐ Other (describe sequence): _____

CONFIRMATION PARAMETERS (if applicable per Landau Field Manual)

☒ Applicable

Time	Temp (°C)	DO (mg/L)	Cond (µS/cm)	pH (S.U)	ORP (mV)	Turbidity (NTU)	DTW (ft)	Comments/Observations

Scheduled Analysis (Circle/Bold Applicable)						Bottle Information	
						Number	Type
Volatiles:	8250	8260 SIM	8021	524	624	3	40 mL HCl-VOAs
Semivolatiles:	8270	8270 SIM	8011	625		1	250 mL unpreserved poly
Petroleum Hydrocarbons:	NWTPH-HCID	NWTPH-HC	NWTPH-Dx	NWTPH-Dx SGC		2	250 mL H2SO4 preserved
Total/Dissolved Metals:	6010	6020	200.7	200.8	7471		☐ Field Filtered
PCBs & Nitroaromatics:	8082	1668	608	8330			
Dioxin-Furans:	1613	8290					
PFAS:	1633	537.1	533	SOP			
Conventionals:	<u>300.0</u>	SM2450C	SM2450D	<u>SM5310C</u>	RSK175		
Other:	<u>SM4500-NH3 G</u>						

Duplicate or Parent Sample ID: _____

☐ MS/MSD

Comments: _____
 Signature: _____

Date: 01/17/24

Project Name: SeaTac Development Site
 Event: Quarterly Groundwater Monitoring
 Weather: Rain, 30s
 Landau Representative: KVP/ADG

Project Number: 2218001.010.012
 Well ID: Equipment Blank
 Sample ID: Equipment Blank- 240117
 Date: 01/17/24 Time: 1500

WELL INFORMATION

Screened Interval: Top (ft): _____ Bottom (ft): _____ Well Secure? ☐ No ☒ Yes Damaged? ☒ No ☐ Yes
 DTW After Cap Opened (ft): _____ Time: _____ Describe: N/A
 Static DTW (ft): _____ Time: _____ Flow-Thru Cell Vol.: N/A WQM No.: 451 N/A
 Begin Purge (Date/Time): 1/17/2024 N/A End Purge (Date/Time): 1/17/2024 N/A Gallons Purged: N/A
 Water Disposal: ☒ 55-gal drum ☐ Storage tank ☐ Ground ☐ Other: _____

PURGE DATA

Time	Temp (°C)	DO (mg/L)	Cond (µS/cm)	pH (S.U)	ORP (mV)	Turbidity (NTU)	DTW (ft)	Purge Vol ±1 flow-thru cell vol.	Comments/ Observations
Stabilization →	± 3%	± 10%	± 3%	± 0.1 units	± 10 mV	± 10%	± 0.00 ft	(Yes/No)	

N/A

Sample Description (turbidity, color, odor, sheen, etc.): clear, colorless, no odor no sheen Fe 2+ (mg/L): N/A

PUMP AND MATERIAL INFORMATION

Collection Method: ☐ Bailor ☐ Pump Type: N/A
 Material: ☐ Stainless Steel ☐ PVC ☐ Teflon ☐ Polyethylene ☐ Other ☐ Dedicated
 Decon Procedure: ☐ Alconox Wash ☐ Tap Rinse ☐ DI Water ☐ Dedicated
☐ Other (describe sequence): _____

CONFIRMATION PARAMETERS (if applicable per Landau Field Manual)

☒ Applicable

Time	Temp (°C)	DO (mg/L)	Cond (µS/cm)	pH (S.U)	ORP (mV)	Turbidity (NTU)	DTW (ft)	Comments/Observations

Scheduled Analysis (Circle/Bold Applicable)							Bottle Information	
							Number	Type
Volatiles:	8260	8260 SIM	8021	524	624		33	40 mL HCl VOAs
Semivolatiles:	8270	8270 SIM	8011	625				
Petroleum Hydrocarbons:	NWTPH-HCID	NWTPH-Gx	NWTPH-Dx	NWTPH-Dx SGC				
Total/Dissolved Metals:	6010	6020	200.7	200.8	7471	☐ Field Filtered		
PCBs & Nitroaromatics:	8082	1668	608	8330				
Dioxin-Furans:	1613	8290						
PFAS:	1633	537.1	533	SOP				
Conventionals:	300.0	SM2450C	SM2450D	SM5310C	RSK175			
Other:	SM4500-NH3 G							

Duplicate or Parent Sample ID: _____

☐ MS/MSD

Comments: _____
 Signature: [Signature]

Date: 01/17/24

Project Name: SeaTac Development Site
 Event: Quarterly Groundwater Monitoring
 Weather: D. Cloudy, 50s
 Landau Representative: KVP

Project Number: 2218001.010.012
 Well ID: MW-07
 Sample ID: MW-07- 240123
 Date: 01/23/24 Time: 1345

WELL INFORMATION

Screened Interval: Top (ft): 43.50 Bottom (ft): 53.50 Well Secure? ☐ No ☒ Yes Damaged? ☒ No ☐ Yes
 DTW After Cap Opened (ft): _____ Time: _____ Describe: FLUSH MOUNT
 Static DTW (ft): 44.09 Time: 1310 Flow-Thru Cell Vol.: 200 ml WQM No.: YSI 4
 Begin Purge (Date/Time): 1/23/2024 1313 End Purge (Date/Time): 1/23/2024 1344 Gallons Purged: ~1
 Water Disposal: ☒ 55-gal drum ☐ Storage tank ☐ Ground ☐ Other: _____

PURGE DATA

Time	Temp (°C)	DO (mg/L)	Cond (µS/cm)	pH (S.U)	ORP (mV)	Turbidity (NTU)	DTW (ft)	Purge Vol 21 flow-thru cell vol.	Comments/ Observations
Stabilization →	± 3%	± 10%	± 3%	± 0.1 units	± 10 mV	± 10%	± 0.00 ft	(Yes/No)	
1314	13.6	5.80	245.0	5.57	257.9	138.5	44.48	yes	
1317	13.5	2.62	248.9	5.73	256.4	83.08	44.54	yes	Jump slow
1320	13.6	2.19	246.0	6.12	220.1	416.94	44.50	yes	
1323	13.5	1.83	249.0	6.25	167.8	38.57	44.50	yes	
1326	13.6	1.97	254.7	6.33	126.5	21.01	44.50	yes	
1329	13.7	1.48	258.7	6.36	1295.6	13.20	44.50	yes	
1332	13.7	1.44	261.3	6.38	70.4	4.73	44.50	yes	
1335	13.8	1.39	262.6	6.38	67.7	8.11	44.50	yes	
1338	13.7	1.40	262.8	6.39	60.5	7.67	44.50	yes	

Sample Description (turbidity, color, odor, sheen, etc.): Clear, colorless, noxious musty odor Fe 2+ (mg/L): N/A

PUMP AND MATERIAL INFORMATION

Collection Method: ☐ Bailor ☒ Pump Type: QED BLADDER
 Material: ☒ Stainless Steel ☒ PVC ☐ Teflon ☒ Polyethylene ☐ Other ☒ Dedicated
 Decon Procedure: ☒ Alconox Wash ☐ Tap Rinse ☒ DI Water ☒ Dedicated
☐ Other (describe sequence): _____

CONFIRMATION PARAMETERS (if applicable per Landau Field Manual)

☒ Applicable

Time	Temp (°C)	DO (mg/L)	Cond (µS/cm)	pH (S.U)	ORP (mV)	Turbidity (NTU)	DTW (ft)	Comments/Observations
1350	14.0	1.13	265.3	6.40	46.7	6.69	44.50	

Scheduled Analysis (Circle/Bold Applicable)						Bottle Information	
						Number	Type
Volatiles:	8260	8260 SIM	8021	524	624		
Semivolatiles:	8270	8270 SIM	8011	625			
Petroleum Hydrocarbons:	NWTPH-HCID	NWTPH-Gx	NWTPH-Dx	NWTPH-Dx SGC			
Total/Dissolved Metals:	6010	6020	200.7	200.8	7471	☐ Field Filtered	
PCBs & Nitroaromatics:	8082	1668	608	8330			
Dioxin-Furans:	1613	8290					
PFAS:	1633	537.1	533	SOP			
Conventionals:	300.0	SM2450C	SM2450D	SM5310C	RSK175	1	1 L unpreserved poly
Other:	SM4500-NH3 G						

Duplicate or Parent Sample ID: _____

☐ MS/MSD

Comments: _____

Signature: [Signature]

Date: _____

01/23/24

Project Name: SeaTac Development Site Project Number: 2218001.010.012
 Event: Quarterly Groundwater Monitoring Well ID: MW-12
 Weather: Sunny 50s Sample ID: MW-12- 240123
 Landau Representative: KVP Date: 01/23/24 Time: 1254

WELL INFORMATION

Screened Interval: Top (ft): 52.00 Bottom (ft): 67.00 Well Secure? ☐ No ☒ Yes Damaged? ☒ No ☐ Yes
 DTW After Cap Opened (ft): 5.52 Time: 1224 Describe: FLUSH MOUNT
 Static DTW (ft): 55.92 Time: 1226 Flow-Thru Cell Vol.: 200 ml WQM No.: YSI 4
 Begin Purge (Date/Time): 1/23/2024 1229 End Purge (Date/Time): 1/23/2024 1232 Gallons Purged: ~1 gal
 Water Disposal: ☒ 55-gal drum ☐ Storage tank ☐ Ground ☐ Other:

PURGE DATA

Time	Temp (°C)	DO (mg/L)	Cond (µS/cm)	pH (S.U)	ORP (mV)	Turbidity (NTU)	DTW (ft)	Purge Vol & Flow-thru cell vol.	Comments/ Observations
Stabilization →	± 3%	± 10%	± 3%	± 0.1 units	± 10 mV	± 10%	± 0.00 ft	(Yes/No)	
1230	14.1	9.70	108.4	6.61	275.8	7.96	55.68	yes	
1233	13.7	6.11	105.1	6.38	302.7	17.54	55.71	yes	
1236	13.9	6.37	22.2	5.61	282.8	17.72	55.71	yes	Speed up pump it says
1239	13.9	5.74	13.7	5.80	265.6	11.09	55.71	yes	
1241	13.9	5.07	13.8	5.91	256.2	7.41	55.71	yes	
1244	13.9	4.85	13.3	5.99	250.2	6.51	55.71	yes	
1247	13.7	4.50	12.5	6.03	245.2	4.01	55.71	yes	
1250	13.6	4.41	12.4	6.08	240.6	3.75	55.71	yes	

Sample Description (turbidity, color, odor, sheen, etc.): Clear, colorless, No odor No sheen Fe 2' (mg/L): N/A

PUMP AND MATERIAL INFORMATION

Collection Method: ☐ Bailer ☒ Pump Type: QED BLADDER
 Material: ☒ Stainless Steel ☒ PVC ☐ Teflon ☒ Polyethylene ☐ Other ☒ Dedicated
 Decon Procedure: ☒ Alconox Wash ☐ Tap Rinse ☒ DI Water ☐ Dedicated
☐ Other (describe sequence):

CONFIRMATION PARAMETERS (if applicable per Landau Field Manual)

☒ Applicable

Time	Temp (°C)	DO (mg/L)	Cond (µS/cm)	pH (S.U)	ORP (mV)	Turbidity (NTU)	DTW (ft)	Comments/Observations
1258	13.6	4.25	12.1	6.13	233.1	4.55	55.71	

Scheduled Analysis (Circle/Bold Applicable)						Bottle Information	
						Number	Type
Volatiles:	8260	8260 SIM	8021	524	624		
Semivolatiles:	8270	8270 SIM	8011	625			
Petroleum Hydrocarbons:	NWTPH-HCID	NWTPH-Gx	NWTPH-Dx	NWTPH-Dx 5GC			
Total/Dissolved Metals:	6010	6020	200.7	200.8	7471	☐ Field Filtered	
PCBs & Nitroaromatics:	8082	1668	608	8330			
Dioxin-Furans:	1613	8290					
PFAS:	1633	537.1	533	SOP			
Conventionals:	300.0	SM2450C	SM2450D	SM5310C	RSK175	1	1 L unpreserved poly
Other:	SM4500-NH3 G						

Duplicate or Parent Sample ID:

Comments: Bring new Master/ix (tube)
 Signature: [Signature]

☐ MS/MSD

Date: 01/23/24

Project Name: SeaTac Development Site
 Event: Quarterly Groundwater Monitoring
 Weather: cloudy, windy, 40s-50s
 Landau Representative: KVP

Project Number: 2218001.010.012
 Well ID: MW-19
 Sample ID: MW-19- 240123
 Date: 01/23/24 Time: 1420

WELL INFORMATION

Screened Interval: Top (ft): 43.00 Bottom (ft): 58.00 Well Secure? ☐ No ☒ Yes Damaged? ☒ No ☐ Yes
 DTW After Cap Opened (ft): _____ Time: _____ Describe: FLUSH MOUNT
 Static DTW (ft): 47.16 Time: 1353 Flow-Thru Cell Vol.: 200 ml WQM No.: YSI 4
 Begin Purge (Date/Time): 1/23/2024 1354 End Purge (Date/Time): 1/23/2024 1415 Gallons Purged: ~1
 Water Disposal: ☒ 55-gal drum ☐ Storage tank ☐ Ground ☐ Other: _____

PURGE DATA

Time	Temp (°C)	DO (mg/L)	Cond (µS/cm)	pH (S.U)	ORP (mV)	Turbidity (NTU)	DTW (ft)	Purge Vol 21 flow-thru cell vol. (Yes/No)	Comments/ Observations
Stabilization →	± 3%	± 10%	± 3%	± 0.1 units	± 10 mV	± 10%	± 0.00 ft	(Yes/No)	
1355	12.2	6.91	247.3	6.64	16.7	34.21	47.22	yes	
1358	12.9	3.11	277.3	5.85	156.5	40.19	47.22	yes	
1401	13.0	2.13	244.1	6.25	158.8	34.76	47.22	yes	
1404	13.1	1.83	216.7	6.49	156.5	31.16	47.22	yes	
1407	13.1	1.50	215.5	6.58	154.5	20.38	47.22	yes	
1410	13.1	1.45	214.8	6.62	153.9	17.92	47.22	yes	
1413	13.1	1.38	214.9	6.64	154.7	12.11	47.22	yes	

Sample Description (turbidity, color, odor, sheen, etc.): clear, colorless, no odor or sheen Fe 2+ (mg/L): N/A

PUMP AND MATERIAL INFORMATION

Collection Method: ☐ Bailor ☒ Pump Type: QED BLADDER
 Material: ☒ Stainless Steel ☒ PVC ☐ Teflon ☒ Polyethylene ☐ Other ☒ Dedicated
 Decon Procedure: ☒ Alconox Wash ☐ Tap Rinse ☒ DI Water ☒ Dedicated
☐ Other (describe sequence): _____

CONFIRMATION PARAMETERS (if applicable per Landau Field Manual) ☒ Applicable

Time	Temp (°C)	DO (mg/L)	Cond (µS/cm)	pH (S.U)	ORP (mV)	Turbidity (NTU)	DTW (ft)	Comments/Observations
1412	13.0	1.62	214.1	6.65	155.9	14.25	47.22	

Scheduled Analysis (Circle/Bold Applicable)						Bottle Information	
						Number	Type
Volatiles:	8260	8260 SIM	8021	524	624		
Semivolatiles:	8270	8270 SIM	8011	625			
Petroleum Hydrocarbons:	NWTPH-HCID	NWTPH-Gx	NWTPH-Dx	NWTPH-Dx SGC			
Total/Dissolved Metals:	6010	6020	200.7	200.8	7471	☐ Field Filtered	
PCBs & Nitroaromatics:	8082	1668	608	8330			
Dioxin-Furans:	1613	8290					
PFAS:	1633	537.1	533	SOP			
Conventionals:	300.0	SM2450C	SM2450D	SM5310C	RSK175	1	1 L unpreserved poly
Other:	SM4500-NH3 G						

Duplicate or Parent Sample ID: _____

☐ MS/MSD

Comments: _____

Signature: [Signature]

Date: 01/23/24

Project Name: SeaTac Development Site
 Event: Quarterly Groundwater Monitoring
 Weather: Partly cloudy, wind, 40s-50s
 Landau Representative: KVP

Project Number: 2218001.010.012
 Well ID: MW-17A
 Sample ID: MW-17A-240123
 Date: 01/23/24 Time: 1510

WELL INFORMATION

Screened Interval: Top (ft): 80.00 Bottom (ft): 95.00 Well Secure? ☐ No ☒ Yes Damaged? ☒ No ☐ Yes
 DTW After Cap Opened (ft): _____ Time: _____ Describe: FLUSH MOUNT
 Static DTW (ft): 85.23 Time: 1445 Flow-Thru Cell Vol.: 200 ml WQM No.: YSI 4
 Begin Purge (Date/Time): 1/23/2024 1445 End Purge (Date/Time): 1/23/2024 1505 Gallons Purged: ~
 Water Disposal: ☒ 55-gal drum ☐ Storage tank ☐ Ground ☐ Other: _____

PURGE DATA

Time	Temp (°C)	DO (mg/L)	Cond (µS/cm)	pH (S.U.)	ORP (mV)	Turbidity (NTU)	DTW (ft)	Purge Vol 21 flow-thru cell vol. (Yes/No)	Comments/ Observations
Stabilization →	± 3%	± 10%	± 3%	± 0.1 units	± 10 mV	± 10%	± 0.00 ft	(Yes/No)	
1449	12.5	8.00	177.7	6.43	177.9	98.99	85.23	yes	
1452	12.5	11.73	167.9	5.32	240.0	93.12	85.23	yes	
1455	12.4	4.47	150.1	5.83	229.4	53.51	85.23	yes	
1458	12.4	3.89	150.2	6.02	225.2	29.61	85.23	yes	
1501	12.4	3.73	152.6	6.07	223.7	25.11	85.23	yes	
1504	12.4	3.59	155.6	6.11	222.4	20.37	85.23		

Sample Description (turbidity, color, odor, sheen, etc.): clear, no odors, no odor or sheen, dark particles Fe 2+ (mg/L): N/A

PUMP AND MATERIAL INFORMATION

Collection Method: ☐ Bailer ☒ Pump Type: QED BLADDER
 Material: ☒ Stainless Steel ☒ PVC ☐ Teflon ☒ Polyethylene ☐ Other ☐ Dedicated
 Decon Procedure: ☒ Alconox Wash ☐ Tap Rinse ☒ DI Water ☐ Dedicated
☐ Other (describe sequence): _____

CONFIRMATION PARAMETERS (if applicable per Landau Field Manual)

☒ Applicable

Time	Temp (°C)	DO (mg/L)	Cond (µS/cm)	pH (S.U.)	ORP (mV)	Turbidity (NTU)	DTW (ft)	Comments/Observations
1511	12.5	3.44	157.9	6.23	221.3	19.55	85.23	

Scheduled Analysis (Circle/Bold Applicable)						Bottle Information	
						Number	Type
Volatiles:	8260	8260 SIM	8021	524	624		
Semivolatiles:	8270	8270 SIM	8011	625			
Petroleum Hydrocarbons:	NWTPH-HCID	NWTPH-Gx	NWTPH-Dx	NWTPH-Dx SGC			
Total/Dissolved Metals:	6010	6020	200.7	200.8	7471	☐ Field Filtered	
PCBs & Nitroaromatics:	8082	1668	608	8330			
Dioxin-Furans:	1613	8290					
PFAS:	1633	537.1	533	SOP			
Conventionals:	300.0	SM2450C	SM2450D	SM5310C	RSK175	1	1 L unpreserved poly
Other:	SM4500-NH3 G						

Duplicate or Parent Sample ID: _____

☐ MS/MSD

Comments:

Signature: [Signature]

Date: 01/23/24

Data Tables and Trend Graphs

Table B-1
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)	DRO after Silica Gel Cleanup (mg/L)	ORO after Silica Gel Cleanup (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	0.5	0.5
01/05/01	358.70	NM	NM	NM	NM	NM	NM	NM	80	470	7,700	2,000	11,200	NA	NA	NA	< 0.25	< 0.50	NA	NA
08/16/07	358.70	NM	NM	NM	NM	NM	NM	NM	68	500	3,200	1,600	8,690	NA	NA	NA	NA	NA	NA	NA
12/07/09	358.70	49.02	309.68	6.89	10.90	347	2.83	NM	46	520	5,600	1,300	6,800	0.03	220	420	NA	NA	NA	NA
03/18/10	358.70	48.69	310.01	6.61	13.30	354	1.41	5.18	26	230	1,100	360	4,630	0.01	160	210	NS	NS	NA	NA
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 ^e	190	220	11 J	< 0.20	NA	NA
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 ^e	140	210 B	11 J	< 0.20	NA	NA
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 ^e	280	300 B J	11	0.41 J	NA	NA
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 ^e	170	180	11 J	0.32 J	NA	NA
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 ^e	93 J	96 J	5.4	0.24 J	NA	NA
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	<0.020 ^e	160	69	4.9 J	< 0.20	NA	NA
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 ^e	150	68 J	6.5 J	0.30 J	NA	NA
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 ^e	11 J	37	2.4	<0.20	NA	NA
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 ^e	1.9	32	1.4	0.20	NA	NA
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 ^e	0.3	11	1.6	0.44	NA	NA
01/18/18	358.69	46.75	311.94	6.21	14.7	270	0.23	2.15	1.9	1.0	0.67	2.0 J	7.3 J	<0.20 ^e	0.5	10	1.5	<0.20	NA	NA
03/09/18	358.69	NM	NM	NM	NM	NM	NM	NM	NS	NS	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	1.1	3	<0.01	<0.20	6.1	0.78	<0.20	NA	NA
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	NA	NA
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	1.1	<0.0030	0.29	1.6	0.17	<0.20	<0.10	<0.20
01/29/20	358.69	48.12	310.57	6.72	14.6	201	0.86	NM	0.75	0.39	8.1	2.3	11	<0.02 ^e	7.0	5.1	NA	NA	<0.081	<0.16
07/22/20	358.69	48.43	310.26	6.03	16.1	139	0.29	NM	0.80	<0.20	<1.0	2.2	12	<0.010	<2.0	2.9	NA	NA	NA	NA
10/19/20	358.69	48.79	309.90	6.32	15.6	205	1.73	6.59	1.74	0.84	2.50	9.69	15	<0.020 ^e	<0.20	5.8	NA	NA	NA	NA
01/18/21	358.69	49.03	309.66	6.32	14.1	266	1.40	2.73	3.55	2.66	33	41	200	<0.50 ^e	19	16	NA	NA	NA	NA
04/26/21	358.69	48.65	310.04	6.60	15.9	277	0.59	4.54	1.63	3.77	3.23	14	26	<0.01	5.3 J	7.8	NA	NA	NA	NA
07/26/21	358.69	48.78	309.91	6.53	16.1	237	0.26	2.66	2.35	3.17	7.36	23	77	<0.04 ^e	8.43	14	NA	NA	NA	NA
01/24/22	358.69	48.52	310.17	6.55	14.7	247	0.67	45.2	0.83	1.95	0.93 J	3.89	4.65	<0.046 ^e	<2.5	3.12	NA	NA	NA	NA
07/25/22	358.69	47.61	311.08	5.97	16.6	210	2.29	10.7	0.12	0.36	<1.0	<0.50	<1.50	<0.022 ^e	<2.0	<2.0	NA	NA	NA	NA
10/25/22	358.69	47.95	310.74	5.65	15.3	179	0.68	3.7	0.26	0.40	<1.0	0.61	<1.5	<0.022e	<2.0	<2.0	NA	NA	NA	NA
01/30/23	358.69	48.11	310.58	6.43	14.6	172	1.30	2.11	0.23	0.25	<1.0	<0.50	<1.5	<0.025e	<2.0	<2.0	NA	NA	NA	NA
04/11/23	358.69	48.08	310.61	6.37	15.0	162	0.38	1.63	0.27	0.45	<1.0	1.03	2.8	<0.250 ^e	<2.0	<2.0	NA	NA	NA	NA
08/01/23	358.69	48.55	310.14	6.46	15.3	206	0.61	1.2	0.725	0.58	1.38	2.94	6.78	<0.0500 ^e	<10.0	<4.00	NA	NA	NA	NA

Table B-1
Summary of Groundwater Sampling Results - Well MW-07
SeaTac Development Site
SeaTac, Washington

Notes:

- Values in bold and red exceed MTCA Method A Cleanup Levels.
- J = Laboratory estimated value
- ^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 (July 2022).
- ^e The analyte was not detected at or above the method detection limit (MDL); however, the MDL exceeded the cleanup level.

Abbreviations and Acronyms:

- °C = degrees Celsius
- µg/L = micrograms per liter
- µmhos/cm = micromhos per centimeter
- DRO = diesel-range organics
- EDB = 1,2-dibromoethane
- GRO = gasoline-range organics
- mg/L = milligrams per liter
- NA = not analyzed
- NM = not measured
- NS = not sampled
- NTU = nephelometric turbidity unit
- ORO = oil-range organics

Table B-2
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)	DRO after Silica Gel Cleanup (mg/L)	ORO after Silica Gel Cleanup (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	0.5	0.5
01/05/01	362.14	NM	NM	NM	NM	NM	NM	NM	90	1,900	1,200	1,800	9,700	NA	NA	NA	< 0.25	< 0.50	NA	NA
08/16/07	362.14	NM	NM	NM	NM	NM	NM	NM	34	280	230	750	3,270	NA	NA	NA	NA	NA	NA	NA
05/19/09	362.14	52.25	309.89	6.17	15.6	290	1.86	2.86	37	240	220	810	2,910	NA	NA	NA	NA	NA	NA	NA
12/07/09	362.14	52.67	309.47	6.52	10.7	306	0.43	NM	19	190	33	730	1,927	0.01	83	260	NA	NA	NA	NA
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	NA	NA
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	< 0.080 ^e	16	120	1.6 J	< 0.20	NA	NA
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 ^e	5.6	92 B	2.3 J	< 0.20	NA	NA
09/10/14	362.13	NM	NM	6.49	15.7	310	0.20	3.85	5.6	17	4.6	100	47	< 0.01	< 0.20	74	2.8	< 0.20	NA	NA
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 ^e	< 0.20	44	1.9	< 0.20	NA	NA
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 ^e	< 0.20	18	1.5	< 0.20	NA	NA
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	1.5 J	< 0.07 ^e	< 0.20	5.7	1.0 J	< 0.20	NA	NA
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 ^e	<0.20	<0.50	0.22 J	<0.20	NA	NA
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 ^e	<0.20	<0.50	0.20	<0.20	NA	NA
05/03/17	362.13	NM	NM	5.94	15.5	165	3.09	1.43	<0.10	0.23	0.050 J	0.42	<0.40	<0.20 ^e	<0.20	<0.50	0.28	<0.20	NA	NA
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	<0.020 ^e	<0.20	<0.50	0.22	<0.20	NA	NA
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 ^e	<0.20	<0.50	0.26	<0.20	NA	NA
03/09/18	362.13	NM	NM	NM	NM	NM	NM	NM	NS	NS	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	<0.010	<0.20	<0.50	0.34	<0.20	NA	NA
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	<0.010	<0.20	<0.50	0.28	<0.20	NA	NA
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	<0.0030	<0.20	<0.50	0.11	<0.20	<0.10	<0.20
01/30/20	362.13	51.45	310.68	6.40	12.7	249	0.77	NM	<0.10	0.54	<0.50	<0.25	<0.75	<0.20 ^e	<1.0	<1.0	NA	NA	NA	NA
01/25/22	362.13	52.05	310.08	7.07	12.5	285	4.23	6.51	<0.05	<0.10	<0.50	<0.25	<0.75	<0.010	<2.50	<1.0	NA	NA	NA	NA
07/25/22	362.13	51.19	310.94	5.67	18.1	175	3.15	1.25	<0.10	<0.20	<1.0	<0.50	<1.50	<0.010	<2.0	<2.0	NA	NA	NA	NA
10/25/22	362.13	51.49	310.64	5.64	14.0	157	2.76	1.46	<0.10	<0.20	<1.0	<0.50	<1.5	<0.010	<2.0	<2.0	NA	NA	NA	NA
01/31/23	362.13	51.65	310.48	6.35	12.1	170	3.00	2.75	<0.10	<0.20	<1.0	<0.50	<1.5	<0.010	<2.0	<2.0	NA	NA	NA	NA
04/11/23	362.13	51.57	310.56	6.34	13.3	104	4.95	38.90	<0.10	<0.20	<1.0	<0.50	<1.5	<0.250 ^e	<2.0	<2.0	NA	NA	NA	NA
08/01/23	362.13	52.24	309.89	6.12	16.2	177	1.42	0.12	<0.1	<0.250	<1.00	<0.500	<1.50	<0.0100	<10.0	<4.00	NA	NA	NA	NA

Table B-2
Summary of Groundwater Sampling Results - Well MW-09
SeaTac Development Site
SeaTac, Washington

Notes:

- Values in bold and red exceed MTCA Method A Cleanup Levels.
- J = Laboratory estimated value
- ^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 (July 2022).
- ^e The analyte was not detected at or above the method detection limit (MDL); however, the MDL exceeded the cleanup level.

Abbreviations and Acronyms:

- °C = degrees Celsius
- µg/L = micrograms per liter
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- DRO = diesel-range organics
- EDB = 1,2-dibromoethane
- GRO = gasoline-range organics
- mg/L = milligrams per liter
- NM = not measured
- NS = not sampled
- ORO = oil-range organics

Table B-3
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)	DRO after Silica Gel Cleanup (mg/L)	ORO after Silica Gel Cleanup (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	0.5	0.5
08/16/07	364.88	NM	NM	NM	NM	NM	NM	NM	92	710	7,600	1,800	11,000	NA	NA	NA	NA	NA	NA	NA
05/21/09	364.88	54.99	309.87	6.43	17.8	416	0.19	33.7	110	1,600	11,000	2,100	10,000	0.70	< 500 ^e	580	NA	NA	NA	NA
12/07/09	364.88	55.29	309.59	7.58	12.0	452	0.06	NM	38	390	2,600	1,200	4,990	0.21	110	540	NA	NA	NA	NA
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	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 ^e	< 10	25	1.1 J	< 0.20	NA	NA
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	< 0.070 ^e	< 0.20	< 0.50	0.34 J	< 0.20	NA	NA
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	NA	NA
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	< 0.070 ^e	0.18 J	0.68	0.20	< 0.20	NA	NA
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	< 0.070 ^e	0.26	< 0.50	0.45	< 0.20	NA	NA
12/03/15	364.83	56.74	308.09	NM	NM	NM	NM	NM	< 0.25	< 0.20	< 0.20	< 0.20	<0.40	<0.020 ^e	< 0.20	< 0.50	0.29	< 0.20	NA	NA
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 ^e	<0.20	<0.50	0.18 J	<0.20	NA	NA
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 ^e	<0.20	<0.50	0.16	<0.20	NA	NA
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 ^e	<0.20	<0.50	0.89	<0.22	NA	NA
11/15/17	364.83	53.37	311.46	7.69	14.9	301	0.99	18.9	2.23	1.75	17.8	10.6	113	<0.20 ^e	29	33	1.0	0.30	NA	NA
01/18/18	364.83	53.13	311.70	7.29	14.4	314	0.35	30.1	2.20	1.72	11.5	25.6	90	<0.20 ^e	29	30	1.6	<0.20	NA	NA
03/09/18	364.83	NM	NM	NM	NM	NM	NM	NM	NS	NS	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	3.02	2.82	17	2.05	23.8	43.0	<0.010	26	19	2.9	<0.20	NA	NA
11/08/18	364.83	52.55	312.28	7.98	14.7	354	0.36	6.60	3.61	26	2.48	24.3	25.0	<0.010	48 J	17	<0.10	<0.20	NA	NA
07/29/19	364.83	53.01	311.82	7.28	16.0	455	0.89	NM	2.29	8.2	2.90	16.0	25.0	<0.0030	8.4	14	1.85	<0.20	<0.10	<0.20
01/29/20	364.83	63.90	300.93	7.18	12.6	10	13.47	NM	<0.10	<0.10	<0.50	<0.25	<0.75	<0.010	<1.0	<1.0	NA	NA	<0.078	<0.16
07/22/20	364.83	54.60	310.23	6.36	15.2	185	0.24	NM	<0.10	<0.20	<1.0	<0.50	<1.50	<0.010	<2.0	<2.0	NA	NA	NA	NA
10/19/20	364.83	54.97	309.86	6.85	15.5	129	1.58	2.87	0.13	<0.20	<1.0	<0.50	6.16	<0.010	2.05	<4.0	NA	NA	NA	NA
01/18/21	364.83	55.23	309.60	6.28	14.3	68	0.48	5.04	0.48	0.37	1.97	3.56	40.3	<0.010	9.68	9.24	NA	NA	NA	NA
04/26/21	364.83	54.85	309.98	7.01	15.1	363	0.28	3.25	0.97	0.61	8.84	42.9	66.8	<0.010	21 J	22.4	NA	NA	NA	NA
07/26/21	364.83	55.05	309.78	7.23	15.8	278	0.24	1.01	3.57	1.95	13.9	114.0	378	<0.020 ^e	58	72.2	NA	NA	NA	NA
01/24/22	364.83	54.73	310.10	7.20	14.4	819	0.20	4.75	0.31	4.21	1.70	11.6	28.3	<0.020 ^e	<2.5	3.22	NA	NA	NA	NA
07/26/22	364.83	53.89	310.94	6.57	16.1	251	2.19	1.52	0.51	1.03	4.59	28.7	62.9	<0.010	2.6	5.80	NA	NA	NA	NA
10/25/22	364.83	54.23	310.60	5.77	13.1	17	8.47	8.09	<0.10	<0.20	<1.0	<0.50	<1.5	<0.010	<2.0	<2.0	NA	NA	NA	NA
01/31/23	364.83	54.38	310.45	7.13	14.1	188	0.49	0.86	0.34	3.30	2.25	14.9	27.2	<0.020e	<2.0	2.86	NA	NA	NA	NA
04/11/23	364.83	54.09	310.74	7.29	14.5	148	0.40	0.74	0.9 ^f	8.04 ^f	13.00	30.3	74.5	<0.250 ^e	5.83	5.15	NA	NA	NA	NA
07/31/23	364.83	54.82	310.01	7.41	16.1	248	0.53	1.58	1.05 J	3.26 J	4.96 J	44.4	143 J	<0.0100	6.06 J	8.28 J	NA	NA	NA	NA
10/24/23	364.83	55.43	309.40	6.68	15.2	72.1	1.25	4.62	<0.1	0.240	<1.00	<0.500	<1.50	<0.0100	<10.0	<5.00	NA	NA	NA	NA
01/17/24	364.83	55.40	309.43	6.89	11.9	77.6	2.41	26.19	0.5	0.52	1.11	10.1	34.3	<0.0100	5.30 J	3.79 J	NA	NA	NA	NA

Table B-3
Summary of Groundwater Sampling Results - Well MW-12
SeaTac Development Site
SeaTac, Washington

Notes:

- Values in bold and red exceed MTCA Method A Cleanup Levels.
- J = Laboratory estimated value
- ^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 (July 2022).
- ^e The analyte was not detected at or above the method detection limit (MDL); however, the MDL exceeded the cleanup level.
- ^f Concentration, which is from a duplicate sample, exceeded the concentration in the designated sample from MW-12.

Abbreviations and Acronyms:

- °C = degrees Celsius
- µg/L = micrograms per liter
- µmhos/cm = micromhos per centimeter
- mg/L = milligrams per liter
- EDB = 1,2-dibromoethane
- GRO = gasoline-range organics
- DRO = diesel-range organics
- ORO = oil-range organics
- NA = not analyzed
- NM = not measured
- NS = not sampled
- NTU = nephelometric turbidity unit

Table B-4
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)	DRO after Silica Gel Cleanup (mg/L)	ORO after Silica Gel Cleanup (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	0.5	0.5
08/16/07	365.42	NM	NM	NM	NM	NM	NM	NM	92	180	5,600	2,100	12,600	NA	NA	NA	NA	NA	NA	NA
05/20/09	365.42	55.51	309.91	6.29	18.8	474	1.13	4.8	76	51	1,400	2,100	11,000	0.067	< 250	640	NA	NA	NA	NA
12/07/09	365.42	55.83	309.59	6.44	12.3	429	0.18	NM	31	20	310	870	4,570	0.054	100	500	NA	NA	NA	NA
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	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	< 0.080 ^e	< 0.20	33	1.4 J	< 0.20	NA	NA
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	< 0.070 ^e	0.11 J	< 0.50	0.32	< 0.20	NA	NA
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	< 0.01	< 0.20	< 0.50	0.29	< 0.20	NA	NA
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	< 0.070 ^e	< 0.20	< 0.50	0.31	< 0.20	NA	NA
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	< 0.070 ^e	< 0.20	0.61	0.27	< 0.20	NA	NA
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	1.1 J	<0.020 ^e	< 0.20	< 0.50	0.26	< 0.20	NA	NA
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 ^e	<0.20	<0.50	0.12 J	<0.20	NA	NA
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 ^e	<0.20	<0.50	0.19	<0.20	NA	NA
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 ^e	<0.20	<0.50	0.18	<0.20	NA	NA
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 ^e	<0.20	<0.50	0.13	<0.20	NA	NA
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 ^e	<0.20	<0.50	<0.10	<0.20	NA	NA
03/09/18	365.42	NM	NM	NM	NM	NM	NM	NM	NS	NS	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	<0.010	<0.20	<0.50	<0.10	<0.20	NA	NA
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	<0.010	<0.20	<0.50	<0.10	<0.20	NA	NA
07/29/19	365.42	53.59	311.83	6.83	17.0	212	1.85	NM	<0.10	0.070 J	<0.20	<0.20	<0.60	<0.0030	<0.20	<0.50	<0.10	<0.20	<0.10	<0.20
01/30/20	365.42	54.92	310.50	7.10	12.9	215	3.28	NM	<0.10	0.15 J	<0.50	<0.25	<0.75	<0.010	<1.0	<1.0	NA	NA	NA	NA
07/22/20	365.42	55.19	310.23	5.75	14.4	238	0.99	NM	0.90	0.34	<1.0	0.74	<1.50	<0.20 ^e	5.8	4.6	NA	NA	NA	NA
10/19/20	365.42	55.67	309.75	6.72	14.1	274	2.04	2.17	0.53	0.21	<1.0	<0.50	<1.50	<0.20 ^e	<2.0	<2.0	NA	NA	NA	NA
01/18/21	365.42	55.85	309.57	6.56	13.3	277	1.31	0.49	0.53	0.22	1.23	6.58	18.1	<0.010	<2.0	4.7	NA	NA	NA	NA
04/26/21	365.42	55.44	309.98	6.85	14.3	217	6.18	1.69	<0.10	<0.20	<1.0	<0.50	3.73	<0.010	<2.0	<2.0	NA	NA	NA	NA
07/26/21	365.42	55.65	309.77	6.92	14.7	204	5.01	0.68	<0.05	<0.10	<0.50	<0.25	<0.75	<0.020 ^e	<2.0	<2.0	NA	NA	NA	NA
01/25/22	365.42	55.30	310.12	6.60	13.5	271	2.91	0.51	<0.05	<0.10	<0.50	<0.25	<0.75	<0.010	<2.5	<1.0	NA	NA	NA	NA
07/26/22	365.42	54.47	310.95	6.18	15.1	335	3.58	3.23	<0.10	<0.20	<1.0	<0.50	<1.5	<0.010	<2.0	<2.0	NA	NA	NA	NA
10/25/22	365.42	54.82	310.60	6.07	14.1	287	1.81	4.04	<0.10	<0.20	<1.0	<0.50	<1.5	<0.010	<2.0	<2.0	NA	NA	NA	NA
01/31/23	365.42	54.99	310.43	6.58	13.4	225	4.04	1.15	<0.10	<0.20	<1.0	<0.50	<1.5	<0.010	<2.0	<2.0	NA	NA	NA	NA
04/11/23	365.42	54.90	310.52	6.43	13.6	193	3.43	0.54	<0.10	<0.20	<1.0	<0.50	<1.5	<0.250 ^e	<2.0	<2.0	NA	NA	NA	NA
08/01/23	365.42	55.43	309.99	6.62	14.4	250	1.72	0.01	0.27	0.190 J	<1.00	<0.500	<1.50	<0.360 ^e	<10.0	<4.00	NA	NA	NA	NA

Table B-4
Summary of Groundwater Sampling Results - Well MW-13
SeaTac Development Site
SeaTac, Washington

Notes:
Values in bold and red exceed MTCA Method A Cleanup Levels.
J = Laboratory estimated value
^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 Calculator (CLARC) on-line database (July 2022).
^e The analyte was not detected at or above the method detection limit (MDL); however, the MDL exceeded the cleanup level.

Abbreviations and Acronyms:
°C = degrees Celsius
µg/L = micrograms per liter
µmhos/cm = micromhos per centimeter
EDB = 1,2-dibromoethane
GRO = gasoline-range organics
mg/L = milligrams per liter
NA = not analyzed
NM = not measured
NS = not sampled
NTU = nephelometric turbidity unit
ORO = oil-range organics

Table B-5
Summary of Groundwater Sampling Results - Well MW-15
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)	DRO after Silica Gel Cleanup (mg/L)	ORO after Silica Gel Cleanup (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	0.5	0.5
11/01/07	364.67	54.19	310.48	NM	NM	NM	NM	NM	10	18	16	350	418	NA	NA	NA	0.44	NA	NA	NA
05/19/09	364.67	54.76	309.91	6.34	15.2	552	1.58	> 1,000	7.80	9.90	3.4	200	74	NA	NA	NA	NA	NA	NA	NA
12/07/09	364.67	55.05	309.62	6.61	13.6	484	0.26	NM	5.90	21	<4.0	420	49	<0.0096	6.3	150	NA	NA	NA	NA
03/16/10	364.67	54.83	309.84	6.44	12.9	565	0.18	21.0	5.40	17	2.0	310	59	<0.0096	28	120	NA	NA	NA	NA
11/08/18	364.67	52.40	312.27	7.18	14.0	290	2.49	NM	0.82	0.48	0.19 J	1.8	0.24 J	NA	NA	NA	1.0	<0.20	NA	NA
01/18/21	364.67	54.80	309.87	6.58	13.9	493	0.92	36.6	0.29	0.60	<1.0	0.71	<1.5	<0.010	<2.0	<2.0	NA	NA	NA	NA
01/24/22	364.67	54.54	310.13	6.64	13.7	542	0.72	3.5	0.10	0.19	<0.50	<0.25	<0.75	<0.010	<2.5	<1.0	NA	NA	NA	NA
01/31/23	365.42	54.18	311.24	6.58	13.4	225	4.04	32.0	0.43	0.42	<1.0	0.51	<1.5	<0.250 ^e	<2.0	<2.0	NA	NA	NA	NA

Notes:

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

J = Laboratory estimated value

^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 (July 2022).

^e The analyte was not detected at or above the method detection limit (MDL); however, the MDL exceeded the cleanup level.

Abbreviations and Acronyms:

°C = degrees Celsius

µg/L = micrograms per liter

µmhos/cm = micromhos per centimeter

DRO = diesel-range organics

EDB = 1,2-dibromoethane

GRO = gasoline-range organics

mg/L = milligrams per liter

NA = not analyzed

NM = not measured

NS = not sampled

NTU = nephelometric turbidity unit

ORO = oil-range organics

Table B-6
Summary of Groundwater Sampling Results - Well MW-16
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
11/13/07	376.36	65.95	310.41	--	--	--	--	--	26	160	320	830	1,733	NA	NA	NA	NA	NA
05/22/09	376.36	66.56	309.80	6.33	15.4	440	0.35	3.97	28	180	67	1,200	1,800	<0.10 ^e	240	350	NA	NA
12/07/09	376.36	66.82	309.54	6.50	12.7	473	0.25	NM	10	69	67	580	490	0.053	66	230	NA	NA
03/17/10	376.36	66.62	309.74	6.40	11.7	446	0.22	5.14	6.60	51	15	430	292	0.044	38	170	NA	NA
07/29/19	377.63	65.95	311.68	6.57	15.6	184	0.45	NM	1.73	0.64	0.32	0.45	0.48 J	<0.0030	4.13	1.0	<0.10	<0.20
10/19/20	377.63	68.02	309.61	6.55	13.4	237	2.26	2.54	0.19	0.29	<1.0	<0.50	<1.5	<0.010	<2.0	<2.0	NA	NA
01/18/21	377.63	68.21	309.42	6.37	13.3	248	0.58	1.08	0.41	0.22	<1.0	<0.50	<1.5	<0.010	3.43	<2.0	NA	NA
04/26/21	377.63	67.82	309.81	6.72	14.1	184	1.31	2.13	0.35	<0.20	<1.0	<0.50	<1.5	<0.010	<2.0	<2.0	NA	NA
07/26/21	377.63	68.02	309.61	6.79	15.8	150	0.90	0.49	0.080 J	0.12 J	<0.50	<0.25	<0.75	<0.040 ^e	<2.0	<2.0	NA	NA
01/24/22	377.63	67.68	309.95	6.88	12.7	147	1.30	0.81	<0.050	<0.10	<0.50	<0.25	<0.75	<0.020 ^e	<2.5	<1.0	NA	NA
07/25/22	377.63	66.81	310.82	6.38	14.8	143	1.35	1.32	<0.10	<0.20	<1.0	<0.50	<1.5	<0.020e	<2.0	<2.0	NA	NA
10/26/22	377.63	67.15	310.48	6.05	13.6	199	3.78	0.71	0.18	<0.20	<1.0	<0.50	<1.5	<0.020e	<2.0	<2.0	NA	NA
01/31/23	377.63	67.34	310.29	6.75	12.0	184	0.86	1.22	0.13	<0.20	<1.0	<0.50	<1.5	<0.020e	<2.0	<2.0	NA	NA
04/11/23	377.63	67.25	310.38	6.58	12.8	166	0.84	2.45	0.13	<0.20	<1.0	<0.50	<1.5	<0.250 ^e	<2.0	<2.0	NA	NA
07/31/23	377.63	67.78	309.85	6.86	16.2	207	0.98	0.76	<0.1	<0.250	<1.00	<0.500	<1.50	<0.0100	<10.0	<4.00	NA	NA

Notes:

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

-- = Not available

J = Laboratory estimated value

^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 Calculator (CLARC) on-line database (July 2022).

^e The analyte was not detected at or above the method detection limit (MDL); however, the MDL exceeded the cleanup level.

Abbreviations and Acronyms:

°C = degrees Celsius

µg/L = micrograms per liter

µmhos/cm = micromhos per centimeter

DRO = diesel-range organics

EDB = 1,2-dibromoethane

GRO = gasoline-range organics

mg/L = milligrams per liter

NA = not analyzed

NM = not measured

NS = not sampled

NTU = nephelometric turbidity unit

ORO = oil-range organics

Table B-7
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)	DRO after Silica Gel Cleanup (mg/L)	ORO after Silica Gel Cleanup (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	0.5	0.5
11/13/07	385.81	75.60	310.21	NM	NM	NM	NM	NM	17	1.0	5.2	45	507	NA	NA	NA	7.3	< 0.50	NA	NA
05/28/09	385.81	76.17	309.64	6.23	18.2	183.9	0.37	4.9	6.3	0.70	0.6	13	96	< 0.20 ^g	< 5.0	150	NA	NA	NA	NA
12/07/09	385.81	76.49	309.32	6.46	10	166	0.13	NM	4.5	< 4.0	7.0	8.8	56	< 0.0095	< 4.0	140	NA	NA	NA	NA
03/17/10	385.81	76.29	309.52	6.51	9.3	145	0.52	142	1.7	< 1.0	< 1.0	4.0	27	< 0.0095	< 1.0	63	NS	NS	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	< 0.080 ^g	< 0.20	0.74	< 0.10	< 0.20	NA	NA
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	< 0.070 ^g	< 0.20	0.62 J	< 0.10	< 0.20	NA	NA
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	< 0.070 ^g	< 0.20	0.64 J	< 0.10	< 0.20	NA	NA
12/05/14	394.00 ^e	84.18	309.82 ^f	6.42	11.7	167	1.09	31.8	< 0.10 J	0.54 J	< 0.25 J	< 0.25 J	0.63 J	< 0.070 ^g	< 0.20 J	2.8	< 0.10	< 0.20	NA	NA
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	< 0.070 ^g	< 0.20	< 0.50	< 0.10	< 0.20	NA	NA
12/18/15	394.00e	85.95	308.05f	6.57	11.8	127	0.20	23.7	0.050 J	0.75	< 0.20	0.080 J	< 0.40	<0.020 ^e	< 0.20	0.98 J	< 0.10	< 0.20	NA	NA
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 ^g	0.11 J	0.71 J	<0.10	<0.20	NA	NA
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 ^g	<0.20	<0.50	<0.10	<0.20	NA	NA
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 ^g	<0.20	<0.50	<0.10	<0.20	NA	NA
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 ^g	<0.20	0.54	<0.10	<0.20	NA	NA
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 ^g	<0.20	<0.50	<0.10	<0.20	NA	NA
03/09/18	394.00 ^e	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
05/15/18	394.00 ^e	82.21	311.79f	6.14	12.9	106	8.57	1.4	<0.10	<0.20	<0.20	<0.20	<0.40	<0.010	<0.20	<0.50	<0.10	<0.20	NA	NA
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	<0.010	<0.20	<0.50	<0.10	<0.20	NA	NA
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	<0.0030	0.10 J	<0.50	<0.10	<0.20	<0.10	<0.20
01/30/20	394.44	84.14	310.30	6.38	12.1	161	5.74	NM	<0.10	<0.10	<0.50	<0.25	<0.75	<0.010	<1.0	<1.0	NA	NA	NA	NA
07/21/20	394.44	84.35	310.09	5.35	13.7	168	1.99	NM	<0.10	<0.20	<1.0	<0.50	<1.5	#REF!	<2.0	<2.0	NA	NA	NA	NA
10/19/20	394.44	84.93	309.51	5.86	14.3	182	3.02	13.2	<0.10	<0.20	<1.0	<0.50	<1.5	<0.010	<2.0	<2.0	NA	NA	NA	NA
01/18/21	394.44	85.14	309.30	6.23	12.3	179	1.15	1.7	<0.10	0.49	<1.0	<0.50	<1.5	<0.010	<2.0	<2.0	NA	NA	NA	NA
04/26/21	394.44	84.69	309.75	6.29	13.3	180	3.98	94.8	<0.10	<0.20	<1.0	<0.50	<1.5	<0.010	<2.0	<2.0	NA	NA	NA	NA
07/26/21	394.44	84.85	309.59	6.34	16.1	162	3.99	38.1	<0.050	<0.10	<0.50	<0.25	<0.75	<0.010	<2.0	<2.0	NA	NA	NA	NA
01/24/22	394.44	84.68	309.76	6.70	12.4	220	1.50	12.9	<0.050	<0.10	<0.50	<0.25	<0.75	<0.010	<2.5	<1.0	NA	NA	NA	NA
07/25/22	394.44	83.38	311.06	6.12	14.0	189	4.00	33.5	<0.10	<0.20	<1.0	<0.50	<1.5	<0.010	<2.0	<2.0	NA	NA	NA	NA
10/26/22	394.44	83.99	310.45	5.74	13.3	127	6.64	1.5	<0.10	<0.20	<1.0	<0.50	<1.5	<0.010	<2.0	<2.0	NA	NA	NA	NA
01/31/23	394.44	84.19	310.25	6.55	12.7	139	5.30	1.2	<0.10	<0.20	<1.0	<0.50	<1.5	<0.010	<2.0	<2.0	NA	NA	NA	NA
04/11/23	394.44	84.11	310.33	6.32	12.5	135	5.09	6.36	<0.10	<0.20	<1.0	<0.50	<1.5	<0.250 ^g	<2.0	<2.0	NA	NA	NA	NA
08/01/23	394.44	85.05	309.39	6.17	14.5	154	4.50	1.24	<0.1	<0.250	<1.00	<0.500	<1.50	<0.0100	<10.0	<4.00	NA	NA	NA	NA

Table B-7
Summary of Groundwater Sampling Results - Well MW-17A
SeaTac Development Site
SeaTac, Washington

Notes:

- Values in bold and red exceed MTCA Method A Cleanup Levels.
- J = Laboratory estimated value
- ^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 (July 2022).
- ^e Top of casing elevation was not surveyed; elevation was estimated by Golder Associates, Inc.
- ^f Estimated elevation.
- ^g The analyte was not detected at or above the method detection limit (MDL); however, the MDL exceeded the cleanup level.

Abbreviations and Acronyms:

- °C = degrees Celsius
- µg/L = micrograms per liter
- µmhos/cm = micromhos per centimeter
- DRO = diesel-range organics
- EDB = 1,2-dibromoethane
- GRO = gasoline-range organics
- mg/L = milligrams per liter
- NA = not analyzed
- NM = not measured
- NS = not sampled
- NTU = nephelometric turbidity unit
- ORO = oil-range organics

Table B-8
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)	DRO after Silica Gel Cleanup (mg/L)	ORO after Silica Gel Cleanup (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	0.5	0.5
11/28/07	360.45	52.50	307.95	NM	NM	NM	NM	NM	79	2,900	7,500	1,600	6,290	NA	NA	NA	0.66	< 0.50 ^e	NA	NA
05/21/09	360.45	54.53	305.92	6.71	17.4	494	0.11	4.58	78	3,100	7,600	2,200	9,600	1.4	500	460	NA	NA	NA	NA
12/07/09	360.45	50.85	309.60	6.80	12.4	587	0.28	NM	44	2,200	5,400	1,600	6,690	1.9	180	380	NA	NA	NA	NA
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	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	< 0.080 ^e	1.1	4.0	0.77 J	<0.20	NA	NA
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	< 0.070 ^e	0.64	0.84 J+	0.33 J	<0.20	NA	NA
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	NA	NA
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	< 0.070 ^e	0.10 J	< 0.50	0.24	< 0.20	NA	NA
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	< 0.070 ^e	< 0.20	< 0.50	0.38	< 0.20	NA	NA
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	<0.020 ^e	0.25	0.67	0.13	< 0.20	NA	NA
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 ^e	1.5	1.5 J	0.37 J	<0.20	NA	NA
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 ^e	0.39	<0.50	0.48	<0.20	NA	NA
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 ^e	1.4	2.7	0.29	0.30	NA	NA
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 ^e	0.33	<0.50	4.4	0.43	NA	NA
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 ^e	<0.20	<0.50	<0.10	<0.20	NA	NA
03/09/18	360.45	48.35	312.10	6.69	14.4	479	0.28	1.89	1.9	NS	NS	NS	NS	NS	NS	NS	4.7	<0.20	NA	NA
05/16/18	360.45	47.94	312.51	6.42	15.2	405	0.21	1.41	1.5	6.2	2.2	20	19	<0.010	1.3	5.1	2.9	<0.20	NA	NA
11/07/18	360.45	48.14	312.31	6.82	15.1	506	0.17	2.50	1.5	6.6	1.1	24	2.8	<0.010	<0.20	7.0	3.3	<0.20	NA	NA
07/26/19	360.45	48.58	311.87	6.55	17.9	782	0.65	NM	1.2	1.3	0.25	1.2	2.4	<0.0030	0.22	4.8	2.8	<0.20	<0.10	<0.20
01/30/20	360.45	50.03	310.42	7.51	13.5	27.0	7.14	NM	<0.10	<0.10	<0.50	<0.25	<0.75	<0.010	<1.0	<1.0	NA	NA	<0.080	<0.16
07/22/20	360.45	50.25	310.20	6.80	16.1	355	1.57	NM	<0.10	<0.20	<1.0	<0.50	<1.50	#REF!	<2.0	<2.0	NA	NA	NA	NA
10/19/20	360.45	50.68	309.77	7.51	16.4	390	2.34	1.5	<0.10	<0.20	<1.0	<0.50	<1.50	<0.010	<2.0	<2.0	NA	NA	NA	NA
01/18/21	360.45	50.90	309.55	7.49	14.9	378	0.66	0.7	<0.10	0.66	<1.0	<0.50	<1.5	<0.010	<2.0	<2.0	NA	NA	NA	NA
04/26/21	360.45	50.49	309.96	7.65	15.7	378	0.19	0.44	<0.10	0.51	<1.0	<0.50	<1.5	<0.010	<2.0	<2.0	NA	NA	NA	NA
07/26/21	360.45	50.63	309.82	7.65	18.1	308	0.31	0.63	<0.05	0.59	<0.50	<0.25	<0.75	<0.010	<2.0	<2.0	NA	NA	NA	NA
01/25/22	360.45	50.31	310.14	7.01	14.7	622	0.40	0.29	<0.05	0.33	<0.50	<0.25	<0.75	<0.010	<2.5	<1.0	NA	NA	NA	NA
07/26/22	360.45	49.43	311.02	6.92	18.2	496	0.86	1.71	<0.10	0.70	<1.0	<0.50	<1.5	<0.010	<2.0	<2.0	NA	NA	NA	NA
10/25/22	360.45	49.79	310.66	6.36	15.9	530	0.68	0.69	<0.10	<0.20	<1.0	<0.50	<1.5	<0.010	<2.0	<2.0	NA	NA	NA	NA
01/31/23	360.45	49.96	310.49	7.09	13.8	510	0.66	1.12	<0.10	<0.20	<1.0	<0.50	<1.5	<0.010	<2.0	<2.0	NA	NA	NA	NA
04/11/23	360.45	49.90	310.55	6.77	15.1	312	0.80	0.59	<0.10	<0.20	<1.0	<0.50	<1.5	<0.250 ^e	<2.0	<2.0	NA	NA	NA	NA
08/01/23	360.45	50.40	310.05	6.78	16.0	503	0.66	0.70	<0.1	0.170 J	<1.00	<0.500	<1.50	<0.0100	<10.0	<4.00	NA	NA	NA	NA

Table B-8
Summary of Groundwater Sampling Results - Well MW-18
SeaTac Development Site
SeaTac, Washington

Notes:

- Values in bold and red exceed MTCA Method A Cleanup Levels.
- J = Laboratory estimated value
- ^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 (July 2022).
- ^e The analyte was not detected at or above the method detection limit (MDL); however, the MDL exceeded the cleanup level.

Abbreviations and Acronyms:

- °C = degrees Celsius
- µg/L = micrograms per liter
- µmhos/cm = micromhos per centimeter
- DRO = diesel-range organics
- EDB = 1,2-dibromoethane
- GRO = gasoline-range organics
- mg/L = milligrams per liter
- NA = not analyzed
- NM = not measured
- NS = not sampled
- NTU = nephelometric turbidity unit
- ORO = oil-range organics

Table B-9
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)	DRO after Silica Gel Cleanup (mg/L)	ORO after Silica Gel Cleanup (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	0.5	0.5
12/10/09	393.31	83.8	309.51	6.96	11.7	5.66	0.27	NM	8.0	17	26	770	1,112	< 0.0095	4.9	270	NA	NA	NA	NA
02/12/10	393.31	NM	NM	NM	NM	NM	NM	0.97	12.0	22	51	850	1,719	< 0.0096	11	280	NA	NA	NA	NA
03/16/10	393.31	83.63	309.68	6.65	12.5	586	0.25	82.0	15.0	23	74	1,400	2,420	< 0.0095	15	380	NS	NS	NS	NS
03/20/14	393.31	82.93	310.38	6.68	12.2	381	0.87	64.8	17.0	5.7	12	990	1,503	< 0.070 ^f	7.8	400 J	1.2 J	< 0.20	NA	NA
05/28/14	393.31	82.72	310.59	6.73	13.2	383	0.30	2.26	18.0	3.90	9.70	940	1,900	< 0.070 ^f	8.6	420 B	1.7 J	< 0.20	NA	NA
09/12/14	393.31	82.98	310.33	6.81	13.7	423	0.29	1.03	16.0	4.80	9.30	690	1,103	< 1.5 ^f	9.8	460 B J	1.1 J	< 0.20	NA	NA
12/05/14	393.31	82.98	310.33	6.81	12.8	378	0.26	3.71	16.0	8.70	11.0	740	1,103	< 1.5 ^f	7.2	380	0.86 J	< 0.20	NA	NA
06/25/15	393.31	82.95	310.36	6.82	13.6	354	0.52	3.34	19.0	5.90	7.40	750	1,402	< 0.74 ^f	4.7	310	1.0 J	< 0.20	NA	NA
12/02/15	393.31	84.83	308.48	6.87	13.0	325	0.25	3.42	19.0	4.40	6.20	840	1,503	<0.020 ^e	3.0 J	240	1.5 J	< 0.20	NA	NA
05/04/16	393.31	83.85	309.46	6.84	13.3	294	0.39	3.61	15.0	3.80	5.00	780	1,403	<0.20 ^f	8.6	470 Q	2.8 J	<0.20	NA	NA
11/16/16	393.31	83.43	309.88	6.89	13.1	246	1.00	5.50	11.0	3.97	3.93	631	882	<0.20 ^f	5.9 J	438	1.9	<0.20	NA	NA
05/02/17	393.31	82.95	310.36	6.67	13.3	172	0.41	1.87	12.8	4.22	4.35	651	960	<0.20 ^f	5.7	389	2.8	<0.22	NA	NA
11/15/17	393.31	81.93	311.38	7.09	13.1	215	1.72	3.72	11.1	4.17	3.34	481	583	<2.0 ^f	5.4	326	2.4	<0.20	NA	NA
01/18/18	393.31	81.43	311.88	6.67	12.9	196	0.81	3.08	16.5	4.90	3.89	530	731	<2.0 ^f	7.9	349	2.9	<0.20	NA	NA
03/09/18	393.31	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NA	NA
05/16/18	393.31	80.92	312.39	6.41	13.5	172	3.39	2.94	12.2	2.97	2.4	340	630	<0.010	4.8	268	2.0	<0.20	NA	NA
11/07/18	393.31	81.22	312.09	6.97	13.4	171	3.92	1.78	8.56	2.27	2.2	198	407	<0.010	4.0	228	1.8 J	0.20 UJ	NA	NA
08/08/19	393.31	81.52	311.79	6.02	14.6	231	5.05	NM	1.94	1.05	0.33	61.4	76.3	<0.0030	0.47	61	0.77	<0.20	<0.10	<0.20
01/29/20	393.31	82.58	310.73	6.72	12.8	192	1.78	NM	4.32	3.10	<5.0	247	335	<2.5 ^f	<10	130	NA	NA	0.27 ^e	<0.20
07/21/20	393.31	83.04	310.27	5.60	14.8	208	0.96	NM	4.38	2.90	<5.0	184	340	<2.5 ^f	<10	175	NA	NA	NA	NA
01/24/22	393.31	82.79	310.52	7.70	13.0	252	0.54	0.84	0.23	1.51	<0.50	1	<0.75	<0.010	<1.0	13.2	NA	NA	NA	NA
01/30/23	393.31	82.96	310.35	7.72	12.4	204	0.76	2.17	0.10	0.40	<1.0	<0.50	<1.5	<0.010	<2.0	2.8	NA	NA	NA	NA

Table B-9
Summary of Groundwater Sampling Results - Well MW-22
SeaTac Development Site
SeaTac, Washington

Notes:

- Values in bold and red exceed MTCA Method A Cleanup Levels.
- J = Laboratory estimated value
- ^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 Calculator (CLARC) on-line database (July 2022).
- ^e The laboratory noted that the result for diesel-range organics is due to overlap from gasoline or a gasoline-range product.
- ^f The analyte was not detected at or above the method detection limit (MDL); however, the MDL exceeded the cleanup level.

Abbreviations and Acronyms:

- °C = degrees Celsius
- µg/L = micrograms per liter
- µmhos/cm = micromhos per centimeter
- DRO = diesel-range organics
- EDB = 1,2-dibromoethane
- GRO = gasoline-range organics
- mg/L = milligrams per liter
- NA = not analyzed
- NM = not measured
- NS = not sampled
- NTU = nephelometric turbidity unit
- ORO = oil-range organics

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

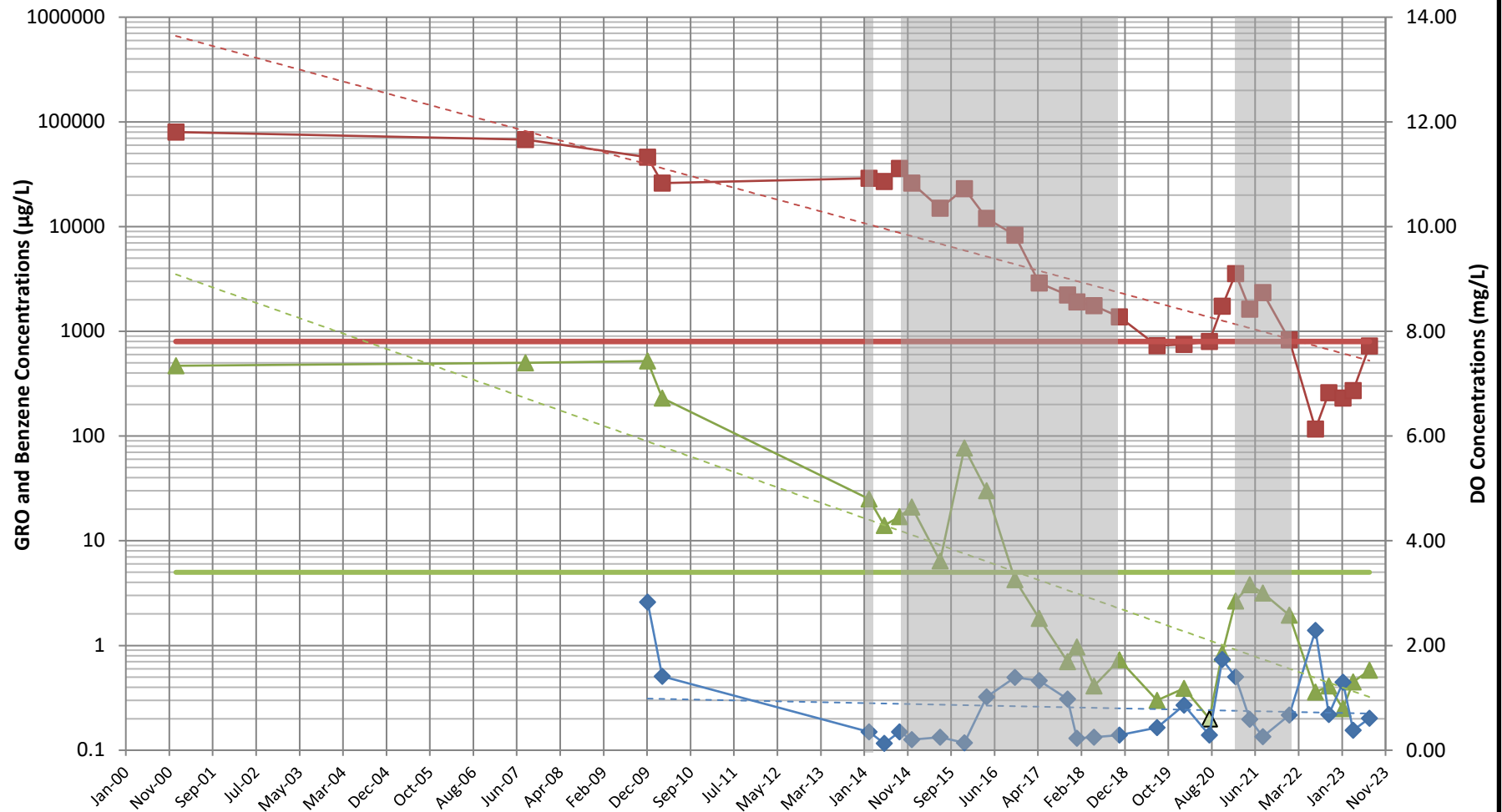
Date Sampled	Top of Casing Elevation (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	Field Parameters					Analytical Data											
				pH	Temperature (°C)	Conductivity (µmhos/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	GRO (mg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	EDB (µg/L)	N-hexane (µg/L)	Naphthalene (µg/L)	DRO (mg/L)	ORO (mg/L)	DRO after Silica Gel Cleanup (mg/L)	ORO after Silica Gel Cleanup (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	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	NA	NA
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	< 0.070 ^g	< 0.20	< 0.50 J	< 0.10	< 0.20	NA	NA
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	< 0.070 ^g	< 0.20	< 0.50	< 0.10	< 0.20	NA	NA
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	1.10	1.90	< 0.070 ^g	< 0.20	< 0.50	< 0.10	< 0.20	NA	NA
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	1.10	1.00	< 0.070 ^g	< 0.20	< 0.50	< 0.10	< 0.20	NA	NA
06/25/15	400.00 ^e	89.67	310.33 ^f	6.51	14.3	290	3.80	4.18	< 0.25	< 0.20	< 0.20	< 0.20	< 0.40	< 0.070 ^g	< 0.20	< 0.50	< 0.10	< 0.20	NA	NA
12/02/15	400.00 ^e	91.61	308.39 ^f	6.56	13.0	267	2.34	1.79	< 0.25	< 0.20	< 0.20	0.26	0.40 J	< 0.070 ^g	< 0.20	2.3 J	< 0.10	0.49	NA	NA
05/04/16	400.00 ^e	90.55	309.45 ^f	6.72	13.2	219	2.59	7.38	<0.10	0.080 J	<0.20	0.74	0.50	<0.20 ^g	<0.20	0.83 J	<0.10	<0.20	NA	NA
11/16/16	400.00 ^e	90.31	309.69 ^f	6.70	13.1	192	3.97	11.7	<0.10	0.030 J	<0.20	0.04 J	<0.40	<0.20 ^g	<0.20	<0.50	<0.10	<0.20	NA	NA
05/02/17	400.00 ^e	89.65	310.35 ^f	6.54	12.9	107	3.85	2.63	<0.10	0.21	<0.20	1.16	<0.40	<0.020 ^e	<0.20	1.37	<0.10	<0.20	NA	NA
11/15/17	400.00 ^e	88.67	311.33 ^f	6.78	13.0	199	5.09	2.42	<0.10	<0.20	<0.20	0.36	<0.40	<0.20 ^g	<0.20	<0.50	<0.10	<0.20	NA	NA
01/18/18	400.00 ^e	88.17	311.83 ^f	6.82	12.6	173	1.39	3.43	0.15	0.47	<0.20	2.68	<0.40	<0.20 ^g	<0.20	3.24	0.17	<0.20	NA	NA
03/09/18	400.00 ^e	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NA	NA
05/16/18	400.00 ^e	87.64	312.36 ^f	6.40	13.8	103	3.36	2.35	<0.10	<0.20	<0.20	<0.20	<0.40	<0.010	<0.20	<0.50	<0.10	<0.20	NA	NA
11/07/18	400.00 ^e	87.91	312.09 ^f	6.80	13.1	103	4.92	1.29	<0.10	<0.20	<0.20	<0.20	<0.40	<0.010	<0.20	<0.50	<0.10	<0.20	NA	NA
08/08/19	400.00 ^e	89.52	310.73 ^f	7.27	11.7	114	3.73	NM	<0.10	<0.20	<0.20	<0.20	<0.60	<0.0030	0.11 J	<0.50	0.14	<0.20	<0.10	<0.20
01/29/20	399.83	105.60	294.23	6.66	12.0	166	8.70	NM	<0.10	<0.10	<0.50	<0.25	<0.75	<0.010	<1.0	<1.0	NA	NA	NA	NA
07/21/20	399.83	89.77	310.06	5.37	14.5	174	3.15	NM	<0.10	<0.20	<1.0	<0.50	<1.5	<0.010	<2.0	<2.0	NA	NA	NA	NA
10/19/20	399.83	90.30	309.53	6.22	15.0	194	1.14	3.27	<0.10	<0.20	<1.0	<0.50	<1.5	<0.010	<2.0	<2.0	NA	NA	NA	NA
01/18/21	399.83	90.61	309.22	6.31	12.3	209	3.75	14.50	<0.10	<0.20	<1.0	<0.50	<1.5	<0.010	<2.0	<2.0	NA	NA	NA	NA
04/26/21	399.83	90.12	309.71	6.80	13.7	228	2.99	62.60	<0.10	0.22	<1.0	<0.50	<1.5	<0.010	<2.0	<2.0	NA	NA	NA	NA
07/26/21	399.83	90.28	309.55	6.88	15.2	185	3.88	2.10	<0.050	<0.10	<0.50	<0.25	<0.75	<0.010	<2.0	<2.0	NA	NA	NA	NA
01/24/22	399.83	90.02	309.81	7.00	12.7	224	2.71	0.64	<0.050	<0.10	<0.50	<0.25	<0.75	<0.010	<1.0	<1.0	NA	NA	NA	NA
07/25/22	399.83	89.11	310.72	6.88	17.8	253	2.01	6.20	<0.10	<0.20	<1.0	<0.50	<1.50	<0.010	<2.0	<2.0	NA	NA	NA	NA
10/25/22	399.83	89.49	310.34	6.14	14.2	152	4.11	12.70	<0.10	<0.20	<1.0	<0.50	<1.5	<0.010	<2.0	<2.0	NA	NA	NA	NA
01/30/23	399.83	89.67	310.16	7.48	11.9	211	1.43	114.00	<0.10	0.40	<1.0	1.2	<1.5	<0.010	<2.0	<2.0	NA	NA	NA	NA
04/11/23	399.83	89.52	310.31	7.27	11.7	114	3.73	18	<0.10	0.13 J	<1.0	<0.50	<1.5	<0.250 ^g	<2.0	<2.0	NA	NA	NA	NA

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

Notes:
J = Laboratory estimated value
^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 Calculator (CLARC) on-line database (July 2022).
^e Top of casing elevation was not surveyed; elevation was estimated by Golder Associates, Inc.
^f Estimated elevation.
^g The analyte was not detected at or above the method detection limit (MDL); however, the MDL exceeded the cleanup level.

Abbreviations and Acronyms:
°C = degrees Celsius
µg/L = micrograms per liter
µmhos/cm = micromhos per centimeter
DRO = diesel-range organics
EDB = 1,2-dibromoethane
GRO = gasoline-range organics
mg/L = milligrams per liter
NA = not analyzed
NM = not measured
NS = not sampled
NTU = nephelometric turbidity unit
ORO = oil-range organics

MW-07



Legend

- GRO Concentrations
- ▲ Benzene Concentrations
- Benzene Cleanup Level (5 ug/L)
- - - GRO Trendline
- - - DO Trendline
- GRO Cleanup Level (800 ug/L)
- △ Benzene Non-Detects
- ◆ Dissolved Oxygen (DO) Concentrations
- - - Benzene Trendline
- IAS - SVE system operating

FIGURE B-1
GRO and Benzene Concentrations in MW-07
SeaTac Development Site

MW-09

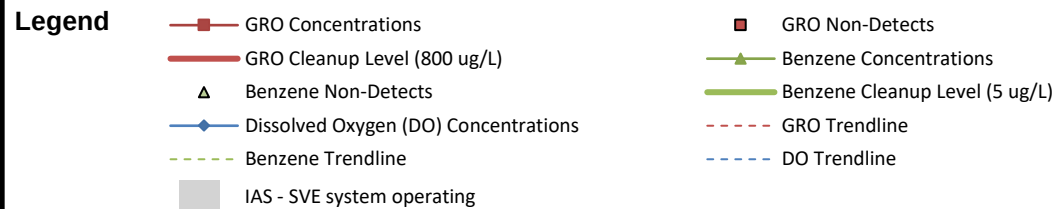
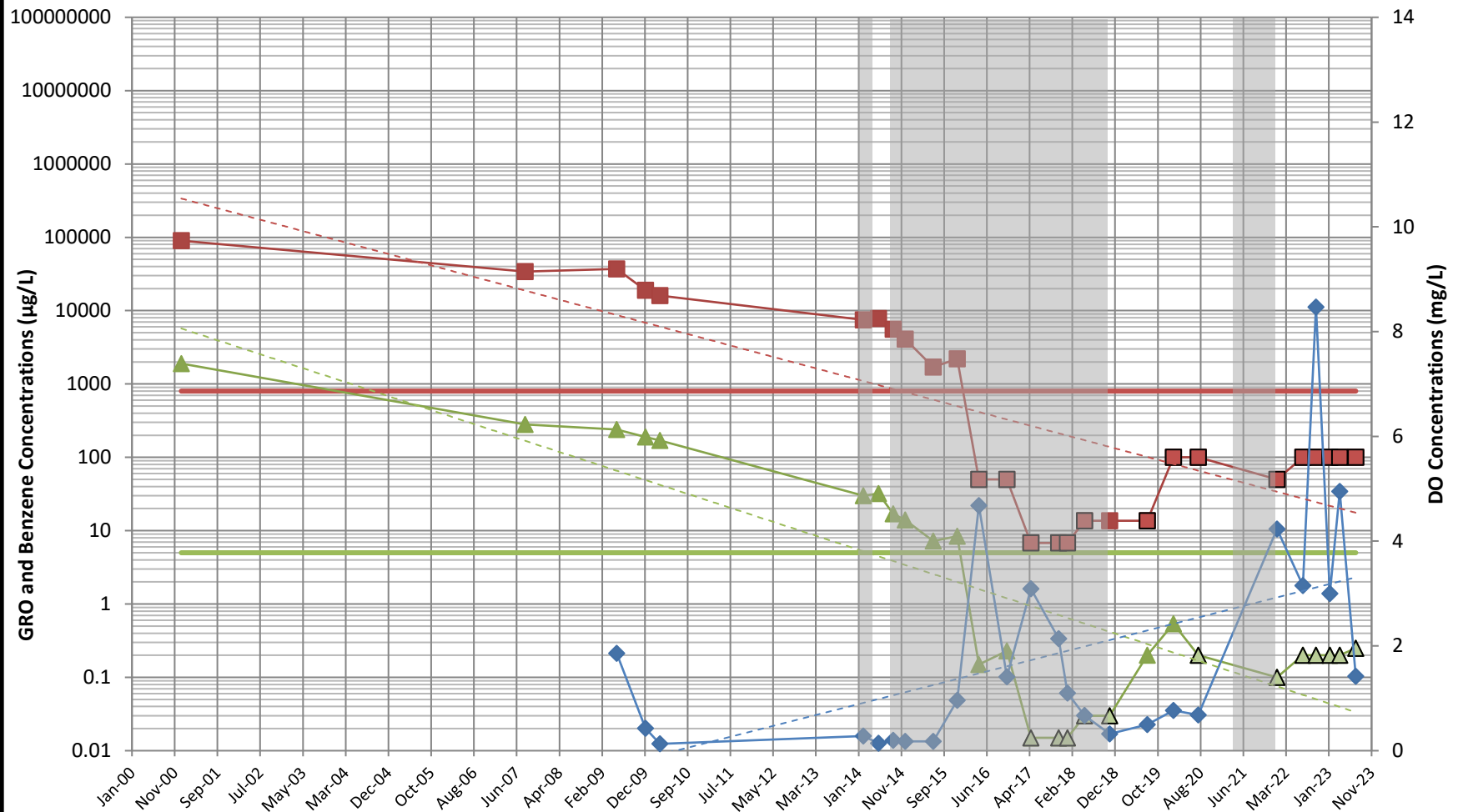
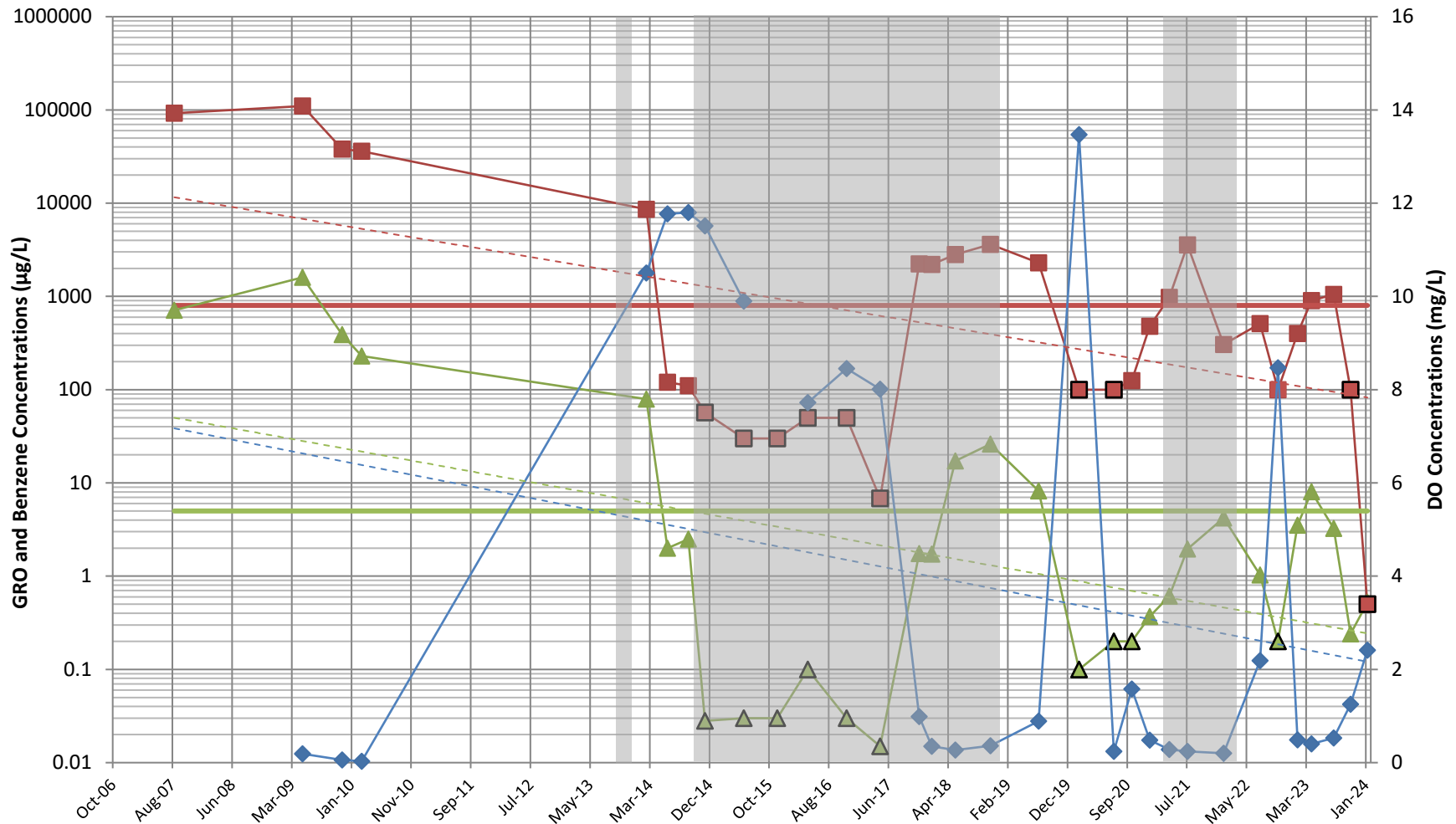


FIGURE B-2
GRO and Benzene Concentrations in
MW-09
SeaTac Development Site

MW-12

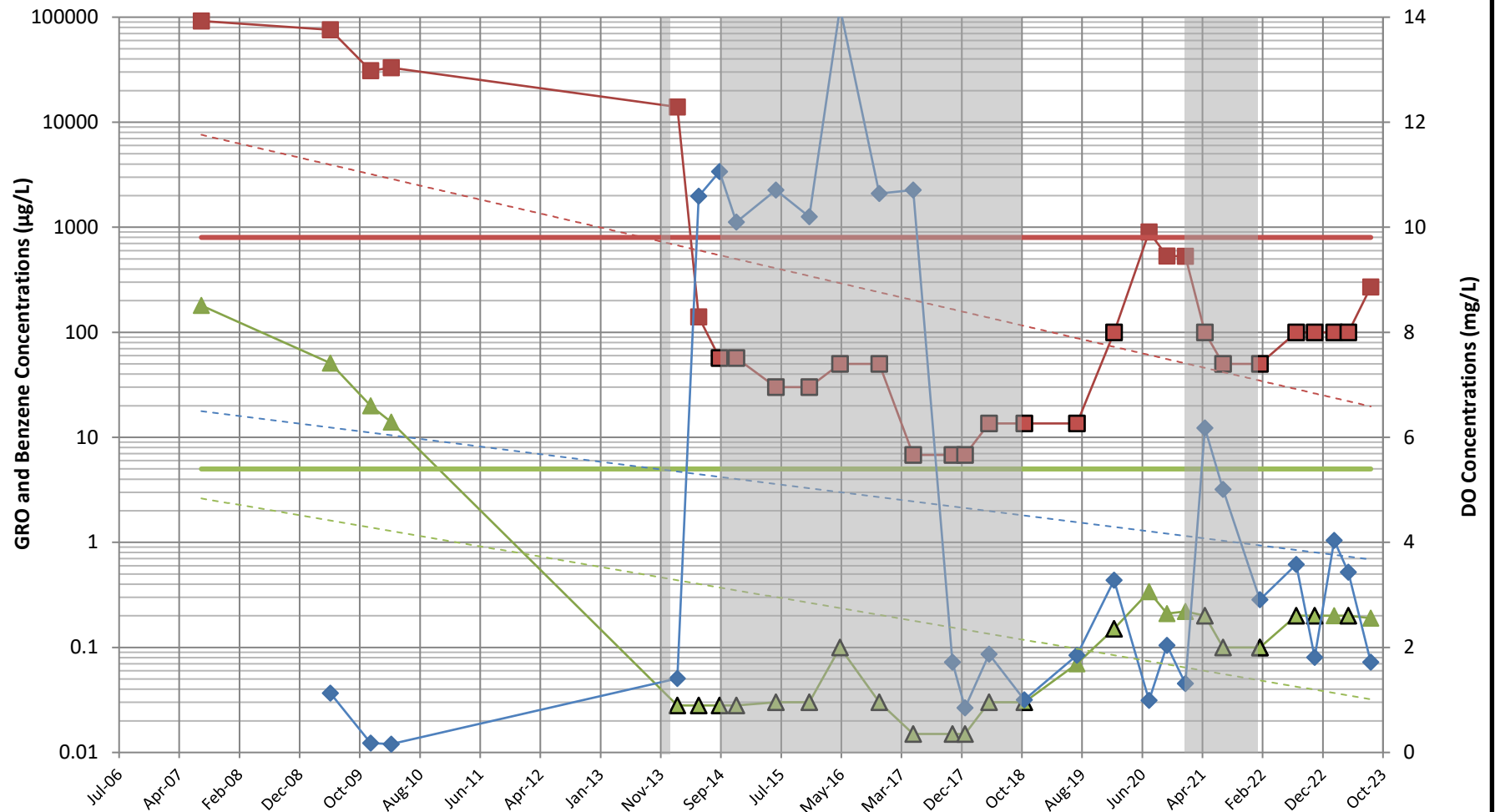


Legend

- GRO Concentrations
- GRO Cleanup Level (800 µg/L)
- ▲ Benzene Non-Detects
- ◆ Dissolved Oxygen (DO) Concentrations
- - - Benzene Trendline
- GRO Non-Detects
- ▲ Benzene Concentrations
- Benzene Cleanup Level (5 µg/L)
- - - GRO Trendline
- - - DO Trendline
- IAS - SVE system operating

FIGURE B-3
GRO and Benzene Concentrations in MW-12
SeaTac Development Site

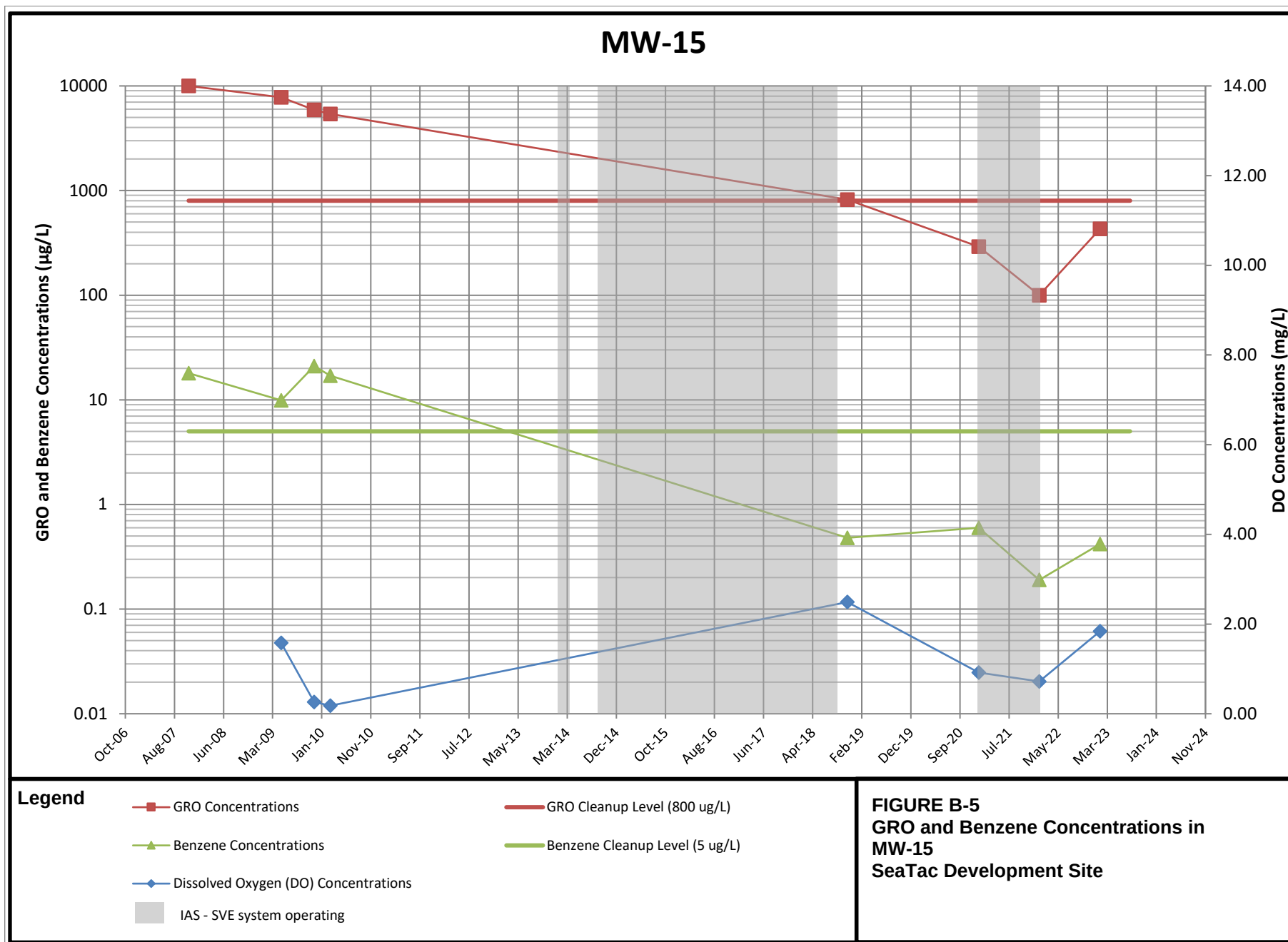
MW-13



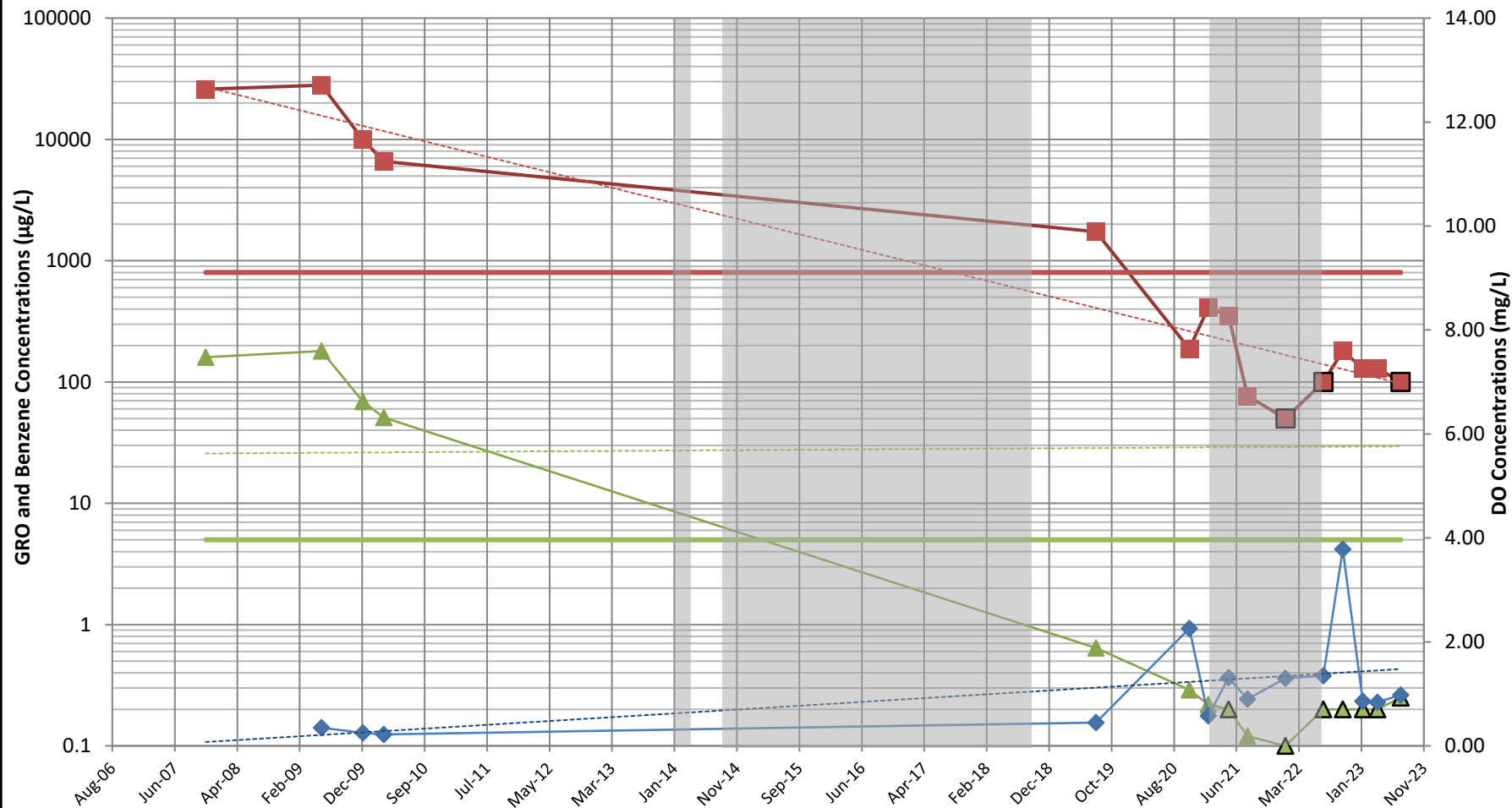
Legend

- GRO Concentrations
- GRO Cleanup Level (800 ug/L)
- ▲ Benzene Non-Detects
- ◆ Dissolved Oxygen (DO) Concentrations
- - - Benzene Trendline
- GRO Non-Detects
- Benzene Cleanup Level (5 ug/L)
- - - GRO Trendline
- - - DO Trendline
- IAS - SVE system operating

FIGURE B-4
GRO and Benzene Concentrations in
MW-13
SeaTac Development Site



MW-16

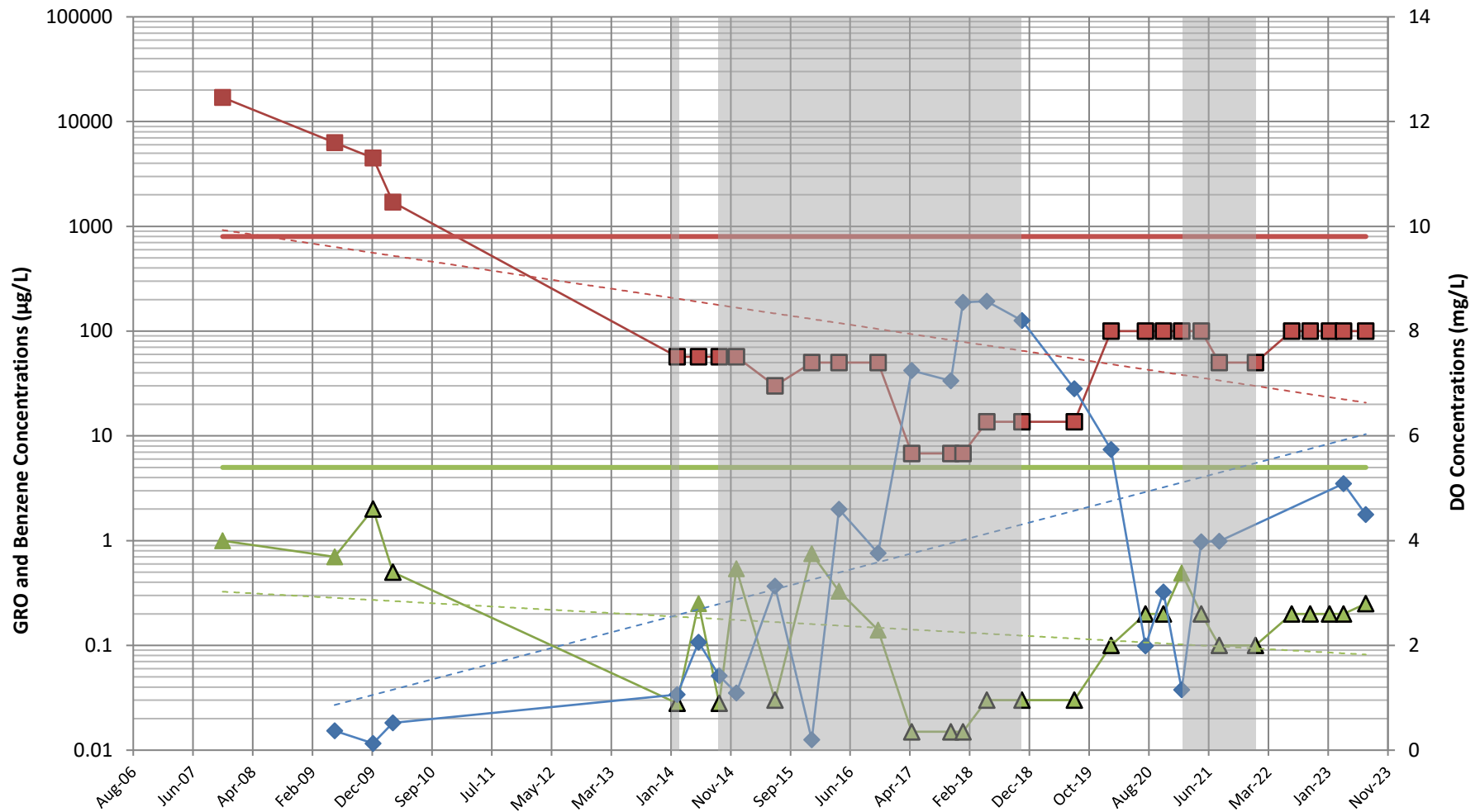


Legend

- GRO Concentrations
- ▲— Benzene Concentrations
- ▲ Benzene Non-Detects
- ◆— Dissolved Oxygen (DO) Concentrations
- Benzene Trendline
- GRO Cleanup Level (800 ug/L)
- Benzene Cleanup Level (5 ug/L)
- GRO Non-Detects
- GRO Trendline
- DO Trendline
- IAS - SVE system operating

FIGURE B-6
GRO and Benzene Concentrations in
MW-16
SeaTac Development Site

MW-17A

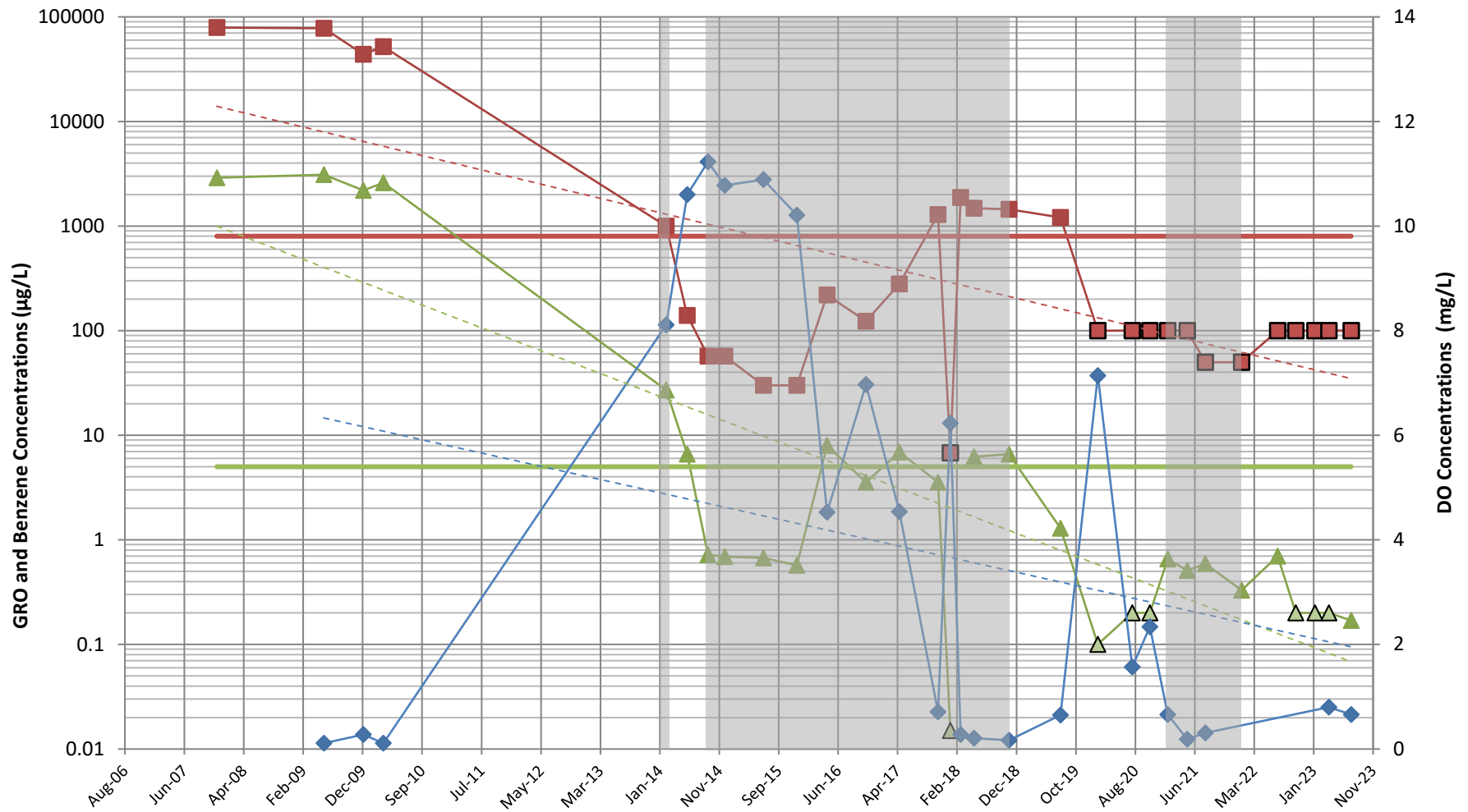


Legend

- GRO Concentrations
- GRO Cleanup Level (800 ug/L)
- ▲ Benzene Non-Detects
- ◆ Dissolved Oxygen (DO) Concentrations
- - - Benzene Trendline
- GRO Non-Detects
- ▲ Benzene Concentrations
- Benzene Cleanup Level (5 ug/L)
- - - GRO Trendline
- - - DO Trendline
- IAS - SVE system operating

FIGURE B-7
GRO and Benzene Concentrations in
MW-17A
SeaTac Development Site

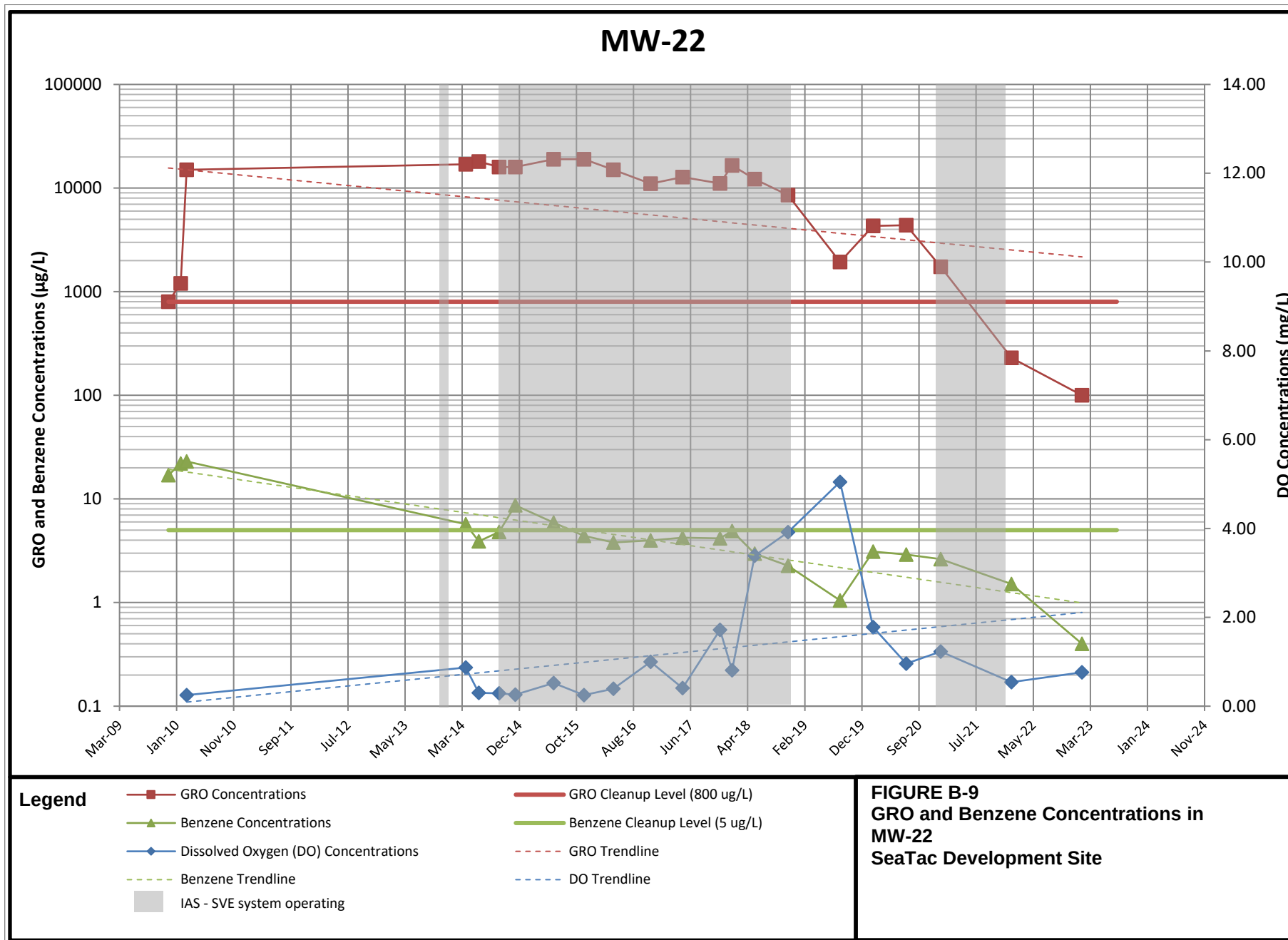
MW-18

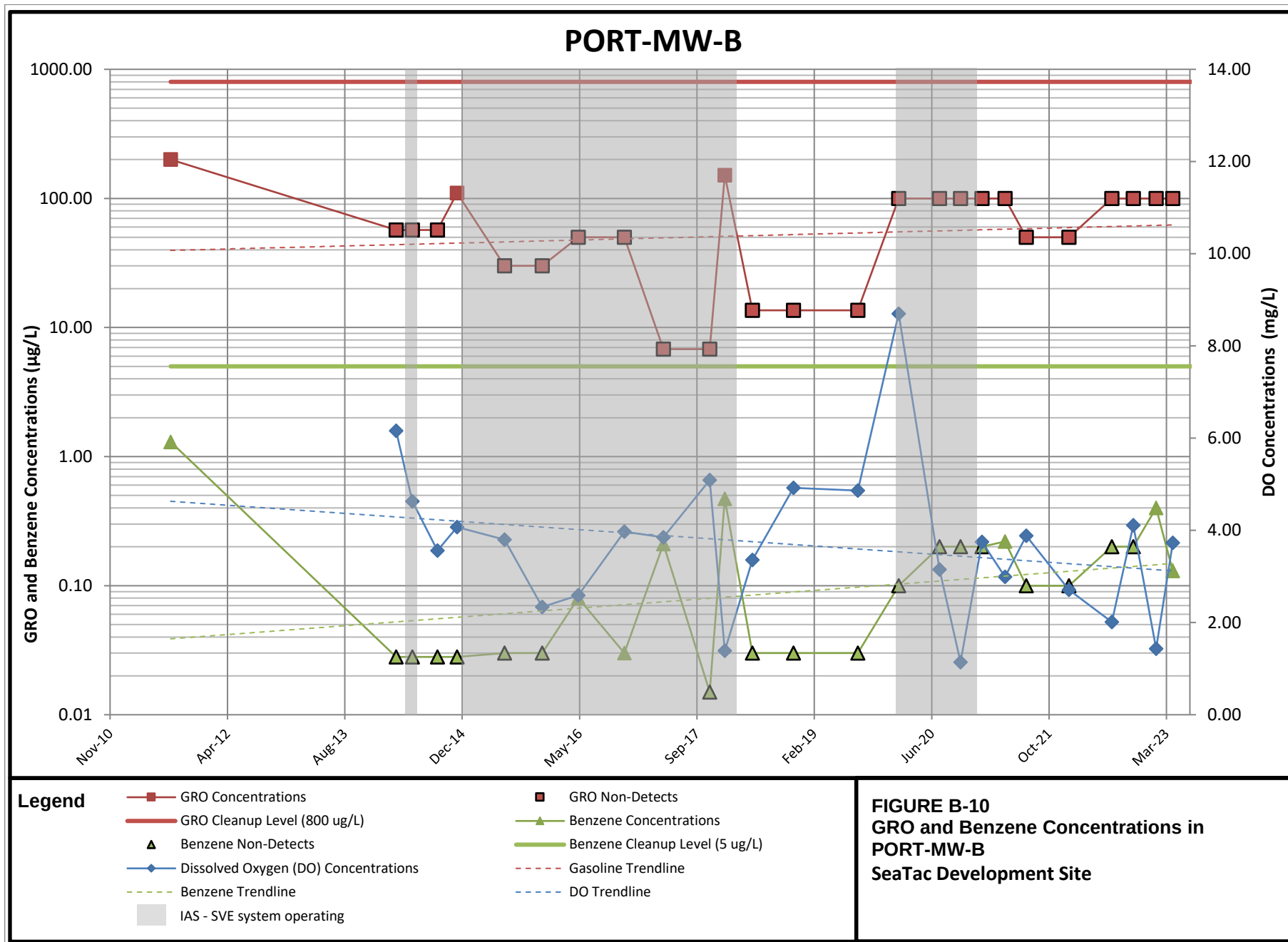


Legend

- GRO Concentrations
- GRO Non-Detects
- GRO Cleanup Level (800 µg/L)
- △ Benzene Concentrations
- △ Benzene Non-Detects
- Benzene Cleanup Level (5 µg/L)
- ◆ Dissolved Oxygen (DO) Concentrations
- GRO Trendline
- Benzene Trendline
- DO Trendline
- IAS - SVE system operating

FIGURE B-8
GRO and Benzene Concentrations in
MW-18
SeaTac Development Site





Analytical Laboratory Data Report



ANALYTICAL REPORT

Apex Laboratories, LLC

6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: OR100062

Friday, February 9, 2024

Kate Gauglitz

Landau Associates (Northgate)

155 NE 100th St #302

Seattle, WA 98125

RE: A4A1281 - Sea-Tac Development Site - 2218001.010.021

Thank you for using Apex Laboratories. We greatly appreciate your business and strive to provide the highest quality services to the environmental industry.

Enclosed are the results of analyses for work order A4A1281, which was received by the laboratory on 1/22/2024 at 1:28:00PM.

If you have any questions concerning this report or the services we offer, please feel free to contact me by email at: pnerenberg@apex-labs.com, or by phone at 503-718-2323.

Please note: All samples will be disposed of within 30 days of sample receipt, unless prior arrangements have been made.

Cooler Receipt Information

Acceptable Receipt Temperature is less than, or equal to, 6 degC (not frozen), or received on ice the same day as sampling.

(See Cooler Receipt Form for details)

Default Cooler 2.4 degC

This Final Report is the official version of the data results for this sample submission, unless superseded by a subsequent, labeled amended report.

All other deliverables derived from this data, including Electronic Data Deliverables (EDDs), CLP-like forms, client requested summary sheets, and all other products are considered secondary to this report.



Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document(s) and updated by any subsequent written communications. This analytical report must be reproduced in its entirety.

Philip Nerenberg, Lab Director



ANALYTICAL REPORT

Apex Laboratories, LLC

6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: OR100062

Landau Associates (Northgate)

155 NE 100th St #302
Seattle, WA 98125

Project: **Sea-Tac Development Site**

Project Number: **2218001.010.021**

Project Manager: **Kate Gauglitz**

Report ID:

A4A1281 - 02 09 24 1405

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Client Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-12-240117	A4A1281-02	Water	01/17/24 13:04	01/22/24 13:28
MW-19-240117	A4A1281-03	Water	01/17/24 13:06	01/22/24 13:28
MW-07-240117	A4A1281-04	Water	01/17/24 14:14	01/22/24 13:28
MW-17A-240117	A4A1281-05	Water	01/17/24 14:28	01/22/24 13:28
Equipment Blank-240117	A4A1281-06	Water	01/17/24 15:00	01/22/24 13:28
Trip Blank	A4A1281-07	Water	01/17/24 00:00	01/22/24 13:28
MW-12-240123	A4A1356-01	Water	01/23/24 12:55	01/24/24 07:55
MW-07-240123	A4A1356-02	Water	01/23/24 13:45	01/24/24 07:55
MW-19-240123	A4A1356-03	Water	01/23/24 14:20	01/24/24 07:55
MW-17A-240123	A4A1356-04	Water	01/23/24 15:10	01/24/24 07:55

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ANALYTICAL REPORT

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Tigard, OR 97223

503-718-2323

ORELAP ID: OR100062

Landau Associates (Northgate)

155 NE 100th St #302

Seattle, WA 98125

Project: Sea-Tac Development Site

Project Number: 2218001.010.012

Project Manager: Kate Gauglitz

Report ID:

A4A1356 - 02 09 24 1405

ANALYTICAL SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
MW-12-240117 (A4A1281-02)		Matrix: Water			Batch: 24A0653			
Gasoline Range Organics	500	50.0	100	ug/L	1	01/23/24 23:21	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)		Recovery:	101 %	Limits: 50-150 %	1	01/23/24 23:21	NWTPH-Gx (MS)	
1,4-Difluorobenzene (Sur)			114 %	50-150 %	1	01/23/24 23:21	NWTPH-Gx (MS)	
Equipment Blank-240117 (A4A1281-06)		Matrix: Water			Batch: 24A0653			
Gasoline Range Organics	ND	50.0	100	ug/L	1	01/23/24 23:48	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)		Recovery:	102 %	Limits: 50-150 %	1	01/23/24 23:48	NWTPH-Gx (MS)	
1,4-Difluorobenzene (Sur)			118 %	50-150 %	1	01/23/24 23:48	NWTPH-Gx (MS)	
Trip Blank (A4A1281-07)		Matrix: Water			Batch: 24A0654			
Gasoline Range Organics	ND	50.0	100	ug/L	1	01/23/24 13:09	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)		Recovery:	85 %	Limits: 50-150 %	1	01/23/24 13:09	NWTPH-Gx (MS)	
1,4-Difluorobenzene (Sur)			102 %	50-150 %	1	01/23/24 13:09	NWTPH-Gx (MS)	

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ANALYTICAL SAMPLE RESULTS

BTEX Compounds by EPA 8260D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Equipment Blank-240117 (A4A1281-06)		Matrix: Water			Batch: 24A0653			
Benzene	ND	0.100	0.200	ug/L	1	01/23/24 23:48	EPA 8260D	
Toluene	ND	0.500	1.00	ug/L	1	01/23/24 23:48	EPA 8260D	
Ethylbenzene	ND	0.250	0.500	ug/L	1	01/23/24 23:48	EPA 8260D	
Xylenes, total	ND	0.750	1.50	ug/L	1	01/23/24 23:48	EPA 8260D	
<i>Surrogate: 1,4-Difluorobenzene (Surr)</i>		<i>Recovery:</i>	<i>102 %</i>	<i>Limits:</i>	<i>80-120 %</i>	<i>1</i>	<i>01/23/24 23:48</i>	<i>EPA 8260D</i>
<i>Toluene-d8 (Surr)</i>			<i>104 %</i>		<i>80-120 %</i>	<i>1</i>	<i>01/23/24 23:48</i>	<i>EPA 8260D</i>
<i>4-Bromofluorobenzene (Surr)</i>			<i>94 %</i>		<i>80-120 %</i>	<i>1</i>	<i>01/23/24 23:48</i>	<i>EPA 8260D</i>
Trip Blank (A4A1281-07)		Matrix: Water			Batch: 24A0654			
Benzene	ND	0.100	0.200	ug/L	1	01/23/24 13:09	EPA 8260D	
Toluene	ND	0.500	1.00	ug/L	1	01/23/24 13:09	EPA 8260D	
Ethylbenzene	ND	0.250	0.500	ug/L	1	01/23/24 13:09	EPA 8260D	
Xylenes, total	ND	0.750	1.50	ug/L	1	01/23/24 13:09	EPA 8260D	
<i>Surrogate: 1,4-Difluorobenzene (Surr)</i>		<i>Recovery:</i>	<i>95 %</i>	<i>Limits:</i>	<i>80-120 %</i>	<i>1</i>	<i>01/23/24 13:09</i>	<i>EPA 8260D</i>
<i>Toluene-d8 (Surr)</i>			<i>106 %</i>		<i>80-120 %</i>	<i>1</i>	<i>01/23/24 13:09</i>	<i>EPA 8260D</i>
<i>4-Bromofluorobenzene (Surr)</i>			<i>103 %</i>		<i>80-120 %</i>	<i>1</i>	<i>01/23/24 13:09</i>	<i>EPA 8260D</i>

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Project Manager: Kate Gauglitz

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ANALYTICAL SAMPLE RESULTS

Selected Volatile Organic Compounds by EPA 8260D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
MW-12-240117 (A4A1281-02)		Matrix: Water			Batch: 24A0653			
Benzene	0.520	0.100	0.200	ug/L	1	01/23/24 23:21	EPA 8260D	
Toluene	1.11	0.500	1.00	ug/L	1	01/23/24 23:21	EPA 8260D	
Ethylbenzene	10.1	0.250	0.500	ug/L	1	01/23/24 23:21	EPA 8260D	
Xylenes, total	34.3	0.750	1.50	ug/L	1	01/23/24 23:21	EPA 8260D	
Naphthalene	3.79	2.50	5.00	ug/L	1	01/23/24 23:21	EPA 8260D	J
n-Hexane	5.30	5.00	10.0	ug/L	1	01/23/24 23:21	EPA 8260D	J
<i>Surrogate: 1,4-Difluorobenzene (Surr)</i>		<i>Recovery: 100 %</i>		<i>Limits: 80-120 %</i>	<i>1</i>	<i>01/23/24 23:21</i>	<i>EPA 8260D</i>	
<i>Toluene-d8 (Surr)</i>		<i>104 %</i>		<i>80-120 %</i>	<i>1</i>	<i>01/23/24 23:21</i>	<i>EPA 8260D</i>	
<i>4-Bromofluorobenzene (Surr)</i>		<i>90 %</i>		<i>80-120 %</i>	<i>1</i>	<i>01/23/24 23:21</i>	<i>EPA 8260D</i>	

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ANALYTICAL SAMPLE RESULTS

1,2-Dibromoethane (EDB) by EPA 8260D SIM

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
MW-12-240117 (A4A1281-02)		Matrix: Water			Batch: 24A0954			
1,2-Dibromoethane (EDB)	ND	0.0100	0.0200	ug/L	1	01/30/24 20:07	EPA 8260D SIM	
<i>Surrogate: 1,4-Difluorobenzene (Surr)</i>		<i>Recovery:</i>	96 %	<i>Limits:</i>	80-120 %	1	01/30/24 20:07	EPA 8260D SIM
<i>Toluene-d8 (Surr)</i>			97 %		80-120 %	1	01/30/24 20:07	EPA 8260D SIM
<i>4-Bromofluorobenzene (Surr)</i>			95 %		80-120 %	1	01/30/24 20:07	EPA 8260D SIM

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Project Manager: **Kate Gauglitz**

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ANALYTICAL SAMPLE RESULTS

Ammonia by Gas Diffusion and Colorimetric Detection

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
MW-12-240117 (A4A1281-02RE1)				Matrix: Water		Batch: 24A0791		
Ammonia as N	0.137	0.0100	0.0200	mg/L	1	01/25/24 16:57	SM 4500-NH3 G	
MW-19-240117 (A4A1281-03RE1)				Matrix: Water		Batch: 24A0791		
Ammonia as N	ND	0.0100	0.0200	mg/L	1	01/25/24 16:58	SM 4500-NH3 G	
MW-07-240117 (A4A1281-04RE1)				Matrix: Water		Batch: 24A0791		
Ammonia as N	0.137	0.0100	0.0200	mg/L	1	01/25/24 17:01	SM 4500-NH3 G	
MW-17A-240117 (A4A1281-05RE1)				Matrix: Water		Batch: 24A0791		
Ammonia as N	ND	0.0100	0.0200	mg/L	1	01/25/24 17:03	SM 4500-NH3 G	

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Project Manager: Kate Gauglitz

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ANALYTICAL SAMPLE RESULTS

Anions by Ion Chromatography

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
MW-12-240123 (A4A1356-01)		Matrix: Water						
Batch: 24A0704								
Nitrate-Nitrogen	ND	0.125	0.250	mg/L	1	01/24/24 15:40	EPA 300.0	
Nitrite-Nitrogen	ND	0.125	0.250	mg/L	1	01/24/24 15:40	EPA 300.0	
Sulfate	0.956	0.500	1.00	mg/L	1	01/24/24 15:40	EPA 300.0	J
MW-07-240123 (A4A1356-02)		Matrix: Water						
Batch: 24A0704								
Nitrate-Nitrogen	ND	0.125	0.250	mg/L	1	01/24/24 16:44	EPA 300.0	
Nitrite-Nitrogen	ND	0.125	0.250	mg/L	1	01/24/24 16:44	EPA 300.0	
Sulfate	5.64	0.500	1.00	mg/L	1	01/24/24 16:44	EPA 300.0	
MW-19-240123 (A4A1356-03)		Matrix: Water						
Batch: 24A0704								
Nitrate-Nitrogen	0.201	0.125	0.250	mg/L	1	01/24/24 17:06	EPA 300.0	J
Nitrite-Nitrogen	ND	0.125	0.250	mg/L	1	01/24/24 17:06	EPA 300.0	
Sulfate	15.5	0.500	1.00	mg/L	1	01/24/24 17:06	EPA 300.0	
MW-17A-240123 (A4A1356-04RE1)		Matrix: Water						
Batch: 24A0704								
Nitrate-Nitrogen	5.99	0.125	0.250	mg/L	1	01/24/24 23:34	EPA 300.0	
Nitrite-Nitrogen	ND	0.125	0.250	mg/L	1	01/24/24 23:34	EPA 300.0	
Sulfate	31.1	0.500	1.00	mg/L	1	01/24/24 23:34	EPA 300.0	

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QUALITY CONTROL (QC) SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 24A0653 - EPA 5030C						Water						
Blank (24A0653-BLK1)			Prepared: 01/23/24 10:44		Analyzed: 01/23/24 13:22							
NWTPH-Gx (MS)												
Gasoline Range Organics	ND	50.0	100	ug/L	1	---	---	---	---	---	---	
Surr: 4-Bromofluorobenzene (Sur)		Recovery: 105 %		Limits: 50-150 %		Dilution: 1x						
1,4-Difluorobenzene (Sur)		120 %		50-150 %		"						
LCS (24A0653-BS2)			Prepared: 01/23/24 10:44		Analyzed: 01/23/24 12:41							
NWTPH-Gx (MS)												
Gasoline Range Organics	561	50.0	100	ug/L	1	500	---	112	80-120%	---	---	
Surr: 4-Bromofluorobenzene (Sur)		Recovery: 98 %		Limits: 50-150 %		Dilution: 1x						
1,4-Difluorobenzene (Sur)		111 %		50-150 %		"						
Duplicate (24A0653-DUP1)			Prepared: 01/23/24 10:44		Analyzed: 01/23/24 14:43							
QC Source Sample: Non-SDG (A4A1179-08)												
Gasoline Range Organics	ND	50.0	100	ug/L	1	---	ND	---	---	---	30%	
Surr: 4-Bromofluorobenzene (Sur)		Recovery: 105 %		Limits: 50-150 %		Dilution: 1x						
1,4-Difluorobenzene (Sur)		121 %		50-150 %		"						
Duplicate (24A0653-DUP2)			Prepared: 01/23/24 10:44		Analyzed: 01/23/24 20:10							
QC Source Sample: Non-SDG (A4A1262-29)												
Gasoline Range Organics	ND	50.0	100	ug/L	1	---	ND	---	---	---	30%	
Surr: 4-Bromofluorobenzene (Sur)		Recovery: 105 %		Limits: 50-150 %		Dilution: 1x						
1,4-Difluorobenzene (Sur)		120 %		50-150 %		"						
Batch 24A0654 - EPA 5030C						Water						
Blank (24A0654-BLK1)			Prepared: 01/23/24 11:02		Analyzed: 01/23/24 12:01							
NWTPH-Gx (MS)												
Gasoline Range Organics	ND	50.0	100	ug/L	1	---	---	---	---	---	---	
Surr: 4-Bromofluorobenzene (Sur)		Recovery: 86 %		Limits: 50-150 %		Dilution: 1x						
1,4-Difluorobenzene (Sur)		101 %		50-150 %		"						
LCS (24A0654-BS2)			Prepared: 01/23/24 11:05		Analyzed: 01/23/24 11:39							
NWTPH-Gx (MS)												

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QUALITY CONTROL (QC) SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 24A0654 - EPA 5030C						Water						
LCS (24A0654-BS2)			Prepared: 01/23/24 11:05		Analyzed: 01/23/24 11:39							
Gasoline Range Organics	482	50.0	100	ug/L	1	500	---	96	80-120%	---	---	
Surr: 4-Bromofluorobenzene (Surr)		Recovery: 92 %		Limits: 50-150 %		Dilution: 1x						
1,4-Difluorobenzene (Surr)		100 %		50-150 %		"						
Duplicate (24A0654-DUP1)			Prepared: 01/23/24 11:02		Analyzed: 01/23/24 14:40							
QC Source Sample: Non-SDG (A4A1262-13)												
Gasoline Range Organics	ND	50.0	100	ug/L	1	---	ND	---	---	---	30%	
Surr: 4-Bromofluorobenzene (Surr)		Recovery: 89 %		Limits: 50-150 %		Dilution: 1x						
1,4-Difluorobenzene (Surr)		104 %		50-150 %		"						
Duplicate (24A0654-DUP2)			Prepared: 01/23/24 11:02		Analyzed: 01/23/24 20:17							
QC Source Sample: Non-SDG (A4A1268-06)												
Gasoline Range Organics	ND	50.0	100	ug/L	1	---	ND	---	---	---	30%	
Surr: 4-Bromofluorobenzene (Surr)		Recovery: 87 %		Limits: 50-150 %		Dilution: 1x						
1,4-Difluorobenzene (Surr)		104 %		50-150 %		"						

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QUALITY CONTROL (QC) SAMPLE RESULTS

BTEX Compounds by EPA 8260D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 24A0653 - EPA 5030C						Water						
Blank (24A0653-BLK1)			Prepared: 01/23/24 10:44 Analyzed: 01/23/24 13:22									
EPA 8260D												
Benzene	ND	0.100	0.200	ug/L	1	---	---	---	---	---	---	
Toluene	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
Ethylbenzene	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
Xylenes, total	ND	0.750	1.50	ug/L	1	---	---	---	---	---	---	
Surr: 1,4-Difluorobenzene (Surr)		Recovery: 103 %		Limits: 80-120 %		Dilution: 1x						
Toluene-d8 (Surr)		105 %		80-120 %		"						
4-Bromofluorobenzene (Surr)		96 %		80-120 %		"						
LCS (24A0653-BS1)			Prepared: 01/23/24 10:44 Analyzed: 01/23/24 12:09									
EPA 8260D												
Benzene	19.7	0.100	0.200	ug/L	1	20.0	---	98	80-120%	---	---	
Toluene	19.0	0.500	1.00	ug/L	1	20.0	---	95	80-120%	---	---	
Ethylbenzene	20.5	0.250	0.500	ug/L	1	20.0	---	102	80-120%	---	---	
Xylenes, total	60.4	0.750	1.50	ug/L	1	60.0	---	101	80-120%	---	---	
Surr: 1,4-Difluorobenzene (Surr)		Recovery: 100 %		Limits: 80-120 %		Dilution: 1x						
Toluene-d8 (Surr)		100 %		80-120 %		"						
4-Bromofluorobenzene (Surr)		91 %		80-120 %		"						
Duplicate (24A0653-DUP1)			Prepared: 01/23/24 10:44 Analyzed: 01/23/24 14:43									
QC Source Sample: Non-SDG (A4A1179-08)												
Benzene	ND	0.100	0.200	ug/L	1	---	ND	---	---	---	30%	
Toluene	ND	0.500	1.00	ug/L	1	---	ND	---	---	---	30%	
Ethylbenzene	ND	0.250	0.500	ug/L	1	---	ND	---	---	---	30%	
Xylenes, total	ND	0.750	1.50	ug/L	1	---	ND	---	---	---	30%	
Surr: 1,4-Difluorobenzene (Surr)		Recovery: 104 %		Limits: 80-120 %		Dilution: 1x						
Toluene-d8 (Surr)		104 %		80-120 %		"						
4-Bromofluorobenzene (Surr)		94 %		80-120 %		"						
Duplicate (24A0653-DUP2)			Prepared: 01/23/24 10:44 Analyzed: 01/23/24 20:10									
QC Source Sample: Non-SDG (A4A1262-29)												
Benzene	ND	0.100	0.200	ug/L	1	---	ND	---	---	---	30%	
Toluene	ND	0.500	1.00	ug/L	1	---	ND	---	---	---	30%	

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Project Number: 2218001.010.012

Project Manager: Kate Gauglitz

Report ID:

A4A1356 - 02 09 24 1405

QUALITY CONTROL (QC) SAMPLE RESULTS

BTEX Compounds by EPA 8260D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 24A0653 - EPA 5030C						Water						
Duplicate (24A0653-DUP2)			Prepared: 01/23/24 10:44 Analyzed: 01/23/24 20:10									
<u>QC Source Sample: Non-SDG (A4A1262-29)</u>												
Ethylbenzene	ND	0.250	0.500	ug/L	1	---	ND	---	---	---	30%	
Xylenes, total	ND	0.750	1.50	ug/L	1	---	ND	---	---	---	30%	
Surr: 1,4-Difluorobenzene (Surr)		Recovery: 105 %		Limits: 80-120 %		Dilution: 1x						
Toluene-d8 (Surr)		103 %		80-120 %		"						
4-Bromofluorobenzene (Surr)		93 %		80-120 %		"						
Matrix Spike (24A0653-MS1)			Prepared: 01/23/24 10:44 Analyzed: 01/23/24 21:59									
<u>QC Source Sample: Non-SDG (A4A1269-05)</u>												
<u>EPA 8260D</u>												
Benzene	20.8	0.100	0.200	ug/L	1	20.0	ND	104	79-120%	---	---	
Toluene	20.6	0.500	1.00	ug/L	1	20.0	ND	103	80-121%	---	---	
Ethylbenzene	21.8	0.250	0.500	ug/L	1	20.0	ND	109	79-121%	---	---	
Xylenes, total	63.9	0.750	1.50	ug/L	1	60.0	ND	107	79-121%	---	---	
Surr: 1,4-Difluorobenzene (Surr)		Recovery: 99 %		Limits: 80-120 %		Dilution: 1x						
Toluene-d8 (Surr)		98 %		80-120 %		"						
4-Bromofluorobenzene (Surr)		90 %		80-120 %		"						

Apex Laboratories

Philip Nerenberg, Lab Director

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ANALYTICAL REPORT

Apex Laboratories, LLC

6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: OR100062Landau Associates (Northgate)155 NE 100th St #302
Seattle, WA 98125Project: Sea-Tac Development Site

Project Number: 2218001.010.012

Project Manager: Kate Gauglitz

Report ID:

A4A1356 - 02 09 24 1405

QUALITY CONTROL (QC) SAMPLE RESULTS

BTEX Compounds by EPA 8260D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 24A0654 - EPA 5030C						Water						
Blank (24A0654-BLK1)			Prepared: 01/23/24 11:02 Analyzed: 01/23/24 12:01									
EPA 8260D												
Benzene	ND	0.100	0.200	ug/L	1	---	---	---	---	---	---	
Toluene	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
Ethylbenzene	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
Xylenes, total	ND	0.750	1.50	ug/L	1	---	---	---	---	---	---	
Surr: 1,4-Difluorobenzene (Surr)		Recovery: 95 %		Limits: 80-120 %		Dilution: 1x						
Toluene-d8 (Surr)		106 %		80-120 %		"						
4-Bromofluorobenzene (Surr)		106 %		80-120 %		"						
LCS (24A0654-BS1)			Prepared: 01/23/24 11:02 Analyzed: 01/23/24 11:08									
EPA 8260D												
Benzene	17.9	0.100	0.200	ug/L	1	20.0	---	89	80-120%	---	---	
Toluene	19.0	0.500	1.00	ug/L	1	20.0	---	95	80-120%	---	---	
Ethylbenzene	21.9	0.250	0.500	ug/L	1	20.0	---	110	80-120%	---	---	
Xylenes, total	58.6	0.750	1.50	ug/L	1	60.0	---	98	80-120%	---	---	
Surr: 1,4-Difluorobenzene (Surr)		Recovery: 92 %		Limits: 80-120 %		Dilution: 1x						
Toluene-d8 (Surr)		100 %		80-120 %		"						
4-Bromofluorobenzene (Surr)		90 %		80-120 %		"						
Duplicate (24A0654-DUP1)			Prepared: 01/23/24 11:02 Analyzed: 01/23/24 14:40									
QC Source Sample: Non-SDG (A4A1262-13)												
Benzene	ND	0.100	0.200	ug/L	1	---	ND	---	---	---	30%	
Toluene	ND	0.500	1.00	ug/L	1	---	ND	---	---	---	30%	
Ethylbenzene	ND	0.250	0.500	ug/L	1	---	ND	---	---	---	30%	
Xylenes, total	ND	0.750	1.50	ug/L	1	---	ND	---	---	---	30%	
Surr: 1,4-Difluorobenzene (Surr)		Recovery: 97 %		Limits: 80-120 %		Dilution: 1x						
Toluene-d8 (Surr)		105 %		80-120 %		"						
4-Bromofluorobenzene (Surr)		106 %		80-120 %		"						
Duplicate (24A0654-DUP2)			Prepared: 01/23/24 11:02 Analyzed: 01/23/24 20:17									
QC Source Sample: Non-SDG (A4A1268-06)												
Benzene	ND	0.100	0.200	ug/L	1	---	ND	---	---	---	30%	
Toluene	ND	0.500	1.00	ug/L	1	---	ND	---	---	---	30%	

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Philip Nerenberg, Lab Director

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Tigard, OR 97223

503-718-2323

ORELAP ID: OR100062

Landau Associates (Northgate)

155 NE 100th St #302

Seattle, WA 98125

Project: Sea-Tac Development Site

Project Number: 2218001.010.012

Project Manager: Kate Gauglitz

Report ID:

A4A1356 - 02 09 24 1405

QUALITY CONTROL (QC) SAMPLE RESULTS

BTEX Compounds by EPA 8260D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 24A0654 - EPA 5030C						Water						
Duplicate (24A0654-DUP2)			Prepared: 01/23/24 11:02 Analyzed: 01/23/24 20:17									
QC Source Sample: Non-SDG (A4A1268-06)												
Ethylbenzene	ND	0.250	0.500	ug/L	1	---	ND	---	---	---	30%	
Xylenes, total	ND	0.750	1.50	ug/L	1	---	ND	---	---	---	30%	
Surr: 1,4-Difluorobenzene (Surr)		Recovery: 96 %		Limits: 80-120 %		Dilution: 1x						
Toluene-d8 (Surr)		105 %		80-120 %		"						
4-Bromofluorobenzene (Surr)		106 %		80-120 %		"						
Matrix Spike (24A0654-MS1)			Prepared: 01/23/24 11:02 Analyzed: 01/23/24 19:09									
QC Source Sample: Non-SDG (A4A1262-28)												
EPA 8260D												
Benzene	20.0	0.100	0.200	ug/L	1	20.0	ND	100	79-120%	---	---	
Toluene	19.9	0.500	1.00	ug/L	1	20.0	ND	100	80-121%	---	---	
Ethylbenzene	23.0	0.250	0.500	ug/L	1	20.0	ND	115	79-121%	---	---	
Xylenes, total	62.8	0.750	1.50	ug/L	1	60.0	ND	103	79-121%	---	---	
Surr: 1,4-Difluorobenzene (Surr)		Recovery: 94 %		Limits: 80-120 %		Dilution: 1x						
Toluene-d8 (Surr)		96 %		80-120 %		"						
4-Bromofluorobenzene (Surr)		91 %		80-120 %		"						

Apex Laboratories

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Project Manager: Kate Gauglitz

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QUALITY CONTROL (QC) SAMPLE RESULTS

Selected Volatile Organic Compounds by EPA 8260D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 24A0653 - EPA 5030C						Water						
Blank (24A0653-BLK1)			Prepared: 01/23/24 10:44		Analyzed: 01/23/24 13:22							
EPA 8260D												
Benzene	ND	0.100	0.200	ug/L	1	---	---	---	---	---	---	
Toluene	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
Ethylbenzene	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
Xylenes, total	ND	0.750	1.50	ug/L	1	---	---	---	---	---	---	
Methyl tert-butyl ether (MTBE)	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
Naphthalene	ND	2.50	5.00	ug/L	1	---	---	---	---	---	---	
1,2-Dibromoethane (EDB)	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
1,2-Dichloroethane (EDC)	ND	0.200	0.400	ug/L	1	---	---	---	---	---	---	
Isopropylbenzene	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
1,2,4-Trimethylbenzene	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
1,3,5-Trimethylbenzene	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
n-Hexane	ND	5.00	10.0	ug/L	1	---	---	---	---	---	---	
Surr: 1,4-Difluorobenzene (Surr)		Recovery: 103 %		Limits: 80-120 %		Dilution: 1x						
Toluene-d8 (Surr)		105 %		80-120 %		"						
4-Bromofluorobenzene (Surr)		96 %		80-120 %		"						

LCS (24A0653-BS1) Prepared: 01/23/24 10:44 Analyzed: 01/23/24 12:09

EPA 8260D												
Benzene	19.7	0.100	0.200	ug/L	1	20.0	---	98	80-120%	---	---	
Toluene	19.0	0.500	1.00	ug/L	1	20.0	---	95	80-120%	---	---	
Ethylbenzene	20.5	0.250	0.500	ug/L	1	20.0	---	102	80-120%	---	---	
Xylenes, total	60.4	0.750	1.50	ug/L	1	60.0	---	101	80-120%	---	---	
Methyl tert-butyl ether (MTBE)	16.5	0.500	1.00	ug/L	1	20.0	---	83	80-120%	---	---	
Naphthalene	19.0	2.50	5.00	ug/L	1	20.0	---	95	80-120%	---	---	
1,2-Dibromoethane (EDB)	19.1	0.250	0.500	ug/L	1	20.0	---	96	80-120%	---	---	
1,2-Dichloroethane (EDC)	23.9	0.200	0.400	ug/L	1	20.0	---	120	80-120%	---	---	
Isopropylbenzene	19.2	0.500	1.00	ug/L	1	20.0	---	96	80-120%	---	---	
1,2,4-Trimethylbenzene	21.3	0.500	1.00	ug/L	1	20.0	---	106	80-120%	---	---	
1,3,5-Trimethylbenzene	21.3	0.500	1.00	ug/L	1	20.0	---	106	80-120%	---	---	
n-Hexane	18.2	5.00	10.0	ug/L	1	20.0	---	91	80-120%	---	---	
Surr: 1,4-Difluorobenzene (Surr) Recovery: 100 % Limits: 80-120 % Dilution: 1x												
Toluene-d8 (Surr) 100 % 80-120 % "												
4-Bromofluorobenzene (Surr) 91 % 80-120 % "												

Apex Laboratories

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Philip Nerenberg, Lab Director



ANALYTICAL REPORT

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Landau Associates (Northgate)

155 NE 100th St #302

Seattle, WA 98125

Project: Sea-Tac Development Site

Project Number: 2218001.010.012

Project Manager: Kate Gauglitz

Report ID:

A4A1356 - 02 09 24 1405

QUALITY CONTROL (QC) SAMPLE RESULTS

Selected Volatile Organic Compounds by EPA 8260D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 24A0653 - EPA 5030C						Water						

Duplicate (24A0653-DUP1)

Prepared: 01/23/24 10:44 Analyzed: 01/23/24 14:43

QC Source Sample: Non-SDG (A4A1179-08)

Benzene	ND	0.100	0.200	ug/L	1	---	ND	---	---	---	30%
Toluene	ND	0.500	1.00	ug/L	1	---	ND	---	---	---	30%
Ethylbenzene	ND	0.250	0.500	ug/L	1	---	ND	---	---	---	30%
Xylenes, total	ND	0.750	1.50	ug/L	1	---	ND	---	---	---	30%
Methyl tert-butyl ether (MTBE)	ND	0.500	1.00	ug/L	1	---	ND	---	---	---	30%
Naphthalene	ND	2.50	5.00	ug/L	1	---	ND	---	---	---	30%
1,2-Dibromoethane (EDB)	ND	0.250	0.500	ug/L	1	---	ND	---	---	---	30%
1,2-Dichloroethane (EDC)	ND	0.200	0.400	ug/L	1	---	ND	---	---	---	30%
Isopropylbenzene	ND	0.500	1.00	ug/L	1	---	ND	---	---	---	30%
1,2,4-Trimethylbenzene	ND	0.500	1.00	ug/L	1	---	ND	---	---	---	30%
1,3,5-Trimethylbenzene	ND	0.500	1.00	ug/L	1	---	ND	---	---	---	30%
n-Hexane	ND	5.00	10.0	ug/L	1	---	ND	---	---	---	30%

Surr: 1,4-Difluorobenzene (Surr)	Recovery: 104 %	Limits: 80-120 %	Dilution: 1x
Toluene-d8 (Surr)	104 %	80-120 %	"
4-Bromofluorobenzene (Surr)	94 %	80-120 %	"

Duplicate (24A0653-DUP2)

Prepared: 01/23/24 10:44 Analyzed: 01/23/24 20:10

QC Source Sample: Non-SDG (A4A1262-29)

Benzene	ND	0.100	0.200	ug/L	1	---	ND	---	---	---	30%
Toluene	ND	0.500	1.00	ug/L	1	---	ND	---	---	---	30%
Ethylbenzene	ND	0.250	0.500	ug/L	1	---	ND	---	---	---	30%
Xylenes, total	ND	0.750	1.50	ug/L	1	---	ND	---	---	---	30%
Methyl tert-butyl ether (MTBE)	ND	0.500	1.00	ug/L	1	---	ND	---	---	---	30%
Naphthalene	ND	2.50	5.00	ug/L	1	---	ND	---	---	---	30%
1,2-Dibromoethane (EDB)	ND	0.250	0.500	ug/L	1	---	ND	---	---	---	30%
1,2-Dichloroethane (EDC)	ND	0.200	0.400	ug/L	1	---	ND	---	---	---	30%
Isopropylbenzene	ND	0.500	1.00	ug/L	1	---	ND	---	---	---	30%
1,2,4-Trimethylbenzene	ND	0.500	1.00	ug/L	1	---	ND	---	---	---	30%
1,3,5-Trimethylbenzene	ND	0.500	1.00	ug/L	1	---	ND	---	---	---	30%
n-Hexane	ND	5.00	10.0	ug/L	1	---	ND	---	---	---	30%

Surr: 1,4-Difluorobenzene (Surr)	Recovery: 105 %	Limits: 80-120 %	Dilution: 1x
Toluene-d8 (Surr)	103 %	80-120 %	"

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Philip Nerenberg, Lab Director



ANALYTICAL REPORT

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503-718-2323

ORELAP ID: OR100062

Landau Associates (Northgate)

155 NE 100th St #302

Seattle, WA 98125

Project: Sea-Tac Development Site

Project Number: 2218001.010.012

Project Manager: Kate Gauglitz

Report ID:

A4A1356 - 02 09 24 1405

QUALITY CONTROL (QC) SAMPLE RESULTS

Selected Volatile Organic Compounds by EPA 8260D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 24A0653 - EPA 5030C						Water						
Duplicate (24A0653-DUP2)			Prepared: 01/23/24 10:44 Analyzed: 01/23/24 20:10									
QC Source Sample: Non-SDG (A4A1262-29)												
Surr: 4-Bromofluorobenzene (Surr)		Recovery: 93 %		Limits: 80-120 %		Dilution: 1x						
Matrix Spike (24A0653-MS1)			Prepared: 01/23/24 10:44 Analyzed: 01/23/24 21:59									
QC Source Sample: Non-SDG (A4A1269-05)												
EPA 8260D												
Benzene	20.8	0.100	0.200	ug/L	1	20.0	ND	104	79-120%	---	---	
Toluene	20.6	0.500	1.00	ug/L	1	20.0	ND	103	80-121%	---	---	
Ethylbenzene	21.8	0.250	0.500	ug/L	1	20.0	ND	109	79-121%	---	---	
Xylenes, total	63.9	0.750	1.50	ug/L	1	60.0	ND	107	79-121%	---	---	
Methyl tert-butyl ether (MTBE)	17.0	0.500	1.00	ug/L	1	20.0	ND	85	71-124%	---	---	
Naphthalene	20.5	2.50	5.00	ug/L	1	20.0	ND	102	61-128%	---	---	
1,2-Dibromoethane (EDB)	19.7	0.250	0.500	ug/L	1	20.0	ND	98	77-121%	---	---	
1,2-Dichloroethane (EDC)	24.6	0.200	0.400	ug/L	1	20.0	ND	123	73-128%	---	---	
Isopropylbenzene	20.6	0.500	1.00	ug/L	1	20.0	ND	103	72-131%	---	---	
1,2,4-Trimethylbenzene	22.3	0.500	1.00	ug/L	1	20.0	ND	112	76-124%	---	---	
1,3,5-Trimethylbenzene	22.1	0.500	1.00	ug/L	1	20.0	ND	110	75-124%	---	---	
n-Hexane	20.5	5.00	10.0	ug/L	1	20.0	ND	102	48-143%	---	---	
Surr: 1,4-Difluorobenzene (Surr)		Recovery: 99 %		Limits: 80-120 %		Dilution: 1x						
Toluene-d8 (Surr)		98 %		80-120 %		"						
4-Bromofluorobenzene (Surr)		90 %		80-120 %		"						

Apex Laboratories

Philip Nerenberg, Lab Director

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Landau Associates (Northgate)

155 NE 100th St #302

Seattle, WA 98125

Project: Sea-Tac Development Site

Project Number: 2218001.010.012

Project Manager: Kate Gauglitz

Report ID:

A4A1356 - 02 09 24 1405

QUALITY CONTROL (QC) SAMPLE RESULTS

1,2-Dibromoethane (EDB) by EPA 8260D SIM

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 24A0954 - EPA 5030C						Water						
Blank (24A0954-BLK1)			Prepared: 01/30/24 16:02		Analyzed: 01/30/24 18:47							
EPA 8260D SIM												
1,2-Dibromoethane (EDB)	ND	0.0100	0.0200	ug/L	1	---	---	---	---	---	---	
Surr: 1,4-Difluorobenzene (Surr)	Recovery:		93 %	Limits:		80-120 %	Dilution:		1x			
Toluene-d8 (Surr)			98 %			80-120 %			"			
4-Bromofluorobenzene (Surr)			104 %			80-120 %			"			
LCS (24A0954-BS1)			Prepared: 01/30/24 16:02		Analyzed: 01/30/24 17:53							
EPA 8260D SIM												
1,2-Dibromoethane (EDB)	0.205	0.0100	0.0200	ug/L	1	0.200	---	103	80-120%	---	---	
Surr: 1,4-Difluorobenzene (Surr)	Recovery:		92 %	Limits:		80-120 %	Dilution:		1x			
Toluene-d8 (Surr)			97 %			80-120 %			"			
4-Bromofluorobenzene (Surr)			103 %			80-120 %			"			
Duplicate (24A0954-DUP1)			Prepared: 01/30/24 16:02		Analyzed: 01/30/24 19:41							
QC Source Sample: MW-32-240117 (A4A1281-01)												
EPA 8260D SIM												
1,2-Dibromoethane (EDB)	ND	0.0100	0.0200	ug/L	1	---	ND	---	---	---	30%	
Surr: 1,4-Difluorobenzene (Surr)	Recovery:		95 %	Limits:		80-120 %	Dilution:		1x			
Toluene-d8 (Surr)			98 %			80-120 %			"			
4-Bromofluorobenzene (Surr)			96 %			80-120 %			"			
Matrix Spike (24A0954-MS1)			Prepared: 01/30/24 16:02		Analyzed: 01/30/24 20:34							
QC Source Sample: MW-12-240117 (A4A1281-02)												
EPA 8260D SIM												
1,2-Dibromoethane (EDB)	0.230	0.0100	0.0200	ug/L	1	0.200	ND	115	77-121%	---	---	
Surr: 1,4-Difluorobenzene (Surr)	Recovery:		96 %	Limits:		80-120 %	Dilution:		1x			
Toluene-d8 (Surr)			98 %			80-120 %			"			
4-Bromofluorobenzene (Surr)			94 %			80-120 %			"			

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QUALITY CONTROL (QC) SAMPLE RESULTS

Ammonia by Gas Diffusion and Colorimetric Detection

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 24A0732 - Method Prep: Aq						Water						
Blank (24A0732-BLK1)			Prepared: 01/24/24 12:35		Analyzed: 01/24/24 16:04							
<u>SM 4500-NH3 G</u>												
Ammonia as N	ND	0.0100	0.0200	mg/L	1	---	---	---	---	---	---	
LCS (24A0732-BS1)			Prepared: 01/24/24 12:35		Analyzed: 01/24/24 16:05							
<u>SM 4500-NH3 G</u>												
Ammonia as N	1.95	0.0100	0.0200	mg/L	1	2.00	---	97	90-111%	---	---	
Matrix Spike (24A0732-MS1)			Prepared: 01/24/24 12:35		Analyzed: 01/24/24 16:10							
<u>QC Source Sample: Non-SDG (A4A1262-16)</u>												
<u>SM 4500-NH3 G</u>												
Ammonia as N	2.58	0.0125	0.0250	mg/L	1	2.50	ND	103	90-111%	---	---	
Matrix Spike Dup (24A0732-MSD1)			Prepared: 01/24/24 12:35		Analyzed: 01/24/24 16:11							
<u>QC Source Sample: Non-SDG (A4A1262-16)</u>												
Ammonia as N	2.65	0.0125	0.0250	mg/L	1	2.50	ND	106	90-111%	3	13%	

Apex Laboratories

Philip Nerenberg, Lab Director

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ANALYTICAL REPORT

Apex Laboratories, LLC

6700 S.W. Sandburg Street

Tigard, OR 97223

503-718-2323

ORELAP ID: OR100062

Landau Associates (Northgate)

155 NE 100th St #302

Seattle, WA 98125

Project: Sea-Tac Development Site

Project Number: 2218001.010.012

Project Manager: Kate Gauglitz

Report ID:

A4A1356 - 02 09 24 1405

QUALITY CONTROL (QC) SAMPLE RESULTS

Ammonia by Gas Diffusion and Colorimetric Detection

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 24A0791 - Method Prep: Aq						Water						
Blank (24A0791-BLK1)			Prepared: 01/25/24 14:38		Analyzed: 01/25/24 16:24							
<u>SM 4500-NH3 G</u>												
Ammonia as N	ND	0.0100	0.0200	mg/L	1	---	---	---	---	---	---	
LCS (24A0791-BS1)			Prepared: 01/25/24 14:38		Analyzed: 01/25/24 16:25							
<u>SM 4500-NH3 G</u>												
Ammonia as N	2.09	0.0100	0.0200	mg/L	1	2.00	---	104	90-111%	---	---	
Matrix Spike (24A0791-MS1)			Prepared: 01/25/24 14:38		Analyzed: 01/25/24 16:30							
<u>QC Source Sample: Non-SDG (A4A1262-21RE1)</u>												
<u>SM 4500-NH3 G</u>												
Ammonia as N	2.47	0.0125	0.0250	mg/L	1	2.50	ND	99	90-111%	---	---	
Matrix Spike Dup (24A0791-MSD1)			Prepared: 01/25/24 14:38		Analyzed: 01/25/24 16:31							
<u>QC Source Sample: Non-SDG (A4A1262-21RE1)</u>												
Ammonia as N	2.46	0.0125	0.0250	mg/L	1	2.50	ND	98	90-111%	0.4	13%	

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Project Number: 2218001.010.012

Project Manager: Kate Gauglitz

Report ID:

A4A1356 - 02 09 24 1405

QUALITY CONTROL (QC) SAMPLE RESULTS

Anions by Ion Chromatography

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 24A0704 - Method Prep: Aq						Water						
Blank (24A0704-BLK1)			Prepared: 01/24/24 09:31		Analyzed: 01/24/24 14:56							
EPA 300.0												
Nitrate-Nitrogen	ND	0.125	0.250	mg/L	1	---	---	---	---	---	---	
Nitrite-Nitrogen	ND	0.125	0.250	mg/L	1	---	---	---	---	---	---	
Sulfate	ND	0.500	1.00	mg/L	1	---	---	---	---	---	---	
LCS (24A0704-BS1)			Prepared: 01/24/24 09:31		Analyzed: 01/24/24 15:18							
EPA 300.0												
Nitrate-Nitrogen	1.95	0.125	0.250	mg/L	1	2.00	---	98	90-110%	---	---	
Nitrite-Nitrogen	1.95	0.125	0.250	mg/L	1	2.00	---	98	90-110%	---	---	
Sulfate	7.80	0.500	1.00	mg/L	1	8.00	---	98	90-110%	---	---	
Duplicate (24A0704-DUP1)			Prepared: 01/24/24 09:31		Analyzed: 01/24/24 16:01							
QC Source Sample: MW-12-240123 (A4A1356-01)												
EPA 300.0												
Nitrate-Nitrogen	ND	0.125	0.250	mg/L	1	---	ND	---	---	---	3%	
Nitrite-Nitrogen	ND	0.125	0.250	mg/L	1	---	ND	---	---	---	10%	
Sulfate	0.969	0.500	1.00	mg/L	1	---	0.956	---	---	1	4%	J
Duplicate (24A0704-DUP2)			Prepared: 01/24/24 17:00		Analyzed: 01/25/24 01:43							
QC Source Sample: Non-SDG (A4A1392-01)												
Nitrate-Nitrogen	ND	0.125	0.250	mg/L	1	---	ND	---	---	---	3%	
Nitrite-Nitrogen	ND	0.125	0.250	mg/L	1	---	ND	---	---	---	10%	
Sulfate	125	0.500	1.00	mg/L	1	---	125	---	---	0.2	4%	E
Matrix Spike (24A0704-MS1)			Prepared: 01/24/24 09:31		Analyzed: 01/24/24 16:23							
QC Source Sample: MW-12-240123 (A4A1356-01)												
EPA 300.0												
Nitrate-Nitrogen	2.49	0.156	0.312	mg/L	1	2.50	ND	100	87-112%	---	---	
Nitrite-Nitrogen	2.44	0.156	0.312	mg/L	1	2.50	ND	98	90-114%	---	---	
Sulfate	10.8	0.625	1.25	mg/L	1	10.0	0.956	98	88-115%	---	---	
Matrix Spike (24A0704-MS2)			Prepared: 01/24/24 17:00		Analyzed: 01/25/24 02:05							
QC Source Sample: Non-SDG (A4A1392-01)												

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Seattle, WA 98125

Project: Sea-Tac Development Site

Project Number: 2218001.010.012

Project Manager: Kate Gauglitz

Report ID:

A4A1356 - 02 09 24 1405

QUALITY CONTROL (QC) SAMPLE RESULTS

Anions by Ion Chromatography

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 24A0704 - Method Prep: Aq							Water					
Matrix Spike (24A0704-MS2)			Prepared: 01/24/24 17:00		Analyzed: 01/25/24 02:05							
QC Source Sample: Non-SDG (A4A1392-01)												
EPA 300.0												
Nitrate-Nitrogen	2.49	0.156	0.312	mg/L	1	2.50	ND	100	87-112%	---	---	
Nitrite-Nitrogen	2.48	0.156	0.312	mg/L	1	2.50	ND	99	90-114%	---	---	
Sulfate	136	0.625	1.25	mg/L	1	10.0	125	112	88-115%	---	---	E

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Philip Nerenberg

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SAMPLE PREPARATION INFORMATION

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Prep: EPA 5030C

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<u>Batch: 24A0653</u>							
A4A1281-02	Water	NWTPH-Gx (MS)	01/17/24 13:04	01/23/24 10:44	5mL/5mL	5mL/5mL	1.00
A4A1281-06	Water	NWTPH-Gx (MS)	01/17/24 15:00	01/23/24 10:44	5mL/5mL	5mL/5mL	1.00
<u>Batch: 24A0654</u>							
A4A1281-07	Water	NWTPH-Gx (MS)	01/17/24 00:00	01/23/24 11:02	5mL/5mL	5mL/5mL	1.00

BTEX Compounds by EPA 8260D

Prep: EPA 5030C

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<u>Batch: 24A0653</u>							
A4A1281-06	Water	EPA 8260D	01/17/24 15:00	01/23/24 10:44	5mL/5mL	5mL/5mL	1.00
<u>Batch: 24A0654</u>							
A4A1281-07	Water	EPA 8260D	01/17/24 00:00	01/23/24 11:02	5mL/5mL	5mL/5mL	1.00

Selected Volatile Organic Compounds by EPA 8260D

Prep: EPA 5030C

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<u>Batch: 24A0653</u>							
A4A1281-02	Water	EPA 8260D	01/17/24 13:04	01/23/24 10:44	5mL/5mL	5mL/5mL	1.00

1,2-Dibromoethane (EDB) by EPA 8260D SIM

Prep: EPA 5030C

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<u>Batch: 24A0954</u>							
A4A1281-02	Water	EPA 8260D SIM	01/17/24 13:04	01/30/24 16:02	5mL/5mL	5mL/5mL	1.00

Ammonia by Gas Diffusion and Colorimetric Detection

Prep: Method Prep: Aq

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<u>Batch: 24A0791</u>							
A4A1281-02RE1	Water	SM 4500-NH3 G	01/17/24 13:04	01/25/24 14:38	10mL/10mL	10mL/10mL	1.00
A4A1281-03RE1	Water	SM 4500-NH3 G	01/17/24 13:06	01/25/24 14:38	10mL/10mL	10mL/10mL	1.00

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Philip Nerenberg, Lab Director

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Seattle, WA 98125

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Project Number: 2218001.010.012

Project Manager: Kate Gauglitz

Report ID:

A4A1356 - 02 09 24 1405

SAMPLE PREPARATION INFORMATION

Ammonia by Gas Diffusion and Colorimetric Detection

Prep: Method Prep: Aq

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
A4A1281-04RE1	Water	SM 4500-NH3 G	01/17/24 14:14	01/25/24 14:38	10mL/10mL	10mL/10mL	1.00
A4A1281-05RE1	Water	SM 4500-NH3 G	01/17/24 14:28	01/25/24 14:38	10mL/10mL	10mL/10mL	1.00

Anions by Ion Chromatography

Prep: Method Prep: Aq

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<u>Batch: 24A0704</u>							
A4A1356-01	Water	EPA 300.0	01/23/24 12:55	01/24/24 09:31	5mL/5mL	5mL/5mL	1.00
A4A1356-02	Water	EPA 300.0	01/23/24 13:45	01/24/24 09:31	5mL/5mL	5mL/5mL	1.00
A4A1356-03	Water	EPA 300.0	01/23/24 14:20	01/24/24 09:31	5mL/5mL	5mL/5mL	1.00
A4A1356-04RE1	Water	EPA 300.0	01/23/24 15:10	01/24/24 09:31	5mL/5mL	5mL/5mL	1.00

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A4A1356 - 02 09 24 1405

QUALIFIER DEFINITIONS

Client Sample and Quality Control (QC) Sample Qualifier Definitions:

Apex Laboratories

- E** Estimated Value. The result is above the calibration range of the instrument.
- J** Estimated Result. Result detected below the lowest point of the calibration curve, but above the specified MDL.

Apex Laboratories

Philip Nerenberg, Lab Director

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Seattle, WA 98125

Project: **Sea-Tac Development Site**

Project Number: **2218001.010.012**

Project Manager: **Kate Gauglitz**

Report ID:

A4A1356 - 02 09 24 1405

REPORTING NOTES AND CONVENTIONS:

Abbreviations:

DET Analyte DETECTED at or above the detection or reporting limit.
ND Analyte NOT DETECTED at or above the detection or reporting limit.
NR Result Not Reported
RPD Relative Percent Difference. RPDs for Matrix Spikes and Matrix Spike Duplicates are based on concentration, not recovery.

Detection Limits: Limit of Detection (LOD)

Limits of Detection (LODs) are normally set at a level of one half the validated Limit of Quantitation (LOQ).
If no value is listed ("-----"), then the data has not been evaluated below the Reporting Limit.

Reporting Limits: Limit of Quantitation (LOQ)

Validated Limits of Quantitation (LOQs) are reported as the Reporting Limits for all analyses where the LOQ, MRL, PQL or CRL are requested. The LOQ represents a level at or above the low point of the calibration curve, that has been validated according to Apex Laboratories' comprehensive LOQ policies and procedures.

Reporting Conventions:

Basis: Results for soil samples are generally reported on a 100% dry weight basis.
The Result Basis is listed following the units as "dry", "wet", or " " (blank) designation.

"dry" Sample results and Reporting Limits are reported on a dry weight basis. (i.e. "ug/kg dry")
See Percent Solids section for details of dry weight analysis.

"wet" Sample results and Reporting Limits for this analysis are normally dry weight corrected, but have not been modified in this case.

" " Results without 'wet' or 'dry' designation are not normally dry weight corrected. These results are considered 'As Received'.

Results for Volatiles analyses on soils and sediments that are reported on a "dry weight" basis include the water miscible solvent (WMS) correction referenced in the EPA 8000 Method guidance documents. Solid and Liquid samples reported on an "As Received" basis do not have the WMS correction applied, as dry weight was not performed.

QC Source:

In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) may be analyzed to demonstrate accuracy and precision of the extraction batch.

Non-Client Batch QC Samples (Duplicates and Matrix Spike/Duplicates) may not be included in this report. Please request a Full QC report if this data is required.

Miscellaneous Notes:

" --- " QC results are not applicable. For example, % Recoveries for Blanks and Duplicates, % RPD for Blanks, Blank Spikes and Matrix Spikes, etc.

" *** " Used to indicate a possible discrepancy with the Sample and Sample Duplicate results when the %RPD is not available. In this case, either the Sample or the Sample Duplicate has a reportable result for this analyte, while the other is Non Detect (ND).

Apex Laboratories

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REPORTING NOTES AND CONVENTIONS (Cont.):

Blanks:

Standard practice is to evaluate the results from Blank QC Samples down to a level equal to ½ the Reporting Limit (RL).

-For Blank hits falling between ½ the RL and the RL (J flagged hits), the associated sample and QC data will receive a 'B-02' qualifier.

-For Blank hits above the RL, the associated sample and QC data will receive a 'B' qualifier, per Apex Laboratories' Blank Policy.

For further details, please request a copy of this document.

-Sample results flagged with a 'B' or 'B-02' qualifier are potentially biased high if the sample results are less than ten times the level found in the blank for inorganic analyses, or less than five times the level found in the blank for organic analyses.

'B' and 'B-02' qualifications are only applied to sample results detected above the Reporting Level, if results are not reported to the MDL.

Preparation Notes:

Mixed Matrix Samples:

Water Samples:

Water samples containing significant amounts of sediment are decanted or separated prior to extraction, and only the water portion analyzed, unless otherwise directed by the client.

Soil and Sediment Samples:

Soil and Sediment samples containing significant amounts of water are decanted prior to extraction, and only the solid portion analyzed, unless otherwise directed by the client.

Sampling and Preservation Notes:

Certain regulatory programs, such as National Pollutant Discharge Elimination System (NPDES), require that activities such as sample filtration (for dissolved metals, orthophosphate, hexavalent chromium, etc.) and testing of short hold analytes (pH, Dissolved Oxygen, etc.) be performed in the field (on-site) within a short time window. In addition, sample matrix spikes are required for some analyses, and sufficient volume must be provided, and billable site specific QC requested, if this is required. All regulatory permits should be reviewed to ensure that these requirements are being met.

Data users should be aware of which regulations pertain to the samples they submit for testing. If related sample collection activities are not approved for a particular regulatory program, results should be considered estimates. Apex Laboratories will qualify these analytes according to the most stringent requirements, however results for samples that are for non-regulatory purposes may be acceptable.

Samples that have been filtered and preserved at Apex Laboratories per client request are listed in the preparation section of the report with the date and time of filtration listed.

Apex Laboratories maintains detailed records on sample receipt, including client label verification, cooler temperature, sample preservation, hold time compliance and field filtration. Data is qualified as necessary, and the lack of qualification indicates compliance with required parameters.

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Project Number: **2218001.010.012**

Project Manager: **Kate Gauglitz**

Report ID:

A4A1356 - 02 09 24 1405

LABORATORY ACCREDITATION INFORMATION

ORELAP Certification ID: OR100062 (Primary Accreditation) -

EPA ID: OR01039

All methods and analytes reported from work performed at Apex Laboratories are included on Apex Laboratories' ORELAP Scope of Certification, with the exception of any analyte(s) listed below:

Apex Laboratories

Matrix	Analysis	TNI_ID	Analyte	TNI_ID	Accreditation
<u>All reported analytes are included in Apex Laboratories' current ORELAP scope.</u>					

Secondary Accreditations

Apex Laboratories also maintains reciprocal accreditation with non-TNI states (Washington DOE), as well as other state specific accreditations not listed here.

Subcontract Laboratory Accreditations

Subcontracted data falls outside of Apex Laboratories' Scope of Accreditation.

Please see the Subcontract Laboratory report for full details, or contact your Project Manager for more information.

Field Testing Parameters

Results for Field Tested data are provided by the client or sampler, and fall outside of Apex Laboratories' Scope of Accreditation.

Apex Laboratories

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Landau Associates (Northgate)

155 NE 100th St #302

Seattle, WA 98125

Project: **Sea-Tac Development Site**

Project Number: **2218001.010.012**

Project Manager: **Kate Gauglitz**

Report ID:

A4A1356 - 02 09 24 1405

Chain-of-Custody Record

Project Name: Sea-Tac Development Project No.: 2218001.010.012

Project Location/Event: Sea-Tac, Int'l / Quarterly GW Monitoring Jan 2024

Sampler's Name: Kalena Pearson and Ashleigh Grudisch

Project Contact: Kate Gauglitz, HITE 404/117

Send Results To: Kate Gauglitz

North Seattle (206) 631-8660 ☐ Spokane (509) 327-9737 ☐

Tacoma (253) 926-2493 ☐ Portland (503) 542-1080 ☐

Olympia (360) 791-3178 ☐

Date: 1/17/24 Page: 1 of 1

Turnaround Time: Standard ☒ Accelerated ☐

Sample ID	Date	Time	Matrix	No. of Containers	Testing Parameters	Observations/Comments	Received by	Relinquished by
MW-22-240117	1/17/24	1700	AQ	3	☒ Nitrate Nitrogen (NO3-N) ☒ Ammonia Nitrogen (NH4-N) ☒ 1,2-Dichloroethane (DCE) ☒ N-Pentane (C5) ☒ NAPHTHALENE (C10) ☒ BTX (Benzene, Toluene, Xylene) ☒ GPD (LWTEL-GX)	Allow water samples to settle, collect aliquot from clear portion ☐ NWTPH-DX - Add wash cleanup ☐ - Silica gel cleanup ☐ Dissolved metal samples were field filtered	Signature: <u>[Signature]</u> Printed Name: <u>En. GANW</u> Company: <u>Apex Labs</u> Date: <u>1/22/24</u> Time: <u>1328</u>	Signature: <u>[Signature]</u> Printed Name: <u>En. GANW</u> Company: <u>Apex Labs</u> Date: <u>1/22/24</u> Time: <u>1600</u>
MW-12-240117	1/17/24	1306		3				
MW-19-240117	1/17/24	1414		3				
MW-07-240117	1/17/24	1426		3				
Equipment Blank-24012	1/17/24	1500		3				
Tri-Blank	1/17/24			1				

Special Handling Requirements:

Shipment Method: Standard ☒ No ☐

Stored on ice: Yes ☒ No ☐

Other: + 8260-SIM
Δ SMH500-NH3G
0 EPA 360.0, 46 hr
hold time
□ Vials with the



ANALYTICAL REPORT

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Seattle, WA 98125

Project: Sea-Tac Development Site

Project Number: 2218001.010.012

Project Manager: Kate Gauglitz

Report ID:

A4A1356 - 02 09 24 1405

Chain-of-Custody Record

Project Name: Sea Tac Development Site Project No. 2218001.010.012

Project Location/Event: Sea Tac / 10 Groundwater Monitoring

Sampler's Name: Kalpana Prasad

Project Contact: Kate Gauglitz

Send Results To: Kate Gauglitz, data@landau.com

Special Handling Requirements:

Shipment Method: Ship Fed Ex

Stored on ice: Yes / No

Testing Parameters

North Seattle (206) 631-8660
Tacoma (253) 926-2493
Olympia (360) 791-3178

Spokane (509) 327-9737
Portland (503) 542-1080

Turnaround Time:
Standard
Accelerated

Date: 1/23/24
Page: 1 of 1

Sample ID	Date	Time	Matrix	No. of Containers	Observations/Comments
MW-12-246123	1/23/24	1255	HQ	1	
MW-07-246123	1/23/24	1345		1	
MW-19-246123	1/23/24	1420		1	
MW-17A-246123	1/23/24	1510		1	

Allow water samples to settle, collect aliquot from clear portion ☐
NMTPH-Dx - Acid wash cleanup ☐
- Silica gel cleanup ☐
Dissolved metal samples were field filtered

Other: 48 hr hold, EPA 300.0 Nitrate only

Received by: [Signature] Signature
Printed Name
Company
Date
Time

Relinquished by: [Signature] Signature
Printed Name
Company
Date
Time

Received by: [Signature] Signature
Printed Name
Company
Date
Time

Relinquished by: [Signature] Signature
Printed Name
Company
Date
Time

WHITE COPY - Laboratory
YELLOW COPY - Project File
PINK COPY - Client Representative

10/2018

Apex Laboratories

Philip Nerenberg

Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document(s) and updated by any subsequent written communications. This analytical report must be reproduced in its entirety.



ANALYTICAL REPORT

Apex Laboratories, LLC

6700 S.W. Sandburg Street

Tigard, OR 97223

503-718-2323

ORELAP ID: OR100062

Landau Associates (Northgate)

155 NE 100th St #302

Seattle, WA 98125

Project: Sea-Tac Development Site

Project Number: 2218001.010.012

Project Manager: Kate Gauglitz

Report ID:

A4A1356 - 02 09 24 1405

APEX LABS COOLER RECEIPT FORM

Client: Landau Associates Element WO#: A4 A1281
Project/Project #: Seatac Development/Quarterly 6w monitoring Jan 2024
2218001.010.021

Delivery Info:

Date/time received: 1/22/24 @ 1328 By: EST
Delivered by: Apex ☐ Client ☐ ESS ☐ FedEx ☒ UPS ☐ Radio ☐ Morgan ☐ SDS ☐ Evergreen ☐ Other ☐

Cooler Inspection Date/time inspected: 1/22/24 @ 1328 By: EST

Chain of Custody included? Yes ☒ No ☐

Signed/dated by client? Yes ☒ No ☐

	Cooler #1	Cooler #2	Cooler #3	Cooler #4	Cooler #5	Cooler #6	Cooler #7
Temperature (°C)	<u>2.4</u>						
Custody seals? (Y/N)	<u>N</u>						
Received on ice? (Y/N)	<u>Y</u>						
Temp. blanks? (Y/N)	<u>Y</u>						
Ice type: (Gel/Real/Other)	<u>Real</u>						
Condition (In/Out):	<u>In</u>						

Cooler out of temp? (Y/N) Possible reason why: (N)

Green dots applied to out of temperature samples? Yes ☒ No ☐

Out of temperature samples form initiated? Yes ☒ No ☐

Sample Inspection: Date/time inspected: 1/22/24 @ 1545 By: JS

All samples intact? Yes ☒ No ☐ Comments:

Bottle labels/COCs agree? Yes ☒ No ☐ Comments:

COC/container discrepancies form initiated? Yes ☐ No ☒

Containers/volumes received appropriate for analysis? Yes ☒ No ☐ Comments:

Do VOA vials have visible headspace? Yes ☐ No ☒ NA ☐

Comments:

Water samples: pH checked: Yes ☒ No ☐ NA ☐ pH appropriate? Yes ☒ No ☐ NA ☐ pH ID: A23172

Comments: 784 EST 1/22

Additional information: 789409 595 410

Labeled by: JS # 3468

Witness:

Cooler Inspected by:

Form Y-003 R-01

Apex Laboratories

Philip Nerenberg, Lab Director

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ANALYTICAL REPORT

Apex Laboratories, LLC

6700 S.W. Sandburg Street

Tigard, OR 97223

503-718-2323

ORELAP ID: OR100062

Landau Associates (Northgate)

155 NE 100th St #302

Seattle, WA 98125

Project: Sea-Tac Development Site

Project Number: 2218001.010.012

Project Manager: Kate Gauglitz

Report ID:

A4A1356 - 02 09 24 1405

Landau
APEX LABS COOLER RECEIPT FORM

Client: Sea Tac Development Site JS 1/24/24 Element WO#: A4 A1356

Project/Project #: 2218001.010.012 Sea Tac Development Site

Delivery Info:
Date/time received: 1/24/24 @ 755 By: JS
Delivered by: Apex ☐ Client ☐ ESS ☐ FedEx ☒ UPS ☐ Radio ☐ Morgan ☐ SDS ☐ Evergreen ☐ Other ☐

Cooler Inspection Date/time inspected: 1/24/24 @ 757 By: JS
Chain of Custody included? Yes ☒ No ☐
Signed/dated by client? Yes ☒ No ☐

	Cooler #1	Cooler #2	Cooler #3	Cooler #4	Cooler #5	Cooler #6	Cooler #7
Temperature (°C)	<u>1.3</u>						
Custody seals? (Y/N)	<u>Y</u>						
Received on ice? (Y/N)	<u>Y</u>						
Temp. blanks? (Y/N)	<u>N</u>						
Ice type: (Gel/Real/Other)	<u>Real</u>						
Condition (In/Out):	<u>In</u>						

Cooler out of temp? (Y/N) Possible reason why: _____
Green dots applied to out of temperature samples? Yes ☒ No ☐
Out of temperature samples form initiated? Yes ☒ No ☐
Sample Inspection: Date/time inspected: 1/24/24 @ 800 By: JS
All samples intact? Yes ☒ No ☐ Comments: _____
Bottle labels/COCs agree? Yes ☒ No ☐ Comments: _____
COC/container discrepancies form initiated? Yes ☐ No ☒
Containers/volumes received appropriate for analysis? Yes ☒ No ☐ Comments: _____
Do VOA vials have visible headspace? Yes ☐ No ☐ NA ☒
Comments: _____
Water samples: pH checked: Yes ☐ No ☐ NA ☒ pH appropriate? Yes ☐ No ☐ NA ☒ pH ID: _____
Comments: _____
Additional information: 2701 3371 4219
Labeled by: JS Witness: JS Cooler Inspected by: JS Form Y-003 R-01

Apex Laboratories

Philip Nerenberg

Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document(s) and updated by any subsequent written communications. This analytical report must be reproduced in its entirety.



February 05, 2024

Service Request No:K2400825

Philip Nerenberg
Apex Laboratories
6700 SW Sandburg St.
Tigard, OR 97223

Laboratory Results for: A4A1281

Dear Philip,

Enclosed are the results of the sample(s) submitted to our laboratory January 25, 2024
For your reference, these analyses have been assigned our service request number **K2400825**.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. All results are intended to be considered in their entirety, and ALS Group USA Corp. dba ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please contact me if you have any questions. My extension is 3364. You may also contact me via email at howard.holmes@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Howard Holmes
Project Manager

ADDRESS 1317 S. 13th Avenue, Kelso, WA 98626
PHONE +1 360 577 7222 | FAX +1 360 636 1068
ALS Group USA, Corp.
dba ALS Environmental



Narrative Documents

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

Client: Apex Laboratories
Project: A4A1281
Sample Matrix: Water

Service Request: K2400825
Date Received: 01/25/2024

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples for the Tier II level requested by the client.

Sample Receipt:

Four water samples were received for analysis at ALS Environmental on 01/25/2024. Any discrepancies upon initial sample inspection are annotated on the sample receipt and preservation form included within this report. The samples were stored at minimum in accordance with the analytical method requirements.

General Chemistry:

No significant anomalies were noted with this analysis.

Approved by



Date

02/05/2024



SAMPLE DETECTION SUMMARY

This form includes only detections above the reporting levels. For a full listing of sample results, continue to the Sample Results section of this Report.

CLIENT ID: MW-12-240117			Lab ID: K2400825-001			
Analyte	Results	Flag	MDL	MRL	Units	Method
Carbon, Total Organic	1.50		0.07	0.50	mg/L	SM 5310 C

CLIENT ID: MW-19-240117			Lab ID: K2400825-002			
Analyte	Results	Flag	MDL	MRL	Units	Method
Carbon, Total Organic	0.32	J	0.07	0.50	mg/L	SM 5310 C

CLIENT ID: MW-07-240117			Lab ID: K2400825-003			
Analyte	Results	Flag	MDL	MRL	Units	Method
Carbon, Total Organic	1.80		0.07	0.50	mg/L	SM 5310 C

CLIENT ID: MW-17A-240117			Lab ID: K2400825-004			
Analyte	Results	Flag	MDL	MRL	Units	Method
Carbon, Total Organic	0.50		0.07	0.50	mg/L	SM 5310 C



Sample Receipt Information

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

Client: Apex Laboratories
Project: A4A1281

Service Request:K2400825

SAMPLE CROSS-REFERENCE

<u>SAMPLE #</u>	<u>CLIENT SAMPLE ID</u>	<u>DATE</u>	<u>TIME</u>
K2400825-001	MW-12-240117	1/17/2024	1304
K2400825-002	MW-19-240117	1/17/2024	1306
K2400825-003	MW-07-240117	1/17/2024	1414
K2400825-004	MW-17A-240117	1/17/2024	1428

SUBCONTRACT ORDER

V2400825

Apex Laboratories

A4A1281

AKC 1/23/24

DB

SENDING LABORATORY:

Apex Laboratories
6700 S.W. Sandburg Street
Tigard, OR 97223
Phone: (503) 718-2323
Fax: (503) 336-0745
Project Manager: Philip Nerenberg

RECEIVING LABORATORY:

ALS Group USA - Kelso
1317 S 13th Avenue
Kelso, WA 98626
Phone : (360) 577-7222
Fax: (360) 636-1068

Sample Name: MW-12-240117

Sampled: 01/17/24 13:04

(A4A1281-02)

Analysis	Due	Expires	Comments
Total Organic Carbon - H2O (5310C)	02/02/24 17:00	02/14/24 13:04	
Containers Supplied:			
(E)250 mL Poly - Sulfuric (H2SO4)			

Sample Name: MW-19-240117

Sampled: 01/17/24 13:06

(A4A1281-03)

Analysis	Due	Expires	Comments
Total Organic Carbon - H2O (5310C)	02/02/24 17:00	02/14/24 13:06	
Containers Supplied:			
(B)250 mL Poly - Sulfuric (H2SO4)			

Sample Name: MW-07-240117

Sampled: 01/17/24 14:14

(A4A1281-04)

Analysis	Due	Expires	Comments
Total Organic Carbon - H2O (5310C)	02/02/24 17:00	02/14/24 14:14	
Containers Supplied:			
(B)250 mL Poly - Sulfuric (H2SO4)			

Sample Name: MW-17A-240117

Sampled: 01/17/24 14:28

(A4A1281-05)

Analysis	Due	Expires	Comments
Total Organic Carbon - H2O (5310C)	02/02/24 17:00	02/14/24 14:28	
Containers Supplied:			
(B)250 mL Poly - Sulfuric (H2SO4)			

Standard TAT

Released By *[Signature]* 1/25/24 1050 *[Signature]* 1050 1/25/24
 Date Date Received By Date
 Released By *[Signature]* 1/25/24 1225 *[Signature]* 1/25/24 1225
 Date Date Received By Date

PM HLT

Cooler Receipt and Preservation Form

Client AAEX Service Request K24 00825
Received: 1/25/24 Opened: 1/25/24 By: NP Unloaded: 1/25/24 By: NP

1. Samples were received via? USPS Fed Ex UPS DHL PDX Courier Hand Delivered
2. Samples were received in: (circle) Cooler Box Envelope Other NA
3. Were custody seals on coolers? NA Y N If yes, how many and where? _____
If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Temp Blank	Sample Temp	IR Gun	Cooler #/COC ID / NA	Out of temp indicate with "X"	PM Notified If out of temp	Tracking Number	NA	Filed
	<u>1.8</u>	<u>IR Gun</u>						

4. Was a Temperature Blank present in cooler? NA Y N If yes, notate the temperature in the appropriate column above:
If no, take the temperature of a representative sample bottle contained within the cooler; notate in the column "Sample Temp":
5. Were samples received within the method specified temperature ranges? NA Y N
If no, were they received on ice and same day as collected? If not, notate the cooler # above and notify the PM. NA Y N
If applicable, tissue samples were received: Frozen Partially Thawed Thawed

6. Packing material: Inserts Baggies Bubble Wrap Gel Packs Wet Ice Dry Ice Sleeves _____
7. Were custody papers properly filled out (ink, signed, etc.)? NA Y N
8. Were samples received in good condition (unbroken) NA Y N
9. Were all sample labels complete (ie, analysis, preservation, etc.)? NA Y N
10. Did all sample labels and tags agree with custody papers? NA Y N
11. Were appropriate bottles/containers and volumes received for the tests indicated? NA Y N
12. Were the pH-preserved bottles (see SMO GEN SOP) received at the appropriate pH? Indicate in the table below NA Y N
13. Were VOA vials received without headspace? Indicate in the table below. NA Y N
14. Was C12/Res negative? NA Y N
15. Were samples received within the method specified time limit? If not, notate the error below and notify the PM NA Y N
16. Were 100ml sterile microbiology bottles filled exactly to the 100ml mark? NA Y N Underfilled Overfilled

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Head- space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, Resolutions: _____



Miscellaneous Forms

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

Inorganic Data Qualifiers

- * The result is an outlier. See case narrative.
- # The control limit criteria is not applicable.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated value.
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
DOD-QSM 4.2 definition : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- i The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
- X See case narrative.
- Q See case narrative. One or more quality control criteria was outside the limits.
- H The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

Metals Data Qualifiers

- # The control limit criteria is not applicable.
- J The result is an estimated value.
- E The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
- M The duplicate injection precision was not met.
- N The Matrix Spike sample recovery is not within control limits. See case narrative.
- S The reported value was determined by the Method of Standard Additions (MSA).
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
DOD-QSM 4.2 definition : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- W The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
- i The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
- X See case narrative.
- + The correlation coefficient for the MSA is less than 0.995.
- Q See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

- * The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- A A tentatively identified compound, a suspected aldol-condensation product.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
- C The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
- D The reported result is from a dilution.
- E The result is an estimated value.
- J The result is an estimated value.
- N The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
- P The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
DOD-QSM 4.2 definition : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- i The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
- X See case narrative.
- Q See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

- F The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
- L The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
- H The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
- O The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
- Y The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
- Z The chromatographic fingerprint does not resemble a petroleum product.

ALS Group USA Corp. dba ALS Environmental (ALS) - Kelso
State Certifications, Accreditations, and Licenses

Agency	Web Site	Number
Alaska DEH	http://dec.alaska.gov/eh/lab/cs/csapproval.htm	UST-040
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0339
Arkansas - DEQ	http://www.adeq.state.ar.us/techsvs/labcert.htm	88-0637
California DHS (ELAP)	http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx	2795
DOD ELAP	http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm	L16-58-R4
Florida DOH	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E87412
Hawaii DOH	http://health.hawaii.gov/	-
ISO 17025	http://www.pjllabs.com/	L16-57
Louisiana DEQ	http://www.deq.louisiana.gov/page/la-lab-accreditation	03016
Maine DHS	http://www.maine.gov/dhhs/	WA01276
Minnesota DOH	http://www.health.state.mn.us/accreditation	053-999-457
Nevada DEP	http://ndep.nv.gov/bsdwlabservice.htm	WA01276
New Jersey DEP	http://www.nj.gov/dep/enforcement/oqa.html	WA005
New York - DOH	https://www.wadsworth.org/regulatory/elap	12060
North Carolina DEQ	https://deq.nc.gov/about/divisions/water-resources/water-resources-data/water-sciences-home-page/laboratory-certification-branch/non-field-lab-certification	605
Oklahoma DEQ	http://www.deq.state.ok.us/CSDnew/labcert.htm	9801
Oregon – DEQ (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	WA100010
South Carolina DHEC	http://www.scdhec.gov/environment/EnvironmentalLabCertification/	61002
Texas CEQ	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704427
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C544
Wyoming (EPA Region 8)	https://www.epa.gov/region8-waterops/epa-region-8-certified-drinking-water	-
Kelso Laboratory Website	www.alsglobal.com	NA

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. A complete listing of specific NELAP-certified analytes, can be found in the certification section at www.ALSGlobal.com or at the accreditation bodies web site.

Please refer to the certification and/or accreditation body's web site if samples are submitted for compliance purposes. The states highlighted above, require the analysis be listed on the state certification if used for compliance purposes and if the method/analyte is offered by that state.

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LOD	Limit of Detection
LOQ	Limit of Quantitation
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

ALS Group USA, Corp.
dba ALS Environmental

Analyst Summary report

Client: Apex Laboratories
Project: A4A1281/

Service Request: K2400825

Sample Name: MW-12-240117
Lab Code: K2400825-001
Sample Matrix: Water

Date Collected: 01/17/24
Date Received: 01/25/24

Analysis Method
SM 5310 C

Extracted/Digested By

Analyzed By
MSPECHT

Sample Name: MW-19-240117
Lab Code: K2400825-002
Sample Matrix: Water

Date Collected: 01/17/24
Date Received: 01/25/24

Analysis Method
SM 5310 C

Extracted/Digested By

Analyzed By
MSPECHT

Sample Name: MW-07-240117
Lab Code: K2400825-003
Sample Matrix: Water

Date Collected: 01/17/24
Date Received: 01/25/24

Analysis Method
SM 5310 C

Extracted/Digested By

Analyzed By
MSPECHT

Sample Name: MW-17A-240117
Lab Code: K2400825-004
Sample Matrix: Water

Date Collected: 01/17/24
Date Received: 01/25/24

Analysis Method
SM 5310 C

Extracted/Digested By

Analyzed By
MSPECHT



Sample Results

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com



General Chemistry

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Apex Laboratories
Project: A4A1281
Sample Matrix: Water

Sample Name: MW-12-240117
Lab Code: K2400825-001

Service Request: K2400825
Date Collected: 01/17/24 13:04
Date Received: 01/25/24 12:25

Basis: NA

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Carbon, Total Organic	SM 5310 C	1.50	mg/L	0.50	0.07	1	01/31/24 16:54	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Apex Laboratories
Project: A4A1281
Sample Matrix: Water

Sample Name: MW-19-240117
Lab Code: K2400825-002

Service Request: K2400825
Date Collected: 01/17/24 13:06
Date Received: 01/25/24 12:25

Basis: NA

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Carbon, Total Organic	SM 5310 C	0.32 J	mg/L	0.50	0.07	1	01/31/24 16:54	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Apex Laboratories
Project: A4A1281
Sample Matrix: Water

Sample Name: MW-07-240117
Lab Code: K2400825-003

Service Request: K2400825
Date Collected: 01/17/24 14:14
Date Received: 01/25/24 12:25

Basis: NA

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Carbon, Total Organic	SM 5310 C	1.80	mg/L	0.50	0.07	1	01/31/24 16:54	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Apex Laboratories
Project: A4A1281
Sample Matrix: Water

Sample Name: MW-17A-240117
Lab Code: K2400825-004

Service Request: K2400825
Date Collected: 01/17/24 14:28
Date Received: 01/25/24 12:25

Basis: NA

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Carbon, Total Organic	SM 5310 C	0.50	mg/L	0.50	0.07	1	01/31/24 16:54	



QC Summary Forms

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com



General Chemistry

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Apex Laboratories
Project: A4A1281
Sample Matrix: Water

Sample Name: Method Blank
Lab Code: K2400825-MB

Service Request: K2400825
Date Collected: NA
Date Received: NA

Basis: NA

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Carbon, Total Organic	SM 5310 C	ND U	mg/L	0.50	0.07	1	01/31/24 16:54	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Apex Laboratories
Project: A4A1281
Sample Matrix: Water

Service Request: K2400825
Date Analyzed: 01/31/24
Date Extracted: NA

Lab Control Sample Summary
Carbon, Total Organic

Analysis Method: SM 5310 C
Prep Method: None

Units: mg/L
Basis: NA
Analysis Lot: 831167

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K2400825-LCS	23.9	25.0	96	83-117