

March 20, 2018

Project No. 073-93368-06.09A

Harry Grant  
Riddell Williams P.S.  
1001 Fourth Avenue, Suite 4500  
Seattle, WA 98154

**RE: PERFORMANCE GROUNDWATER MONITORING REPORT – SPRING 2017 SEMI-ANNUAL  
SEA-TAC DEVELOPMENT SITE (MASTERPARK LOT C)**

Dear Harry:

Golder Associates Inc. (Golder) completed performance groundwater monitoring at the Sea-Tac Development Site (MasterPark Lot C) on May 2 and 3. Groundwater sampling was conducted in accordance with the Compliance Monitoring Plan, Sea-Tac Development Site (Golder 2011)<sup>1</sup>. Groundwater samples were collected from monitoring wells MW-06, MW-07, MW-09, MW-12, MW-13, MW-17A, MW-18, MW-19, MW-20, MW-21, MW-22, and PORT-MW-B (Figure 1). Monitoring wells MW-07, MW-09, MW-12, MW-13, MW-17A, MW-18, and MW-22 are completed to monitor the approximate groundwater plume boundary. Monitoring wells MW-06, MW-19, MW-20, MW-21, and PORT-MW-B are completed to monitor background concentrations. Static water elevations were collected at site wells this sampling round, including those previously listed above, MW-01, MW-05, MW-08A, MW-10, MW-11, MW-14, and MW-16. Static water elevations were not recorded at MW-09, MW-15, and MW-23. MW-09 static water elevation was not obtained due to the groundwater level being below the top of the dedicated sampling pump, thus preventing penetration with the water level meter probe. MW-15 and MW-23 well locations were not accessible on S. 160<sup>th</sup> Street as a uniformed traffic officer was not available for traffic control support, as required in the City of SeaTac Right-of-Way permit, during road sampling.

## 1.0 SAMPLING PROTOCOL

Groundwater sampling was conducted in accordance with the Compliance Monitoring Plan, Sea-Tac Development Site (Golder 2011)<sup>1</sup>, and included the following activities:

- Measurement of static water elevations at monitoring wells.
- Well purging to ensure sample representativeness with the dedicated submersible bladder pumping systems.
- Measurement of field parameters including: pH, specific conductance, temperature, dissolved oxygen, and turbidity.
- Collection of all purge water in appropriate containers for on-site storage prior to disposal.
- Collection of representative and quality assurance / quality control (QA/QC) samples in appropriate containers.
- Analyses of groundwater for volatile organic compounds (VOCs, EPA Method 8260C): gasoline range hydrocarbons, benzene, toluene, ethylbenzene, xylene, ethylene dibromide (EDB), naphthalene, and n-hexane; and for diesel and motor oil range Northwest Total Petroleum Hydrocarbons (Method NWTPH-D).

<sup>1</sup>Golder Associates Inc. (Golder). 2011. Attachment E: Compliance Monitoring Plan Sea-Tac Development Site, SeaTac Washington. November 2.



Sampling activities were documented on Sample Integrity Data Sheets (SIDS), which are provided in Appendix A. Appendix B provides data tables and trend graphs for all sampling events. Table 1 presents water depth measurements and elevations that were collected from wells prior to sampling activities. Table 2 shows a summary of the field parameters and laboratory analytical results for each groundwater sample collected in May 2017.

## 2.0 SPRING 2017 SEMI-ANNUAL GROUNDWATER SAMPLING RESULTS

Following sample collection, all bottles were sealed, labeled, and placed in an iced cooler until delivery to the laboratory. All groundwater samples from monitoring wells were transported under chain-of-custody procedures to Analytical Resources Incorporated (ARI), of Tukwila, Washington, for analysis. Upon receipt of laboratory data reports, data underwent a data validation review. Results were compared to State of Washington Model Toxics Control Act (MTCA) Method A or B clean-up levels and Secondary Maximum Contaminant Levels (MCLs), whichever value is lower.

The analytical results indicate that groundwater conditions have improved significantly from those observed during the historical groundwater monitoring during the Remedial Investigation (RI) and since the startup of the In-situ Air Sparging (IAS)-Soil Vapor Extraction (SVE) system. Table 2 presents the field parameter measurements and laboratory analytical results for each groundwater sample collected in May 2017. In summary, the performance monitored groundwater locations that have any MTCA or MCL exceedances are from monitoring wells MW-07, MW-12, MW-18, and MW-22. Below are more details on the detections during the spring 2017 monitoring event.

Results for NWTPH-Gasoline (gasoline) exceeded the MTCA Method A limit for groundwater when benzene is present (0.8 milligrams per liter [mg/L]) in wells MW-07 and MW-22, and the field duplicate at MW-22 (MW-22-DUP). Gasoline was also detected in MW-18 at a low level, below the MTCA standard. Gasoline was not detected in wells MW-06, MW-09, MW-12, MW-13, MW-17A, MW-19, MW-20, MW-21, and PORT-MW-B.

The MTCA Method A limit for benzene (5 µg/L) was only exceeded at MW-18 at a concentration of 6.9 µg/L. Benzene was also detected in MW-07, MW-09, MW-22, MW-22-DUP, and PORT-MW-B, but was less than the MTCA standard. The benzene detection in PORT-MW-B was at a trace level (0.21 µg/L), just above the laboratory LOQ of 0.20 µg/L. Benzene was not detected in wells MW-06, MW-12, MW-13, MW-17A, MW-19, MW-20, and MW-21.

There were detections of toluene and/or ethylbenzene in wells MW-07, MW-09, MW-18, MW-22, MW-22-DUP, and PORT-MW-B (ethylbenzene only), but the values did not exceed the MTCA standard (640 µg/L for toluene and 700 µg/L for ethylbenzene). Toluene and ethylbenzene were not detected in wells MW-06, MW-12, MW-13, MW-17A, MW-19, MW-20, MW-21, and PORT-MW-B (toluene only).

Results for total xylenes did not exceed the MTCA Method A standard (1,000 µg/L) in any wells. Xylenes were detected, but below the standard, in MW-07, MW-18, MW-22, and MW-22-DUP, and were not detected in wells MW-06, MW-09, MW-12, MW-13, MW-17A, MW-19, MW-20, MW-21, and PORT-MW-B.

N-hexane was detected at levels below the MTCA Method B clean-up level (480 µg/L) in wells MW-07, MW-18, MW-22, and MW-22-DUP. N-hexane was not detected in wells MW-06, MW-09, MW-12, MW-13, MW-17A, MW-19, MW-20, MW-21, and PORT-MW-B.

Naphthalene was detected above the MTCA limit (160 µg/L) in wells MW-22 and MW-22-DUP. Naphthalene was also detected, but below the MTCA limit, in MW-07, MW-18, and PORT-MW-B. Naphthalene was not detected in wells MW-06, MW-09, MW-12, MW-13, MW-17A, MW-19, MW-20, and MW-21.

NWTPH-Diesel (diesel) was detected at levels above the MTCA Method A limit (0.5 mg/L) in wells MW-07, MW-12, MW-22, and MW-22-DUP. Diesel was detected, but below the MTCA limit in wells MW-09, MW-

13, and MW-18. Diesel was not detected in MW-06, MW-17A, MW-19, MW-20, MW-21, and PORT-MW-B. All diesel concentrations were less than 2.8 mg/L or not detected.

MW-12 had a diesel concentration of 0.89 mg/L for this monitoring event, but has not previously had a diesel concentration above the MTCA Method A limit since the initial sampling event in February 2014, when the diesel concentration was 1.1 mg/L. The laboratory report states in the case narrative the laboratory analyst noted that the diesel range organic (DRO) detection pattern in sample MW-12 did not match that of the diesel standard and is likely to be non-fuel organics in the diesel range. The designation DRO is already descriptive of the fact that results can include quantitation of non-fuel organic compounds that are in the diesel range.

NWTPH-Motor Oil was not detected (<0.20 mg/L) in samples with the exception of MW-07 (0.20 mg/L = LOQ) and MW-18 (0.30 mg/L). However, both detections at MW-07 and MW-18 were below the MTCA Method A limit (0.5 mg/L).

### 3.0 DATA QUALITY ASSURANCE / VALIDATION

Data underwent a data validation review and in general, the data were acceptable, except for the following:

- The laboratory issued a revised report on July 21, 2017 in which the “J” flagged results of m,p-xylene, ethylbenzene, and naphthalene in several samples were removed because they were determined to be artifacts of instrument contamination. The revised report also notes in the case narrative that the DRO detection pattern of sample MPlotC-MW-12-050317 did not match that of the diesel standard and is likely to be non-fuel organics in the diesel range.
- The method blank BFE0268-BLK2 had a detection of Naphthalene at 0.17 J µg/L. Associated samples with detections of Naphthalene between the Detection Limit (DL) and the LOQ were qualified as non-detect (U) at the LOQ. No action was taken for non-detections or results greater than the LOQ.
- Samples MW-22, and MW-22-DUP had to be diluted due to high levels of analytes. Only initial results within the instrument calibration range are considered reportable. Initial results which exceeded the calibration range were not reported.
- n-Hexane results in the initial analysis of samples MPlotC-MW-22-050217 and MPlotC-MW-22-Dup-050217 were associated with a surrogate that recovered above acceptance criteria. The samples were re-analyzed with a 10x dilution and had acceptable surrogate recoveries. The n-Hexane results from the initial analysis were not reported, but rather were reported from the diluted re-analysis.
- Results for QA/QC samples (field blanks, trip blanks, and field duplicate) were acceptable except as discussed above. No other issues were noted.

### 4.0 SUMMARY

The analytical results for the spring 2017 semi-annual groundwater monitoring indicate that there continue to be significant improvements to the groundwater conditions following the startup of the IAS-SVE system and since February 2014. The first monitoring event in February 2014 had 24 results that were greater than the MTCA clean-up levels, whereas the most recent sampling event in May 2017 had only 7 results above MTCA clean-up levels out of 120 results. Overall, concentrations are trending downward as shown in the historical data tables and graphs in Appendix B.

The only on-site performance monitoring wells containing compounds in groundwater with analytical results above MTCA clean-up levels in May 2017 were MW-07, MW-12, and MW-18, of which the corresponding result at MW-12 is anomalous. At MW-07, although there has been a continual decrease in gasoline, benzene and diesel concentrations over the last few sampling rounds, gasoline and diesel results remained above the MTCA clean-up levels.

MW-18, which was in the source leak area, had an increase in benzene level to above its MTCA clean-up levels, showing variability over the last few sampling events when compared to a former trending stabilization of lower benzene concentrations over the previous four sampling events during 2014 and 2015, with the May 2016 and May 2017 benzene levels slightly above the MTCA clean-up level with concentrations of 8.0 and 6.8 µg/L, respectively. However, MW-18 gasoline results were only marginally higher and diesel results decreased slightly when compared to those observed in November 2016 and both have been below MTCA clean-up levels for eight consecutive sampling events dating back to May 2014.

MW-22 was the only off-site performance monitoring well that was sampled in May 2017 that contained compounds in groundwater with analytical results above the MTCA clean-up levels.

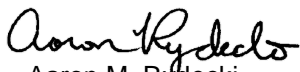
MW-07 has now shown a significant decrease in gasoline concentrations since the startup of the IAS-SVE system, with concentrations reducing from 29 mg/L to 2.9 mg/L. MW-12 and MW-13 have also showed significant decreases in gasoline concentrations (from 8.6 mg/L to <0.10 mg/L and 14 mg/L to <0.10 mg/L, respectively). Benzene in MW-12 went from 79 µg/L to <0.20 µg/L. Toluene, ethylbenzene, total xylenes, and naphthalene in MW-12 and MW-13 also showed significant decreases in concentrations.

The wells inside of the IAS and SVE system area have shown significant reductions and are almost meeting performance goals. Refer to Appendix B for data tables and trend graphs for comparisons of the March 2010 final RI monitoring event with the 2014-2017 performance monitoring results.

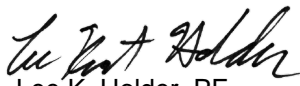
If you have any questions or require any additional information, please contact Lee Holder at (425) 883-0777.

Sincerely,

**GOLDER ASSOCIATES INC.**



Aaron M. Rydecki  
Senior Project Environmental Scientist



Lee K. Holder, PE  
Associate Environmental Engineer

cc: Roger McCracken, McCracken Group  
Tamarah Knapp-Hancock, Scarsella Bros. Inc.  
Doug Rigoni, SeaTac Investments LLC

AMR/LKH/sb

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## TABLES

**Table 1: Spring 2017 Groundwater Elevation Data,  
Sea-Tac Development Site, Seatac, Washington**

Sample Location ID	Date/Time Sampled	Well Data			Water Levels		
		Total Well Depth (feet bgs)	Screened Interval (feet bgs)	Casing Diameter (inches)	TOC Elevation (feet msl)	Depth to Water (feet btoc)	Groundwater Elevation (feet msl)
MW-01	5/3/2017 11:21	51.0	41-51	2	361.38	48.77	312.61
MW-05	5/3/2017 10:38	58.0	48-58	2	364.26	53.83	310.43
MW-06	5/2/2017 14:04	60.0	50-60	2	369.68	59.31	310.37
MW-07	5/3/2017 11:47	53.5	43.5-53.5	2	358.69	48.13	310.56
MW-08A	5/3/2017 11:36	54.0	44-54	2	359.16	48.59	310.57
MW-09 <sup>b</sup>	5/3/2017 11:05	57.0	47.5-57	2	362.13	-	-
MW-10	5/3/2017 11:30	90.0	80-90	2	360.18	50.00	310.18
MW-11	5/3/2017 11:42	57.0	42-57	2	357.53	46.84	310.69
MW-12	5/3/2017 11:58	67.0	52-67	2	364.83	59.02	305.81
MW-13	5/3/2017 11:15	65.0	50-65	2	365.42	55.14	310.28
MW-14	5/3/2017 11:10	65.0	50-65	2	363.76	53.48	310.28
MW-15 <sup>c</sup>	5/2/2017 0:00	65.0	50-65	2	364.67	-	-
MW-16	5/3/2017 10:20	73.7	64-74	2	377.63	67.41	310.22
MW-17A <sup>a</sup>	5/3/2017 10:12	95.0	80-95	2	394.00	84.24	309.76
MW-18	5/3/2017 11:52	62.0	47-62	2	360.45	50.12	310.33
MW-19	5/2/2017 15:08	58.0	43-58	2	356.61	45.90	310.71
MW-20	5/3/2017 9:58	113.1	103-113	2	416.61	106.66	309.95
MW-21	5/3/2017 9:35	109.8	95-110	2	412.85	102.68	310.17
MW-22	5/2/2017 9:26	95.0	80-95	2	393.31	82.95	310.36
MW-23 <sup>c</sup>	5/2/2017 0:00	57.5	42.5-57.5	2	354.94	-	-
PORT-MW-B <sup>a</sup>	5/2/2017 12:38	99.0	79-99	2	400.00	89.65	310.35

## Notes:

- Not measured or not available
- feet bgs Feet below ground surface
- feet bmp Feet below measuring point
- feet msl Feet above mean sea level
- TOC Top of casing inside PVC well
- <sup>a</sup> Well not surveyed, elevation estimated.
- <sup>b</sup> Top of pump is above water level - not measured.
- <sup>c</sup> No UTO for Traffic Control - not measured this event.



Table 2: Spring 2017 Groundwater Field Parameters and Analytical Data, Sea-Tac Development Site, Seatac, Washington

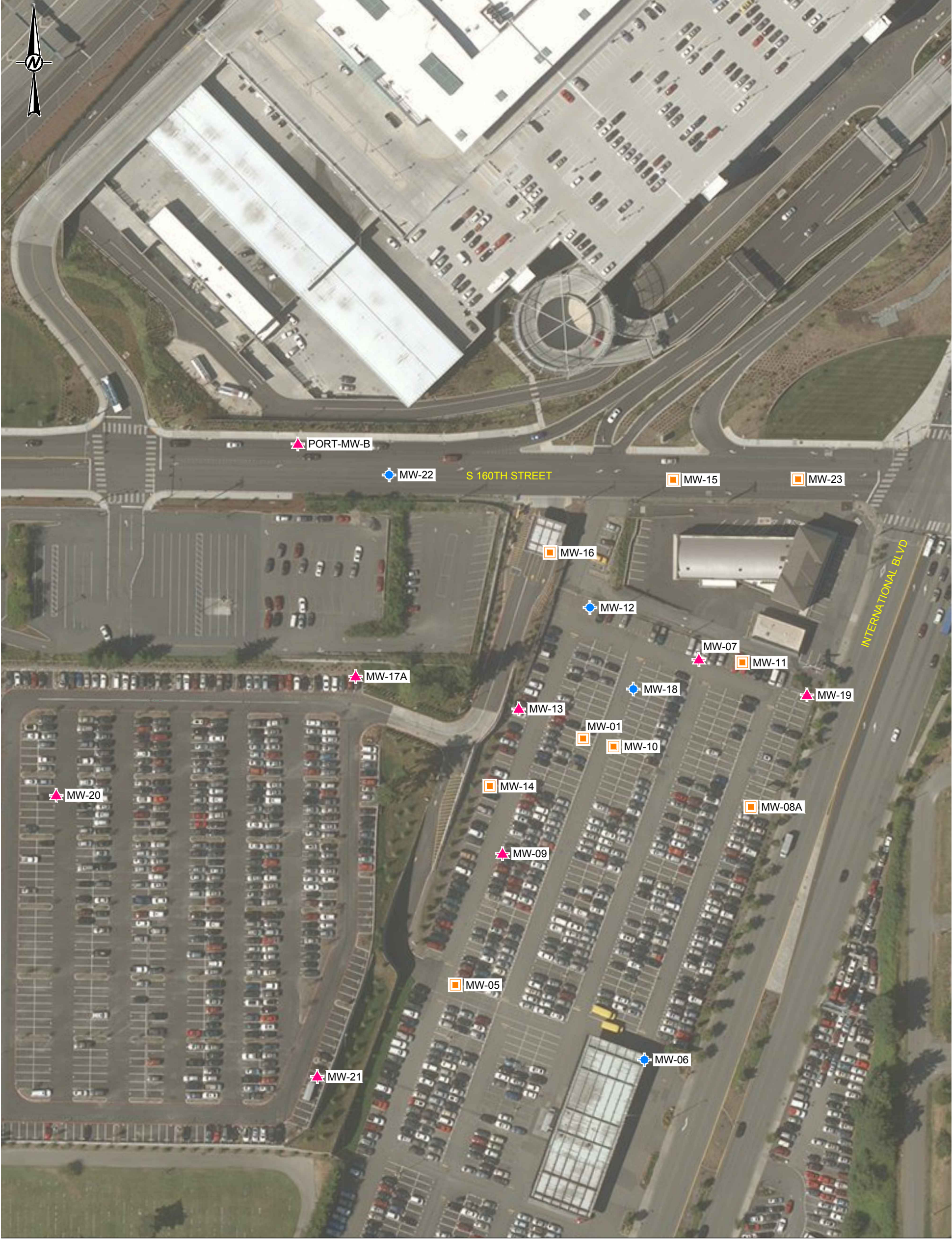
Sample Location ID	Date/Time Sampled <sup>c</sup>	Field Parameters								Analytical Data										
		TOC Elevation (feet msl)	Depth to Water (feet btoc)	Groundwater Elevation (feet msl)	pH (standard units)	Temperature (°C)	Conductivity (µmhos/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	NWTPH-Gasoline (mg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	EDB (ethylene dibromide) (µg/L) <sup>f</sup>	N-hexane (µg/L)	Naphthalene (µg/L)	NWTPH-Diesel (mg/L)	NWTPH-Motor Oil (mg/L)	
MW-06 <sup>b</sup>	5/2/17 14:50	369.7	59.3	310.4	6.16	14.0	238	7.17	1.21	<0.10	<0.20	<0.20	<0.20	<0.40	<0.20	<0.20	<0.50	<0.10	<0.20	
MW-07 <sup>b</sup>	5/3/17 18:45	358.7	48.1	310.6	6.38	16.2	188	1.33	3.78	2.9	1.8	0.46	14	21	<0.20	1.9	32	1.4	0.20	
MW-09 <sup>b,j</sup>	5/3/17 14:20	362.1	-	-	5.94	15.5	165	3.09	1.43	<0.10	0.23	0.05 J	0.42	<0.40	<0.20	<0.20	<0.50	0.28	<0.20	
MW-12 <sup>b,o</sup>	5/3/17 17:05	364.8	59.0	305.8	7.53	15.9	80	8.01	4.96	<0.10	<0.20	<0.20	<0.20	<0.40	<0.20	<0.20	<0.50	0.89	<0.215	
MW-13 <sup>b</sup>	5/3/17 15:15	365.4	55.1	310.3	7.03	14.5	116	10.71	1.45	<0.10	<0.20	<0.20	<0.20	<0.40	<0.20	<0.20	<0.50	0.18	<0.20	
MW-17A <sup>a,b</sup>	5/3/17 12:30	394.0	84.2	309.8	6.08	12.4	76	7.25	7.57	<0.10	<0.20	<0.20	<0.20	<0.40	<0.20	<0.20	<0.50	<0.10	<0.20	
MW-18 <sup>b</sup>	5/3/17 16:10	360.5	50.1	310.3	7.19	15.6	313	4.54	3.57	0.28	6.9	3.1	6.8	21	<0.20	1.4	2.7	0.29	0.30	
MW-19 <sup>b</sup>	5/2/17 15:50	356.6	45.9	310.7	6.46	13.9	268	2.04	0.36	<0.10	<0.20	<0.20	<0.20	<0.40	<0.20	<0.20	<0.50	<0.106	<0.213	
MW-20 <sup>b</sup>	5/3/17 11:30	416.6	106.7	310.0	6.63	12.8	118	8.97	1.35	<0.10	<0.20	<0.20	<0.20	<0.40	<0.20	<0.20	<0.50	<0.10	<0.20	
MW-21 <sup>b</sup>	5/3/17 10:20	412.9	102.7	310.2	6.08	13.0	134	7.33	1.12	<0.10	<0.20	<0.20	<0.20	<0.40	<0.20	<0.20	<0.50	<0.109	<0.217	
MW-22 <sup>b</sup>	5/2/17 11:50	393.3	83.0	310.4	6.67	13.3	172	0.41	1.87	13	4.2	4.4	651	960	<0.20	5.7	389	2.8	<0.222	
MW-22 Duplicate <sup>b</sup>	5/2/17 11:55	-	-	-	-	-	-	-	-	13	4.2	4.4	671	985	<0.20	6.4	425	2.6	<0.215	
PORT-MW-B <sup>a,b</sup>	5/2/17 13:20	400.0	89.7	310.4	6.54	12.9	107	3.85	2.63	<0.10	0.21	<0.20	1.2	<0.40	<0.20	<0.20	1.4	<0.10	<0.20	
Clean-up Level			MTCA Method A for Groundwater (unrestricted landuse)								0.8 <sup>d</sup> /1.0 <sup>e</sup>	5 <sup>g</sup>	1000 <sup>g</sup>	700 <sup>g</sup>	1000 <sup>h</sup>	0.01 <sup>h</sup>	NSA	160	0.5	0.5
			MTCA Method B for Groundwater (unrestricted landuse)								NSA	5 <sup>i</sup>	640	800	1600	0.022	480	160	NSA	NSA

<b>Notes:</b>			
feet bgs	Feet below ground surface	-	Not measured or not available
feet bmp	Feet below measuring point		Result exceeds Clean-up Level (CUL)
feet msl	Feet above mean sea level	mg/L	Milligrams per liter
<sup>a</sup>	Well not surveyed, elevation estimated.	µg/L	Micrograms per liter
<sup>b</sup>	IAS system not in operation.	NTU	Nephelometric Turbidity Unit
<sup>c</sup>	Water levels collected at various times prior to sampling (see Table 1). Date/time is sampling time.	µmhos/cm	Micromhos per centimeter
<sup>d</sup>	When benzene is present.	<	Analyte not detected above the reporting limit shown
<sup>e</sup>	When benzene is not present.	MTCA	Model Toxics Control Act
<sup>f</sup>	Reported at Method Detection Limit (MDL). The MDL is greater than the MTCA CULs.	MCL	Maximum Containment Level
<sup>g</sup>	Inclusive of 40 CFR 141.61 Federal Law for drinking water MCLs	NSA	No Standard Available
<sup>h</sup>	Value is more protective than Federal MCLs.	TOC	Top of casing inside PVC well
<sup>i</sup>	MTCA 173-340-705(5): Adjustments to cleanup levels based on applicable laws.	°C	Degrees Celsius
<sup>j</sup>	Top of pump is above water level - not measured.	J	The constituent was positively identified and detected; however, the concentration reported is an estimated value because the result is less than the quantitation limit or quality control criteria were not met.
<sup>k</sup>	Well not sampled, attempted to sample with bailer	UJ	The constituent was analyzed for, but was not detected above the reported sample quantitation limit; however, the value reported is an estimated value because the result is less than the quantitation limit or quality control criteria were not met.
<sup>m</sup>	Well sampled with bailer, no field parameters collected	J+	The constituent was positively identified and detected; however, the concentration reported is an estimated value because the result may be biased high.
<sup>n</sup>	Well sampled with bailer with field parameters collected		
<sup>o</sup>	The MW-12 diesel detection at 0.89 µg/L from the 3-May-17 sample event was noted by the laboratory analyst as likely non-fuel organics in the diesel range and did not match the diesel standard.		



**FIGURE**





LEGEND

MW-14

MONITORING WELL - GROUNDWATER ELEVATIONS MEASURED

MW-09

MONITORING WELL - COMPLIANCE

MW-01

MONITORING WELL - NATURAL ATTENUATION

NOTES

1. MONITORING WELL LOCATIONS ARE APPROXIMATE.

REFERENCE

IMAGE COURTESY OF USGS EARTHSTAR GEOGRAPHICS

CLIENT  
RIDDELL-WILLIAMS

CONSULTANT



YYYY-MM-DD	2014-04-01
PREPARED	REDMOND
DESIGN	JL
REVIEW	DM
APPROVED	

PROJECT  
SEATAC DEVELOPMENT SITE  
MASTER PARK LOT C

TITLE  
GROUNDWATER MONITORING LOCATIONS

PROJECT No.	U+0000	Rev.	FIGURE
073-93368x06.09A		B	1





**APPENDIX A**  
**SAMPLE INTEGRITY DATA SHEETS (SIDS)**

# SAMPLE INTEGRITY DATA SHEET

Plant/Site Master Park Lot C Project No. 073-93368-06.09A

Site Location SeaTac, WA Sample ID MPL0TC-MW-6-050217

Sampling Location At end of sample tubing

Low Flow Sampling

Technical Procedure Reference(s) App E – Compliance Monitoring Plant Plan (Golder, Nov 2011)

Type of Sampler QED Controller and Bladder Pump – Dedicated Tubing

Date 5/2/2017 Time 1450

Media Water Station MW-6

Sample Type: grab time composite space composite

Sample Acquisition Measurements (depth, volume of static well water and purged water, etc.)

Static Water Level: 59.31' Free Product Thickness:           

Date & Time of Measurement: 5/2/17 @ 1404

Measurements are in feet below top of well casing.

Sample Intake Point: 60 ft below top of well casing

Sample Description PED = 0.0 ppm; Clear, no odor.

Field Measurements on Sample (pH, conductivity, etc.)           

See Field Parameters Sheet

<u>Aliquot Amount</u>	<u>Analysis</u>	<u>Container</u>	<u>Preservative</u>
<u>(5) 40 mL</u>	NWTPH-gasoline & BTEX	VOA vial	HCl
	EDB (ethylene dibromide)		
	N-hexane		
	Naphthalene		
<u>(2) 500 mL</u>	NWTPH-Dx	Amber Glass	none

Sampler (signature) 

Date 5/2/2017

Supervisor (signature) 

Date 3 May '17

Time Collect Sample 1450

[illegible]**Comments:**

Nitrogen Tank: 110 psi

Throttle: 500 psi

Cycle ID: 103 (10/5)

CPM:  $\frac{1}{2}$

Purge Rate: ~200 mL/min

PID: 6.6 ppm 6.70

### Water level fluctuation with pump cycle:

Sampler's Initials Amr/Emt

# SAMPLE INTEGRITY DATA SHEET

Plant/Site Master Park Lot C Project No. 073-93368-06.09A  
 Site Location SeaTac, WA Sample ID MPL07C-FB-050317

Sampling Location At end of sample tubing

Low Flow Sampling

Technical Procedure Reference(s) App E – Compliance Monitoring Plant Plan (Golder, Nov 2011)

Type of Sampler QED Controller and Bladder Pump – Dedicated Tubing

Date 5/3/2017 Time 1820

Media Water Station MW-7

Sample Type: grab time composite space composite

Sample Acquisition Measurements (depth, volume of static well water and purged water, etc.)

Static Water Level: ✓ Free Product Thickness: ✓

Date & Time of Measurement: ✓

Measurements are in feet below top of well casing.

Sample Intake Point:

Sample Description Field Blank

Field Measurements on Sample (pH, conductivity, etc.)

See Field Parameters Sheet

<u>Aliquot Amount</u>	<u>Analysis</u>	<u>Container</u>	<u>Preservative</u>
<u>✓</u> (5) 40 mL	NWTPH-gasoline & BTEX	VOA vial	HCl
	EDB (ethylene dibromide)		
	N-hexane		
	Naphthalene		
<u>✓</u> (2) 500 mL	NWTPH-Dx	Amber Glass	none

Sampler (signature) *Asim Bydane* Date 5/3/2017

Supervisor (signature) *He* Date 3 May '17

## FIELD PARAMETERS SHEET

Well ID MPLOTG-FB-050317

Date 5/3/2017

Time Begin Purge \_\_\_\_\_

Time Collect Sample 1820[illegible]**Comments:**

Nitrogen Tank:                      psi

Throttle:  psi

Cycle ID:                     

CPM:

Purge Rate: 1 mL/min

PID:                      ppm

**Water level fluctuation with pump cycle:**

Sampler's Initials AW



# SAMPLE INTEGRITY DATA SHEET

Plant/Site Master Park Lot C Project No. 073-93368-06.09A

Site Location SeaTac, WA Sample ID MPLOTTC-MW-7- 050317

Sampling Location At end of sample tubing MPLOTTC-FB- 050317

Low Flow Sampling

Technical Procedure Reference(s) App E – Compliance Monitoring Plant Plan (Golder, Nov 2011)

Type of Sampler QED Controller and Bladder Pump – Dedicated Tubing

Date 5/3/2017 Time 1845

Media Water Station MW-7

Sample Type: grab time composite space composite

Sample Acquisition Measurements (depth, volume of static well water and purged water, etc.)

Static Water Level: 48.13' Free Product Thickness:

Date & Time of Measurement: 5/3/17 @ 1136

Measurements are in feet below top of well casing.

Sample Intake Point: 52 ft below top of well casing

Sample Description PID = 0.0 ppm; Clear, w/trace particulates (suspended); trace TPH odor initially, then moderate TPH odor from ~1825 on; PID re-read ~ still 0.0 ppm @ 1840

Field Measurements on Sample (pH, conductivity, etc.)

See Field Parameters Sheet

<u>Aliquot Amount</u>	<u>Analysis</u>	<u>Container</u>	<u>Preservative</u>
✓ (5) 40 mL	NWTPH-gasoline & BTEX	VOA vial	HCl
	EDB (ethylene dibromide)		
	N-hexane		
	Naphthalene		
✓ (2) 500 mL	NWTPH-Dx	Amber Glass	none

Sampler (signature) [Signature] Date 5/3/2017

Supervisor (signature) [Signature] Date 3 May 17

## FIELD PARAMETERS SHEET

Well ID MW-07

Date 5/3/2017

Time Begin Purge 1805Time Collect Sample 1845[illegible]**Comments:**

Nitrogen Tank: 1100 psi

Throttle: 4.00 psi

Cycle ID: 50

CPM: 2

Purge Rate: -220 mL/min

PID: 0.0 ppm @ TOL

### Water level fluctuation with pump cycle:

Sampler's Initials AW

## SAMPLE INTEGRITY DATA SHEET

Plant/Site Master Park Lot C Project No. 073-93368-06.09A

Site Location SeaTac, WA Sample ID MPLOT-C-MW-9-050317

Sampling Location At end of sample tubing

Low Flow Sampling

Technical Procedure Reference(s) App E – Compliance Monitoring Plant Plan (Golder, Nov 2011)

Type of Sampler QED Controller and Bladder Pump – Dedicated Tubing

Date 5/3/2017 Time 1420

Media Water Station MW-9

Sample Type: grab time composite space composite

Sample Acquisition Measurements (depth, volume of static well water and purged water, etc.)

Static Water Level: N/A Free Product Thickness:

Date & Time of Measurement: 5/3/17 @ 1105; No H<sub>2</sub>O level able to be measured above top of pump; @ 53.38' BTDC;

Measurements are in feet below top of well casing.

Sample Intake Point: 54 ft below top of well casing

Sample Description PID = 0.0 ppm; (clean water)

Field Measurements on Sample (pH, conductivity, etc.)

See Field Parameters Sheet

<u>Aliquot Amount</u>	<u>Analysis</u>	<u>Container</u>	<u>Preservative</u>
✓ (5) 40 mL	NWTPH-gasoline & BTEX	VOA vial	HCl
	EDB (ethylene dibromide)		
	N-hexane		
	Naphthalene		
✓ (2) 500 mL	NWTPH-Dx	Amber Glass	none

Sampler (signature) [Signature]

Date 5/3/2017

Supervisor (signature) [Signature]

Date 3 May '17

## FIELD PARAMETERS SHEET

Well ID MW-9

Date 5/31/2017

Time Begin Purge AP 1340

Time Collect Sample 1420

[illegible]**Comments:**

Nitrogen Tank: 110 psi

Throttle: 600 psi

Cycle ID: 103 (10/5)

CPM: 4

Purge Rate: 220 mL/min

PID: 0.0 ppm @ 1105

**Water level fluctuation with pump cycle:**

Sampler's Initials AW



# SAMPLE INTEGRITY DATA SHEET

Plant/Site Master Park Lot C Project No. 073-93368-06.09A

Site Location SeaTac, WA Sample ID MPLOT-C-MW-12-050317

Sampling Location At end of sample tubing

Low Flow Sampling

Technical Procedure Reference(s) App E – Compliance Monitoring Plant Plan (Golder, Nov 2011)

Type of Sampler QED Controller and Bladder Pump – Dedicated Tubing

Date 5/3/2017 Time 1705

Media Water Station MW-12

Sample Type: grab time composite space composite

Sample Acquisition Measurements (depth, volume of static well water and purged water, etc.)

Static Water Level: 59.42' Free Product Thickness:

Date & Time of Measurement: 5/3/17 @ 1150

Measurements are in feet below top of well casing.

Sample Intake Point: 59 ft below top of well casing

Sample Description PID = 0.2 ppm, Clear, no odor.

Field Measurements on Sample (pH, conductivity, etc.)

See Field Parameters Sheet

<u>Aliquot Amount</u>	<u>Analysis</u>	<u>Container</u>	<u>Preservative</u>
✓ (5) 40 mL	NWTPH-gasoline & BTEX	VOA vial	HCl
	EDB (ethylene dibromide)		
	N-hexane		
	Naphthalene		
✓ (2) 500 mL	NWTPH-Dx	Amber Glass	none

Sampler (signature) [Signature] Date 5/3/2017

Supervisor (signature) [Signature] Date 3 May '17

## FIELD PARAMETERS SHEET

Well ID MW-12

Date 5/3/2017

Time Begin Purge 1626

Time Collect Sample 1705

[illegible]**Comments:**

Nitrogen Tank: 110 psi

Throttle: 600 psi

Cycle ID: 1003 (100/5)

CPM: 4

Purge Rate: ~140 mL/min

PID: 0.02 ppm @ TOC

134

### Water level fluctuation with pump cycle:

Sampler's Initials AWL

# SAMPLE INTEGRITY DATA SHEET

Plant/Site Master Park Lot C Project No. 073-93368-06.09A  
 Site Location SeaTac, WA Sample ID MPL0TC-MW-13- 050317

Sampling Location At end of sample tubing

Low Flow Sampling

Technical Procedure Reference(s) App E – Compliance Monitoring Plant Plan (Golder, Nov 2011)

Type of Sampler QED Controller and Bladder Pump – Dedicated Tubing

Date 5/3/2017

Time 1515

Media Water

Station MW-13

Sample Type: grab time composite space composite

Sample Acquisition Measurements (depth, volume of static well water and purged water, etc.)

Static Water Level: 55.14' Free Product Thickness:

Date & Time of Measurement: 5/3/17 @ 1115

Measurements are in feet below top of well casing.

Sample Intake Point: 60 ft below top of well casing

Sample Description PTD = 0.0 ppm; clear, no odor.

Field Measurements on Sample (pH, conductivity, etc.)

See Field Parameters Sheet

<u>Aliquot Amount</u>	<u>Analysis</u>	<u>Container</u>	<u>Preservative</u>
✓ (5) 40 mL	NWTPH-gasoline & BTEX	VOA vial	HCl
	EDB (ethylene dibromide)		
	N-hexane		
	Naphthalene		
✓ (2) 500 mL	NWTPH-Dx	Amber Glass	none

Sampler (signature) Cheryl Rydman

Date 5/3/2017

Supervisor (signature) [Signature]

Date 3 May '17



## FIELD PARAMETERS SHEET

Well ID MW-13

Date 5/3/2017

Time Begin Purge 1437

Time Collect Sample 1515[illegible]**Comments:**

Nitrogen Tank: 110 psi

Throttle: 50 psi

Cycle ID: 50 (2a/1a)

CPM: 2

Purge Rate: 200 mL/min

PID: 0.0 ppm 0.75

### Water level fluctuation with pump cycle:

Sampler's Initials Amw

# SAMPLE INTEGRITY DATA SHEET

Plant/Site Master Park Lot C Project No. 073-93368-06.09A

Site Location SeaTac, WA Sample ID MPL0TC-MW-17A-05032017

Sampling Location At end of sample tubing

Low Flow Sampling

Technical Procedure Reference(s) App E – Compliance Monitoring Plant Plan (Golder, Nov 2011)

Type of Sampler QED Controller and Bladder Pump – Dedicated Tubing

Date 5/3/2017 Time 12:30

Media Water Station MW-17A

Sample Type: grab time composite space composite

Sample Acquisition Measurements (depth, volume of static well water and purged water, etc.)

Static Water Level: 84.24' Free Product Thickness:

Date & Time of Measurement: 5/3/2017 @ 1012

Measurements are in feet below top of well casing.

Sample Intake Point: 90 ft below top of well casing

Sample Description PID = 0 ppm, clear, no odor

Field Measurements on Sample (pH, conductivity, etc.)

See Field Parameters Sheet

<u>Aliquot Amount</u>	<u>Analysis</u>	<u>Container</u>	<u>Preservative</u>
✓ (5) 40 mL	NWTPH-gasoline & BTEX	VOA vial	HCl
	EDB (ethylene dibromide)		
	N-hexane		
	Naphthalene		
✓ (2) 500 mL	NWTPH-Dx	Amber Glass	none

Sampler (signature) [Signature] Date 5-3-17

Supervisor (signature) [Signature] Date 3 May 17

## FIELD PARAMETERS SHEET

Well ID MW-17A  
Date 05/03/2017  
Time Begin Purge 1150  
Time Collect Sample 1230

[illegible]**Comments:**

Nitrogen Tank: 110 psi  
Throttle: 60 psi  
Cycle ID: 50  
CPM: 2  
Purge Rate: 280 mL/min  
PID: 0.5 ppm

### Water level fluctuation with pump cycle:

Sampler's Initials RH/Amr

# SAMPLE INTEGRITY DATA SHEET

Plant/Site Master Park Lot C Project No. 073-93368-06.09A

Site Location SeaTac, WA Sample ID MPL0TC-MW-18-050317

Sampling Location At end of sample tubing

Low Flow Sampling

Technical Procedure Reference(s) App E – Compliance Monitoring Plant Plan (Golder, Nov 2011)

Type of Sampler QED Controller and Bladder Pump – Dedicated Tubing

Date 5/3/2017 Time 1610

Media Water Station MW-18

Sample Type: grab time composite space composite

Sample Acquisition Measurements (depth, volume of static well water and purged water, etc.)

Static Water Level: 50.12' Free Product Thickness:

Date & Time of Measurement: 5/3/17 @ 1152

Measurements are in feet below top of well casing.

Sample Intake Point: 54 ft below top of well casing

Sample Description PFO = 0.1 ppm, Clear, no odor

Field Measurements on Sample (pH, conductivity, etc.)

See Field Parameters Sheet

<u>Aliquot Amount</u>	<u>Analysis</u>	<u>Container</u>	<u>Preservative</u>
✓ (5) 40 mL	NWTPH-gasoline & BTEX	VOA vial	HCl
	EDB (ethylene dibromide)		
	N-hexane		
	Naphthalene		
✓ (2) 500 mL	NWTPH-Dx	Amber Glass	none

Sampler (signature) [Signature] Date 5/3/2017

Supervisor (signature) [Signature] Date 3 May 17



# FIELD PARAMETERS SHEET

Well ID MW-10  
 Date 5/3/2017  
 Time Begin Purge 1530  
 Time Collect Sample 1610

Water Level feet bmp	Time	Volume Purged	pH	Conductivity (uS/cm)	Temp. (°C)	DO (mg/L)	Turbidity (NTU)
	1540		7.10	308.9	16.2	4.51	13.3
	1545		7.14	311.6	15.8	3.94	7.21
	1550		7.15	310.9	15.7	4.04	5.13
	1555		7.16	311.4	15.6	4.20	4.72
	1600		7.18	312.7	15.6	4.37	3.98
	1605		7.19	313.4	15.6	4.54	3.57

## Comments:

Nitrogen Tank: 110 psi  
 Throttle: 40 psi  
 Cycle ID: 50/20/10  
 CPM: 2  
 Purge Rate: ~270 mL/min  
 PID: 0.1 ppm @ TOC

Water level fluctuation with pump cycle:

Sampler's Initials Am

# SAMPLE INTEGRITY DATA SHEET

Plant/Site Master Park Lot C Project No. 073-93368-06.09A

Site Location SeaTac, WA Sample ID MPLOT-C-MW-19-050217

Sampling Location At end of sample tubing

Low Flow Sampling

Technical Procedure Reference(s) App E – Compliance Monitoring Plant Plan (Golder, Nov 2011)

Type of Sampler QED Controller and Bladder Pump – Dedicated Tubing

Date 5/2/2017 Time 1550

Media Water Station MW-19

Sample Type: grab time composite space composite

Sample Acquisition Measurements (depth, volume of static well water and purged water, etc.)

Static Water Level: 45.09' Free Product Thickness:

Date & Time of Measurement: 5/2/17 @ 1500

Measurements are in feet below top of well casing.

Sample Intake Point: 50 ft below top of well casing

Sample Description PID=0.0 ppm, clear, no odor

Field Measurements on Sample (pH, conductivity, etc.)

See Field Parameters Sheet

<u>Aliquot Amount</u>	<u>Analysis</u>	<u>Container</u>	<u>Preservative</u>
✓ (5) 40 mL	NWTPH-gasoline & BTEX	VOA vial	HCl
	EDB (ethylene dibromide)		
	N-hexane		
	Naphthalene		
✓ (2) 500 mL	NWTPH-Dx	Amber Glass	none

Sampler (signature) [Signature] Date 5/2/2017

Supervisor (signature) [Signature] Date 3 May 17

## FIELD PARAMETERS SHEET

Well ID MW-19

Date 5/2/2017

Time Begin Purge 1510

Time Collect Sample 1550

[illegible]**Comments:**

Nitrogen Tank: 110 psi

Throttle: 50 psi

Cycle ID: 50(20/10)

CPM: 2

Purge Rate: 260 mL/min

PID: 0.0 ppm

### Water level fluctuation with pump cycle:

Sampler's Initials AMR/REH



# SAMPLE INTEGRITY DATA SHEET

Plant/Site Master Park Lot C Project No. 073-93368-06.09A

Site Location SeaTac, WA Sample ID MPL0TC-MW-20-050317  
RH

Sampling Location At end of sample tubing

Low Flow Sampling

Technical Procedure Reference(s) App E – Compliance Monitoring Plant Plan (Golder, Nov 2011)

Type of Sampler QED Controller and Bladder Pump – Dedicated Tubing

Date 5/3/17 Time 1130

Media Water Station MW-20

Sample Type: grab time composite space composite

Sample Acquisition Measurements (depth, volume of static well water and purged water, etc.)

Static Water Level: 106.66' Free Product Thickness: 0.0'

Date & Time of Measurement: 5/3/17 @ 9:58

Measurements are in feet below top of well casing.

Sample Intake Point: 111 ft below top of well casing

Sample Description 0.0 ppm = PID, clear, no odor

Field Measurements on Sample (pH, conductivity, etc.)

See Field Parameters Sheet

<u>Aliquot Amount</u>	<u>Analysis</u>	<u>Container</u>	<u>Preservative</u>
✓ (5) 40 mL	NWTPH-gasoline & BTEX	VOA vial	HCl
	EDB (ethylene dibromide)		
	N-hexane		
✓ (2) 500 mL	Naphthalene		
	NWTPH-Dx	Amber Glass	none

Sampler (signature) [Signature] Date 05/03/2017

Supervisor (signature) [Signature] Date 3 May '17

## FIELD PARAMETERS SHEET

Well ID MN-20

Date 5/3/17

Time Begin Purge 1050Time Collect Sample 1120[illegible]**Comments:**

Nitrogen Tank: 110 psi

Throttle: 70 psi

Cycle ID: 50

CPM: 2

Purge Rate: 240 mL/min

PID: 00 00 ppm

### Water level fluctuation with pump cycle:

Sampler's Initials RA

# SAMPLE INTEGRITY DATA SHEET

Plant/Site Master Park Lot C Project No. 073-93368-06.09A

Site Location SeaTac, WA Sample ID MPLOT-C-MW-21-050317

Sampling Location At end of sample tubing

Low Flow Sampling

Technical Procedure Reference(s) App E – Compliance Monitoring Plant Plan (Golder, Nov 2011)

Type of Sampler QED Controller and Bladder Pump – Dedicated Tubing

Date 5/3/2017 Time 1020

Media Water Station MW-21

Sample Type: grab time composite space composite

Sample Acquisition Measurements (depth, volume of static well water and purged water, etc.)

Static Water Level: 102.68 Free Product Thickness:

Date & Time of Measurement: 5/3/17 @ 9:35

Measurements are in feet below top of well casing.

Sample Intake Point: 107 ft below top of well casing

Sample Description PID = 0.0 ppm, clear, no odor

Field Measurements on Sample (pH, conductivity, etc.)

See Field Parameters Sheet

<u>Aliquot Amount</u>	<u>Analysis</u>	<u>Container</u>	<u>Preservative</u>
✓ (5) 40 mL	NWTPH-gasoline & BTEX	VOA vial	HCl
	EDB (ethylene dibromide)		
	N-hexane		
✓	Naphthalene		
(2) 500 mL	NWTPH-Dx	Amber Glass	none

Sampler (signature) [Signature] Date 5/3/2017

Supervisor (signature) [Signature] Date 3 May 17

## FIELD PARAMETERS SHEET

Well ID MW-21

Date 5/3/2017

Time Begin Purge 0940

Time Collect Sample 1020[illegible]**Comments:**

Nitrogen Tank: 110 psi

Throttle: 60 psi

Cycle ID: 50

CPM: 2

Purge Rate: 2.20 mL/min

PID: 0.00 ppm

### Water level fluctuation with pump cycle:

Sampler's Initials AME/RMH



# SAMPLE INTEGRITY DATA SHEET

Plant/Site Master Park Lot C

Project No. 073-93368-06.09A

Site Location SeaTac, WA

Sample ID MPLOTTC-MW-22-050217

Sampling Location At end of sample tubing

MPLOTTC-MW-22-DUP-050217

Low Flow Sampling

Technical Procedure Reference(s) App E – Compliance Monitoring Plant Plan (Golder, Nov 2011)

Type of Sampler QED Controller and Bladder Pump – Dedicated Tubing

Date 5/2/2017

Time 1150 / 1155 (FIELD DUPLICATE)

Media Water

Station MW-22

Sample Type: grab

time composite

space composite

Sample Acquisition Measurements (depth, volume of static well water and purged water, etc.)

Static Water Level: 82.45' Free Product Thickness:

Date & Time of Measurement: 5/2/17 @ 0926

Measurements are in feet below top of well casing.

Sample Intake Point: 89 ft below top of well casing

Sample Description PID = 0.0 ppm; no odor early in purge; then moderate TPH odor through rest of purge; PID = 1.4 ppm @ 1130

Field Measurements on Sample (pH, conductivity, etc.)

See Field Parameters Sheet

<u>Aliquot Amount</u>	<u>Analysis</u>	<u>Container</u>	<u>Preservative</u>
✓ 2x (5 x 2) 40 mL (10 Vials total)	NWTPH-gasoline & BTEX	VOA vial	HCl
	EDB (ethylene dibromide)		
	N-hexane		
	Naphthalene		
✓ 2x (2) 500 mL (4 Total)	NWTPH-Dx	Amber Glass	none

Sampler (signature) [Signature]

Date 5/2/2017

Supervisor (signature) [Signature]

Date 3 May '17

ERS SHEET

C: 425 466 8588  
O 425 405 8408 Ex 2126  
Kacey Kate Cascone

Time Collect Sample 1150 / 1155 (Pup)

Comments:

Nitrogen Tank: 110 psi  
Throttle: 65 psi  
Cycle ID: 50 (20/hr)  
CPM: 2  
Purge Rate: 300 mL/min  
PID: 0.0 ppm @ time of H<sub>2</sub>O level measurement @ TOC  
1.4 ppm during purge

Water level fluctuation with pump cycle:

Sampler's Initials AWR/EMH

# SAMPLE INTEGRITY DATA SHEET

Plant/Site Master Park Lot C Project No. 073-93368-06.09A

Site Location SeaTac, WA Sample ID PORT-MW-B-050217

Sampling Location At end of sample tubing

Low Flow Sampling

Technical Procedure Reference(s) App E – Compliance Monitoring Plant Plan (Golder, Nov 2011)

Type of Sampler QED Controller and Bladder Pump – Dedicated Tubing

Date 5/12/2017 Time 1320

Media Water Station PORT-MW-B

Sample Type: grab time composite space composite

Sample Acquisition Measurements (depth, volume of static well water and purged water, etc.)

Static Water Level: 89.65 Free Product Thickness:

Date & Time of Measurement: 5/12/2017 @ 12:30

Measurements are in feet below top of well casing.

Sample Intake Point: 89 ft below top of well casing

Sample Description PID 0.0 ppm; no odors, clear; notably clearer than previous sampling rounds;

Field Measurements on Sample (pH, conductivity, etc.)

See Field Parameters Sheet

<u>Aliquot Amount</u>	<u>Analysis</u>	<u>Container</u>	<u>Preservative</u>
✓ (5) 40 mL	NWTPH-gasoline & BTEX	VOA vial	HCl
	EDB (ethylene dibromide)		
	N-hexane		
	Naphthalene		
✓ (2) 500 mL	NWTPH-Dx	Amber Glass	none

Sampler (signature) [Signature] Date 5/12/2017

Supervisor (signature) [Signature] Date 3 May 17



## FIELD PARAMETERS SHEET

Well ID Port - MW-B  
Date 5/2/2017  
Time Begin Purge 1240  
Time Collect Sample 1320

[illegible]**Comments:**

Nitrogen Tank: 118 psi  
Throttle: 70 psi  
Cycle ID: 50 (20/14)  
CPM: 2  
Purge Rate: ~280 mL/min  
PID: 7.0 ppm @ TOC

### Water level fluctuation with pump cycle:

Sampler's Initials AMR / RM 17

**APPENDIX B**  
**DATA TABLES AND TREND GRAPHS**

## DATA TABLES

**Table B-1: Summary of Groundwater Sampling Results - Well MW-06  
Sea-Tac Development Site, Seatac WA**

Date Sampled <sup>b</sup>	Field Parameters								Analytical Data									
	TOC Elevation (feet msl)	Depth to Water (feet btoc)	Groundwater Elevation (feet msl)	pH (standard units)	Temperature (°C)	Conductivity (µmhos/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	NWTPH-Gasoline (mg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	EDB (ethylene dibromide) (µg/L) <sup>f</sup>	N-hexane (µg/L)	Naphthalene (µg/L)	NWTPH-Diesel (mg/L)	NWTPH-Motor Oil (mg/L)
19-Mar-10	369.68	60.03	309.65	5.96	13.5	409	0.87	3.75	< 0.10	< 1.0	< 1.0	< 1.0	< 1.0	< 0.0096	< 1.0	< 5.0	-	-
11-Feb-14	369.68	59.03	310.65	6.13	12.1	139	0.91	16.4	< 0.10	< 0.25	< 0.25	< 0.25	< 0.50	< 0.08	< 0.20	< 0.50	< 0.10	< 0.20
28-May-14	369.68	-	-	6.14	14.3	454	1.03	3.71	< 0.10	< 0.25	< 0.25	< 0.25	< 0.50	< 0.07	< 0.20 UJ	< 0.50	< 0.10	< 0.20
10-Sep-14	369.68	-	-	6.27	15.9	312	1.52	11.8	< 0.10	< 0.25	< 0.25	< 0.25	< 0.50	< 0.07	< 0.20	< 0.50	< 0.10	< 0.20
3-Dec-14	369.68	-	-	6.27	13.6	314	2.14	6.75	< 0.10	< 0.25	< 0.25	< 0.25	< 0.50	< 0.07	< 0.20	< 0.50	< 0.10	< 0.20
17-Jun-15	369.68	-	-	6.32	14.9	331	3.96	0.75	< 0.25	< 0.20	< 0.20	< 0.20	< 0.40	< 0.07	< 0.20	< 0.50	< 0.10	< 0.20
3-Dec-15	369.68	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3-May-16	369.68	61.41	308.27	6.36	13.9	396	10.59	-	<0.10	<0.20	<0.20	<0.20	<0.40	<0.20	0.19 J	<0.50	<0.10	<0.20
15-Nov-16	369.68	59.51	310.17	6.34	13.7	352	7.42	418	0.109	<0.20	<0.20	<0.20	<0.40	<0.20	0.1 J	<0.50	0.17	<0.20
2-May-17	369.68	59.31	310.37	6.16	14.0	238	7.17	1.21	<0.10	<0.20	<0.20	<0.20	<0.40	<0.20	<0.20	<0.50	<0.10	<0.20
Clean-up Level	MTCA Method A for Groundwater (unrestricted landuse)								0.8 <sup>g</sup> /1.0 <sup>e</sup>	5 <sup>g</sup>	1000 <sup>g</sup>	700 <sup>g</sup>	1000 <sup>h</sup>	0.01 <sup>h</sup>	NSA	160	0.5	0.5
	MTCA Method B for Groundwater (unrestricted landuse)								NSA	5 <sup>i</sup>	640	800	1600	0.022	480	160	NSA	NSA

## Notes:

feet bgs Feet below ground surface

feet bmp Feet below measuring point

feet msl Feet above mean sea level

<sup>a</sup> Well not surveyed, elevation estimated.<sup>b</sup> IAS system not in operation.<sup>c</sup> Water levels collected at various times prior to sampling (see Table 1). Date/time is sampling time.<sup>d</sup> When benzene is present.<sup>e</sup> When benzene is not present.<sup>f</sup> Reported at Method Detection Limit (MDL). The MDL is greater than the MTCA CULs.<sup>g</sup> Inclusive of 40 CFR 141.61 Federal Law for drinking water MCLs<sup>h</sup> Value is more protective than Federal MCLs.<sup>i</sup> MTCA 173-340-705(5): Adjustments to cleanup levels based on applicable laws.

- Not measured or not available

Result exceeds Clean-up Level (CUL)

mg/L Milligrams per liter

µg/L Micrograms per liter

NTU Nephelometric Turbidity Unit

µmhos/cm Micromhos per centimeter

&lt; Analyte not detected above the reporting limit shown

MTCA Model Toxics Control Act

MCL Maximum Containment Level

NSA No Standard Available

TOC Top of casing inside PVC well

°C Degrees Celsius

J The constituent was positively identified and detected; however, the concentration reported is an estimated value because the result is less than the quantitation limit or quality control criteria were not met.

UJ The constituent was analyzed for, but was not detected above the reported sample quantitation limit; however, the value reported is an estimated value because the result is less than the quantitation limit or quality control criteria were not met.



**Table B-2: Summary of Groundwater Sampling Results - Well MW-07  
Sea-Tac Development Site, Seatac WA**

	Field Parameters								Analytical Data									
Date Sampled <sup>b,c</sup>	TOC Elevation (feet msl)	Depth to Water (feet btoc)	Groundwater Elevation (feet msl)	pH (standard units)	Temperature (°C)	Conductivity (umhos/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	NWTPH-Gasoline (mg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	EDB (ethylene dibromide) (µg/L) <sup>f</sup>	N-hexane (µg/L)	Naphthalene (µg/L)	NWTPH-Diesel (mg/L)	NWTPH-Motor Oil (mg/L)
18-Mar-10	358.70	48.69	310.01	6.61	13.3	354	1.41	5.18	26	230	1,100	360	4630	0.010	160	210	-	-
13-Feb-14	358.69	47.72	310.97	6.56	14.3	131	0.35	3.87	29	25	110	180	2022	< 3.8	190	220	11 J	< 0.20
29-May-14	358.69	47.65	311.04	6.65	16.4	379	0.13	2.84	27	14	80	190	1811	< 1.5	140	210 B	11 J	< 0.20
11-Sep-14	358.69	47.95	310.74	6.73	16.5	373	0.35	2.28	36	17	81	260	2110	< 0.028	280	300 B J	11	0.41 J
4-Dec-14	358.69	47.95	310.74	6.70	15.7	333	0.20	2.95	26	21	66	200	1507	< 0.07	170	180	11 J	0.32 J
18-Jun-15	358.69	48.01	310.68	6.64	16.1	371	0.25	1.57	15 J	6.4	28 J	110 J	533 J	< 0.07	93 J	96 J	5.4	0.24 J
3-Dec-15	358.69	49.96	308.73	6.44	15.9	526	0.14	2.91	23	77	1200	270	1550	< 1.5	160	69	4.9 J	< 0.20
4-May-16	358.69	49.05	309.64	6.68	16.0	640	1.02	4.57	12	30	500	170	970	<0.20	150	68 J	6.5 J	0.30 J
16-Nov-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	10.8 J	37	2.4	<0.20
3-May-17	358.69	48.13	310.56	6.38	16.2	188	1.33	3.78	2.9	1.8	0.46	14	21	<0.20	1.9	32	1.4	0.20
Clean-up Level	MTCA Method A for Groundwater (unrestricted landuse)								0.8 <sup>d</sup> /1.0 <sup>e</sup>	5 <sup>g</sup>	1000 <sup>g</sup>	700 <sup>g</sup>	1000 <sup>h</sup>	0.01 <sup>h</sup>	NSA	160	0.5	0.5
	MTCA Method B for Groundwater (unrestricted landuse)								NSA	5 <sup>i</sup>	640	800	1600	0.022	480	160	NSA	NSA

Notes:

feet bgs	Feet below ground surface	-	Not measured or not available
feet bmp	Feet below measuring point		Result exceeds Clean-up Level (CUL)
feet msl	Feet above mean sea level	mg/L	Milligrams per liter
<sup>a</sup>	Well not surveyed, elevation estimated.	µg/L	Micrograms per liter
<sup>b</sup>	IAS system not in operation.	NTU	Nephelometric Turbidity Unit
<sup>c</sup>	Water levels collected at various times prior to sampling (see Table 1). Date/time is sampling time.	µmhos/cm	Micromhos per centimeter
<sup>d</sup>	When benzene is present.	<	Analyte not detected above the reporting limit shown
<sup>e</sup>	When benzene is not present.	MTCA	Model Toxics Control Act
<sup>f</sup>	Reported at Method Detection Limit (MDL). The MDL is greater than the MTCA CULs.	MCL	Maximum Containment Level
<sup>g</sup>	Inclusive of 40 CFR 141.61 Federal Law for drinking water MCLs	NSA	No Standard Available
<sup>h</sup>	Value is more protective than Federal MCLs.	TOC	Top of casing inside PVC well
<sup>i</sup>	MTCA 173-340-705(5): Adjustments to cleanup levels based on applicable laws.	°C	Degrees Celsius
		J	The constituent was positively identified and detected; however, the concentration reported is an estimated value because the result is less than the quantitation limit or quality control criteria were not met.
		B	Analyte detected in an associated Method Blank at a concentration greater than one-half of laboratory's Reporting Limit or 5% of the regulatory limit or 5% of the analyte concentration in the sample.

**Table B-3: Summary of Groundwater Sampling Results - Well MW-09  
Sea-Tac Development Site, Seatac WA**

Date Sampled <sup>b,c</sup>	Field Parameters								Analytical Data									
	TOC Elevation (feet msl)	Depth to Water (feet btoc)	Groundwater Elevation (feet msl)	pH (standard units)	Temperature (°C)	Conductivity (µmhos/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	NWTPH-Gasoline (mg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	EDB (ethylene dibromide) (µg/L) <sup>f</sup>	N-hexane (µg/L)	Naphthalene (µg/L)	NWTPH-Diesel (mg/L)	NWTPH-Motor Oil (mg/L)
19-Mar-10	362.14	52.30	309.84	6.19	14.2	294	0.13	7.18	16	170	65	400	1434	0.016	100	160	-	-
12-Feb-14	362.13	51.45	310.68	6.49	12.6	99.5	0.28	3.10	7.5	30	8.1	150	98	< 0.08	16	120	1.6 J	< 0.20
29-May-14	362.13	51.41	310.72	6.44	15.0	295	0.14	1.01	7.8	32	9.4	170	112	< 0.37	5.60	92 B	2.3 J	< 0.20
10-Sep-14	362.13	-	-	6.49	15.7	310	0.20	3.85	5.6	17	4.6	100	47.2	< 0.010*	< 0.20	74	2.8	< 0.20
3-Dec-14	362.13	51.68	310.45	6.47	13.6	307	0.18	2.37	4.1	14	2.8	76	8.8	< 0.07	< 0.20	44	1.9	< 0.20
17-Jun-15	362.13	51.67	310.46	6.48	15.1	331	0.18	0.75	1.7	7.2	1.3	40	1.6	< 0.07	< 0.20	18	1.5	< 0.20
3-Dec-15	362.13	-	-	6.37	14.1	477	0.96	3.91	2.2 J	8.4	1.5 J+	73	1.45 J+	< 0.07	< 0.20	5.7	1.0 J	< 0.20
3-May-16	362.13	-	-	6.51	18.3	221	4.68	1.08	<0.10	0.15 J	<0.20	0.71	<0.40	<0.20	<0.20	<0.50	0.22 J	<0.20
15-Nov-16	362.13	52.15	309.98	5.94	14.5	234	1.41	0.80	<0.10	0.23	0.23	0.56	0.32	<0.20	<0.20	<0.50	0.20	<0.20
3-May-17	362.13	-	-	5.94	15.5	165	3.09	1.43	<0.10	0.23	0.05 J	0.42	<0.40	<0.20	<0.20	<0.50	0.28	<0.20
Clean-up Level	MTCA Method A for Groundwater (unrestricted landuse)								0.8 <sup>d</sup> /1.0 <sup>e</sup>	5 <sup>g</sup>	1000 <sup>g</sup>	700 <sup>g</sup>	1000 <sup>h</sup>	0.01 <sup>h</sup>	NSA	160	0.5	0.5
	MTCA Method B for Groundwater (unrestricted landuse)								NSA	5 <sup>i</sup>	640	800	1600	0.022	480	160	NSA	NSA

Notes:																		
feet bgs	Feet below ground surface	-	Not measured or not available															
feet bmp	Feet below measuring point		Result exceeds Clean-up Level (CUL)															
feet msl	Feet above mean sea level	mg/L	Milligrams per liter															
<sup>a</sup>	Well not surveyed, elevation estimated.	µg/L	Micrograms per liter															
<sup>b</sup>	IAS system not in operation.	NTU	Nephelometric Turbidity Unit															
<sup>c</sup>	Water levels collected at various times prior to sampling (see Table 1). Date/time is sampling time.	µmhos/cm	Micromhos per centimeter															
<sup>d</sup>	When benzene is present.	<	Analyte not detected above the reporting limit shown															
<sup>e</sup>	When benzene is not present.	MTCA	Model Toxics Control Act															
<sup>f</sup>	Reported at Method Detection Limit (MDL). The MDL is greater than the MTCA CULs.	MCL	Maximum Containment Level															
<sup>g</sup>	Inclusive of 40 CFR 141.61 Federal Law for drinking water MCLs	NSA	No Standard Available															
<sup>h</sup>	Value is more protective than Federal MCLs.	TOC	Top of casing inside PVC well															
<sup>i</sup>	MTCA 173-340-705(5): Adjustments to cleanup levels based on applicable laws.	°C	Degrees Celsius															
		J	The constituent was positively identified and detected; however, the concentration reported is an estimated value because the result is less than the quantitation limit or quality control criteria were not met.															
		J+	The constituent was positively identified and detected; however, the concentration reported is an estimated value because the result may be biased high.															
		B	Analyte detected in an associated Method Blank at a concentration greater than one-half of laboratory's Reporting Limit or 5% of the regulatory limit or 5% of the analyte concentration in the sample.															
*	Reported at the Limit of Quantitation (LOQ). The LOQ is less than MTCA CULs.																	

**Table B-4: Summary of Groundwater Sampling Results - Well MW-12  
Sea-Tac Development Site, Seatac WA**

Date Sampled <sup>b,c</sup>	Field Parameters								Analytical Data									
	TOC Elevation (feet msl)	Depth to Water (feet btoc)	Groundwater Elevation (feet msl)	pH (standard units)	Temperature (°C)	Conductivity (µmhos/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	NWTPH-Gasoline (mg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	EDB (ethylene dibromide) (µg/L) <sup>f</sup>	N-hexane (µg/L)	Naphthalene (µg/L)	NWTPH-Diesel (mg/L) <sup>1</sup>	NWTPH-Motor Oil (mg/L)
15-Mar-10	364.88	54.99	309.89	6.38	14.5	472	0.03	40.8	36	230	2,400	1,300	5140	0.16	210	520	-	-
13-Feb-14	364.83	55.02	309.81	7.76	14.1	125	10.50	3.43	8.6	79	410	79	970	< 3.8	< 10	25	1.1 J	< 0.20
29-May-14	364.83	51.58	313.25	7.87	16.7	252	11.77	5.99	0.12	2.0	4.3	1.6	4.2	< 0.07	< 0.20	< 0.50	0.34 J	< 0.20
11-Sep-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
4-Dec-14	364.83	54.87	309.96	8.04	15.1	258	11.51	153	< 0.10	< 0.25	< 0.25	0.73	6.0	< 0.07	0.18 J	0.68	0.20	< 0.20
18-Jun-15	364.83	-	-	8.09	16.3	208	9.90	2.44	< 0.25	< 0.20	< 0.20	0.10 J	2.1	< 0.07	0.26	< 0.50	0.45	< 0.20
3-Dec-15	364.83	56.74	308.09	-	-	-	-	-	< 0.25	< 0.20	< 0.20	< 0.20	< 0.40	< 0.07	< 0.20	< 0.50	0.29	< 0.20
4-May-16	364.83	55.53	309.30	7.68	15.1	226	7.72	3.48	< 0.10	< 0.20	< 0.20	< 0.20	< 0.40	< 0.20	< 0.20	< 0.50	0.18 J	< 0.20
16-Nov-16	364.83	55.20	309.63	7.84	14.9	199	8.45	13.4	< 0.10	< 0.20	< 0.20	< 0.20	< 0.40	< 0.20	< 0.20	< 0.50	0.16	< 0.20
3-May-17	364.83	59.02	305.81	7.53	15.9	80.2	8.01	4.96	< 0.10	< 0.20	< 0.20	< 0.20	< 0.40	< 0.20	< 0.20	< 0.50	0.89	< 0.215
Clean-up Level	MTCA Method A for Groundwater (unrestricted landuse)								0.8 <sup>d</sup> /1.0 <sup>e</sup>	5 <sup>g</sup>	1000 <sup>g</sup>	700 <sup>g</sup>	1000 <sup>h</sup>	0.01 <sup>h</sup>	NSA	160	0.5	0.5
	MTCA Method B for Groundwater (unrestricted landuse)								NSA	5 <sup>i</sup>	640	800	1600	0.022	480	160	NSA	NSA

Notes:																		
feet bgs	Feet below ground surface	-	Not measured or not available															
feet bmp	Feet below measuring point		Result exceeds Clean-up Level (CUL)															
feet msl	Feet above mean sea level	mg/L	Milligrams per liter															
<sup>a</sup>	Well not surveyed, elevation estimated.	µg/L	Micrograms per liter															
<sup>b</sup>	IAS system not in operation.	NTU	Nephelometric Turbidity Unit															
<sup>c</sup>	Water levels collected at various times prior to sampling (see Table 1). Date/time is sampling time.	µmhos/cm	Micromhos per centimeter															
<sup>d</sup>	When benzene is present.	<	Analyte not detected above the reporting limit shown															
<sup>e</sup>	When benzene is not present.	MTCA	Model Toxics Control Act															
<sup>f</sup>	Reported at Method Detection Limit (MDL). The MDL is greater than the MTCA CULs.	MCL	Maximum Containment Level															
<sup>g</sup>	Inclusive of 40 CFR 141.61 Federal Law for drinking water MCLs	NSA	No Standard Available															
<sup>h</sup>	Value is more protective than Federal MCLs.	TOC	Top of casing inside PVC well															
<sup>i</sup>	MTCA 173-340-705(5): Adjustments to cleanup levels based on applicable laws.	°C	Degrees Celsius															
<sup>1</sup>	The MW-12 diesel detection at 0.89 µg/L from the 3-May-17 sample event was noted by the laboratory analyst as likely non-fuel organics in the diesel range and did not match the diesel standard.	J	The constituent was positively identified and detected; however, the concentration reported is an estimated value because the result is less than the quantitation limit or quality control criteria were not met.															
*	Reported at the Limit of Quantitation (LOQ). The LOQ is less than MTCA CULs.	J+	The constituent was positively identified and detected; however, the concentration reported is an estimated value because the result may be biased high.															
		B	Analyte detected in an associated Method Blank at a concentration greater than one-half of laboratory's Reporting Limit or 5% of the regulatory limit or 5% of the analyte concentration in the sample.															

**Table B-5: Summary of Groundwater Sampling Results - Well MW-13  
Sea-Tac Development Site, Seatac WA**

Date Sampled <sup>b,c</sup>	Field Parameters								Analytical Data									
	TOC Elevation (feet msl)	Depth to Water (feet btoc)	Groundwater Elevation (feet msl)	pH (standard units)	Temperature (°C)	Conductivity (µmhos/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	NWTPH-Gasoline (mg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	EDB (ethylene dibromide) (µg/L) <sup>f</sup>	N-hexane (µg/L)	Naphthalene (µg/L)	NWTPH-Diesel (mg/L)	NWTPH-Motor Oil (mg/L)
19-Mar-10	365.42	55.66	309.76	6.28	12.8	271	0.16	72.1	33	14	230	890	4500	0.029	130	410	-	-
12-Feb-14	365.42	54.35	311.07	6.57	13.2	73.3	1.41	4.28	14	< 0.25	3.9	240	2070	< 0.08	< 0.20	33	1.4 J	< 0.20
29-May-14	365.42	55.62	309.80	6.84	14.7	182	10.59	4.24	0.14	< 0.25	< 0.25	0.85	18.54	< 0.07	0.11 J	< 0.50	0.32	< 0.20
10-Sep-14	365.42	54.86	310.56	7.06	14.9	137	11.06	2.41	< 0.10	< 0.25	< 0.25	< 0.25	< 0.50	< 0.010*	< 0.20	< 0.50	0.29	< 0.20
4-Dec-14	365.42	54.86	310.56	7.06	13.9	163	10.10	2.32	< 0.10	< 0.25	< 0.25	< 0.25	< 0.50	< 0.07	< 0.20	< 0.50	0.31	< 0.20
18-Jun-15	365.42	54.70	310.72	7.13	14.7	174	10.71	1.32	< 0.25	< 0.20	< 0.20	< 0.20	< 0.40	< 0.07	< 0.20	0.61	0.27	< 0.20
2-Dec-15	365.42	56.43	308.99	7.27	14.2	164	10.20	0.90	< 0.25	< 0.20	< 0.20	0.23	1.10 J+	< 0.07	< 0.20	< 0.50	0.26	< 0.20
3-May-16	365.42	56.30	309.12	7.79	15.8	194	14.18	1.14	< 0.10	< 0.20	< 0.20	< 0.20	0.44	< 0.20	< 0.20	< 0.50	0.12 J	< 0.20
15-Nov-16	365.42	55.81	309.61	7.25	14.1	195	10.64	0.73	< 0.10	< 0.20	< 0.20	< 0.20	0.46	< 0.20	< 0.20	< 0.50	0.19	< 0.20
3-May-17	365.42	55.14	310.28	7.03	14.5	116	10.71	1.45	< 0.10	< 0.20	< 0.20	< 0.20	< 0.40	< 0.20	< 0.20	< 0.50	0.18	< 0.20
Clean-up Level	MTCA Method A for Groundwater (unrestricted landuse)								0.8 <sup>d</sup> /1.0 <sup>e</sup>	5 <sup>g</sup>	1000 <sup>g</sup>	700 <sup>g</sup>	1000 <sup>h</sup>	0.01 <sup>h</sup>	NSA	160	0.5	0.5
	MTCA Method B for Groundwater (unrestricted landuse)								NSA	5 <sup>i</sup>	640	800	1600	0.022	480	160	NSA	NSA

Notes:																		
feet bgs	Feet below ground surface	-	Not measured or not available															
feet bmp	Feet below measuring point		Result exceeds Clean-up Level (CUL)															
feet msl	Feet above mean sea level	mg/L	Milligrams per liter															
<sup>a</sup>	Well not surveyed, elevation estimated.	µg/L	Micrograms per liter															
<sup>b</sup>	IAS system not in operation.	NTU	Nephelometric Turbidity Unit															
<sup>c</sup>	Water levels collected at various times prior to sampling (see Table 1). Date/time is sampling time.	µmhos/cm	Micromhos per centimeter															
<sup>d</sup>	When benzene is present.	<	Analyte not detected above the reporting limit shown															
<sup>e</sup>	When benzene is not present.	MTCA	Model Toxics Control Act															
<sup>f</sup>	Reported at Method Detection Limit (MDL). The MDL is greater than the MTCA CULs.	MCL	Maximum Containment Level															
<sup>g</sup>	Inclusive of 40 CFR 141.61 Federal Law for drinking water MCLs	NSA	No Standard Available															
<sup>h</sup>	Value is more protective than Federal MCLs.	TOC	Top of casing inside PVC well															
<sup>i</sup>	MTCA 173-340-705(5): Adjustments to cleanup levels based on applicable laws.	°C	Degrees Celsius															
		J	The constituent was positively identified and detected; however, the concentration reported is an estimated value because the result is less than the quantitation limit or quality control criteria were not met.															
*	Reported at the Limit of Quantitation (LOQ). The LOQ is less than MTCA CULs.	J+	The constituent was positively identified and detected; however, the concentration reported is an estimated value because the result may be biased high.															



**Table B-6: Summary of Groundwater Sampling Results - Well MW-17A  
Sea-Tac Development Site, Seatac WA**

Date Sampled <sup>b,c</sup>	Field Parameters								Analytical Data									
	TOC Elevation (feet msl)	Depth to Water (feet btoc)	Groundwater Elevation (feet msl)	pH (standard units)	Temperature (°C)	Conductivity (µmhos/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	NWTPH-Gasoline (mg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	EDB (ethylene dibromide) (µg/L) <sup>f</sup>	N-hexane (µg/L)	Naphthalene (µg/L)	NWTPH-Diesel (mg/L)	NWTPH-Motor Oil (mg/L)
17-Mar-10	385.81	76.29	309.52	6.51	9.3	145	0.52	142	1.70	< 1.0	< 1.0	4.0	27	< 0.0095	< 1.0	63	-	-
11-Feb-14	394.00	83.80	310.20	6.36	11.3	82.5	1.06	137	< 0.10	< 0.25	< 0.25	< 0.25	< 0.50	< 0.08	< 0.20	0.74	< 0.10	< 0.20
29-May-14	394.00	84.00	310.00	6.22	12.2	175	2.06	39.7	< 0.10	0.25	< 0.25	< 0.25	< 0.50	< 0.07	< 0.20	0.62 J+	< 0.10	< 0.20
10-Sep-14	394.00	84.18	309.82	6.28	12.4	162	1.42	18.8	< 0.10	< 0.25	< 0.25	< 0.25	< 0.50	< 0.07	< 0.20	0.64 J	< 0.10	< 0.20
5-Dec-14	394.00	84.18	309.82	6.42	11.7	167	1.09	31.8	< 0.10 UJ	0.54 J	< 0.25 UJ	< 0.25 UJ	0.63 J	< 0.07	< 0.20 UJ	2.8	< 0.10	< 0.20
17-Jun-15	394.00	84.16	309.84	6.29	12.9	158	3.13	29.6	< 0.25	< 0.20	< 0.20	< 0.20	< 0.40	< 0.07	< 0.20	< 0.50	< 0.10	< 0.20
18-Dec-15	394.00	85.95	308.05	6.57	11.8	127	0.20	23.7	0.05 J	0.75	< 0.20	0.08 J	< 0.40	< 0.07	< 0.20	0.98 J	< 0.10	< 0.20
3-May-16	394.00	85.21	308.79	6.51	13.1	132	4.60	8.41	< 0.10	0.33	< 0.20	< 0.20	< 0.40	< 0.20	0.11 J	0.71 J	< 0.10	< 0.20
15-Nov-16	394.00	84.57	309.43	6.46	12.6	122	3.76	10.2	< 0.10	0.14 J	< 0.20	< 0.20	< 0.40	< 0.20	< 0.20	< 0.50	< 0.10	< 0.20
3-May-17	394.00	84.24	309.76	6.08	12.4	76.1	7.25	7.57	< 0.10	< 0.20	< 0.20	< 0.20	< 0.40	< 0.20	< 0.20	< 0.50	< 0.10	< 0.20
Clean-up Level	MTCA Method A for Groundwater (unrestricted landuse)								0.8 <sup>d</sup> /1.0 <sup>e</sup>	5 <sup>g</sup>	1000 <sup>g</sup>	700 <sup>g</sup>	1000 <sup>h</sup>	0.01 <sup>h</sup>	NSA	160	0.5	0.5
	MTCA Method B for Groundwater (unrestricted landuse)								NSA	5 <sup>i</sup>	640	800	1600	0.022	480	160	NSA	NSA

Notes:		
feet bgs	Feet below ground surface	-
feet bmp	Feet below measuring point	Result exceeds Clean-up Level (CUL)
feet msl	Feet above mean sea level	mg/L
<sup>a</sup>	Well not surveyed, elevation estimated.	µg/L
<sup>b</sup>	IAS system not in operation.	NTU
<sup>c</sup>	Water levels collected at various times prior to sampling (see Table 1). Date/time is sampling time.	µmhos/cm
<sup>d</sup>	When benzene is present.	<
<sup>e</sup>	When benzene is not present.	MTCA
<sup>f</sup>	Reported at Method Detection Limit (MDL). The MDL is greater than the MTCA CULs.	MCL
<sup>g</sup>	Inclusive of 40 CFR 141.61 Federal Law for drinking water MCLs	NSA
<sup>h</sup>	Value is more protective than Federal MCLs.	TOC
<sup>i</sup>	MTCA 173-340-705(5): Adjustments to cleanup levels based on applicable laws.	°C
		J
		UJ
		J+

- Not measured or not available

Result exceeds Clean-up Level (CUL)

mg/L Milligrams per liter

µg/L Micrograms per liter

NTU Nephelometric Turbidity Unit

µmhos/cm Micromhos per centimeter

< Analyte not detected above the reporting limit shown

MTCA Model Toxics Control Act

MCL Maximum Containment Level

NSA No Standard Available

TOC Top of casing inside PVC well

°C Degrees Celsius

J The constituent was positively identified and detected; however, the concentration reported is an estimated value because the result is less than the quantitation limit or quality control criteria were not met.

UJ The constituent was analyzed for, but was not detected above the reported sample quantitation limit; however, the value reported is an estimated value because the result is less than the quantitation limit or quality control criteria were not met.

J+ The constituent was positively identified and detected; however, the concentration reported is an estimated value because the result may be biased high.

**Table B-7: Summary of Groundwater Sampling Results - Well MW-18  
Sea-Tac Development Site, Seatac WA**

	Field Parameters								Analytical Data									
Date Sampled <sup>b,c</sup>	TOC Elevation (feet msl)	Depth to Water (feet btoc)	Groundwater Elevation (feet msl)	pH (standard units)	Temperature (°C)	Conductivity (umhos/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	NWTPH-Gasoline (mg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	EDB (ethylene dibromide) (µg/L) <sup>f</sup>	N-hexane (µg/L)	Naphthalene (µg/L)	NWTPH-Diesel (mg/L)	NWTPH-Motor Oil (mg/L)
18-Mar-10	360.45	50.58	309.87	6.69	14.2	586	0.11	5.39	52	2,600	6,000	1,700	6690	2.5	350	420	-	-
12-Feb-14	360.45	49.01	311.44	7.62	13.8	175	8.11	2.89	1.0	27	13	17	91.3	< 0.08	1.1	4.0	0.77 J	<0.20
29-May-14	360.45	49.75	310.70	7.98	15.2	369	10.60	7.95	0.14	6.6	1.5	4.7	9.2	< 0.07	0.64	0.84 J+	0.33 J	<0.20
11-Sep-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
4-Dec-14	360.45	49.83	310.62	7.84	14.4	470	10.78	81.6	< 0.10	0.69	< 0.25	0.63	0.93	< 0.07	0.10 J	< 0.50	0.24	< 0.20
18-Jun-15	360.45	49.51	310.94	8.05	15.2	515	10.89	49.6	< 0.25	0.67	0.54	0.2	1.1	< 0.07	< 0.20	< 0.50	0.38	< 0.20
3-Dec-15	360.45	-	-	8.28	14.8	455	10.21	14.6	< 0.25	0.57	4.8	0.3	9.8	< 0.07	0.25	0.67	0.13	< 0.20
4-May-16	360.45	51.12	309.33	7.27	14.8	513	4.53	4.77	0.22	8.0	5.5	8.2	29	<0.20	1.5	1.5 J	0.37 J	<0.20
16-Nov-16	360.45	50.63	309.82	7.55	15.0	503	6.97	2.44	0.12	3.6	1.2	2.1	9.0	<0.20	0.39	<0.50	0.48	<0.20
3-May-17	360.45	50.12	310.33	7.19	15.6	313	4.54	3.57	0.28	6.9	3.1	6.8	21	<0.20	1.4	2.7	0.29	0.30
Clean-up Level	MTCA Method A for Groundwater (unrestricted landuse)								0.8 <sup>d</sup> /1.0 <sup>e</sup>	5 <sup>g</sup>	1000 <sup>g</sup>	700 <sup>g</sup>	1000 <sup>h</sup>	0.01 <sup>h</sup>	NSA	160	0.5	0.5
	MTCA Method B for Groundwater (unrestricted landuse)								NSA	5 <sup>i</sup>	640	800	1600	0.022	480	160	NSA	NSA

Notes:

feet bgs	Feet below ground surface	-	Not measured or not available
feet bmp	Feet below measuring point		Result exceeds Clean-up Level (CUL)
feet msl	Feet above mean sea level	mg/L	Milligrams per liter
<sup>a</sup>	Well not surveyed, elevation estimated.	µg/L	Micrograms per liter
<sup>b</sup>	IAS system not in operation.	NTU	Nephelometric Turbidity Unit
<sup>c</sup>	Water levels collected at various times prior to sampling (see Table 1). Date/time is sampling time.	µmhos/cm	Micromhos per centimeter
<sup>d</sup>	When benzene is present.	<	Analyte not detected above the reporting limit shown
<sup>e</sup>	When benzene is not present.	MTCA	Model Toxics Control Act
<sup>f</sup>	Reported at Method Detection Limit (MDL). The MDL is greater than the MTCA CULs.	MCL	Maximum Containment Level
<sup>g</sup>	Inclusive of 40 CFR 141.61 Federal Law for drinking water MCLs	NSA	No Standard Available
<sup>h</sup>	Value is more protective than Federal MCLs.	TOC	Top of casing inside PVC well
<sup>i</sup>	MTCA 173-340-705(5): Adjustments to cleanup levels based on applicable laws.	°C	Degrees Celsius
		J	The constituent was positively identified and detected; however, the concentration reported is an estimated value because the result is less than the quantitation limit or quality control criteria were not met.
*	Reported at the Limit of Quantitation (LOQ). The LOQ is less than MTCA CULs.	J+	The constituent was positively identified and detected; however, the concentration reported is an estimated value because the result may be biased high.

**Table B-8: Summary of Groundwater Sampling Results - Well MW-19  
Sea-Tac Development Site, Seatac WA**

	Field Parameters								Analytical Data									
Date Sampled <sup>b,c</sup>	TOC Elevation (feet msl)	Depth to Water (feet btoc)	Groundwater Elevation (feet msl)	pH (standard units)	Temperature (°C)	Conductivity (umhos/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	NWTPH-Gasoline (mg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	EDB (ethylene dibromide) (µg/L) <sup>f</sup>	N-hexane (µg/L)	Naphthalene (µg/L)	NWTPH-Diesel (mg/L)	NWTPH-Motor Oil (mg/L)
18-Mar-10	356.61	46.60	310.01	7.04	12.5	275	0.07	84.0	1.3	8.9	1.8	43	6.0	< 0.0096	2.8	< 5.0	-	-
11-Feb-14	356.61	45.46	311.15	6.98	12.7	105	0.15	3.20	< 0.10	< 0.25	< 0.25	< 0.25	< 0.50	< 0.08	4.3	< 0.50	< 0.10	< 0.20
29-May-14	356.61	45.74	310.87	6.96	13.7	290	0.04	0.42	< 0.10	< 0.25	0.40	< 0.25	0.58	< 0.07	0.3	< 0.50	< 0.10	< 0.20
10-Sep-14	356.61	45.73	310.88	6.93	14.5	379	0.16	0.30	< 0.10	< 0.25	< 0.25	< 0.25	< 0.50	< 0.07	< 0.20	< 0.50	< 0.10	< 0.20
3-Dec-14	356.61	45.73	310.88	6.82	13.3	380	0.20	0.86	< 0.10	< 0.25	< 0.25	< 0.25	< 0.50	< 0.07	< 0.20	< 0.50	< 0.10	< 0.20
17-Jun-15	356.61	45.94	310.67	6.75	14.3	400	0.26	0.86	< 0.25	< 0.20	< 0.20	< 0.20	< 0.40	< 0.07	< 0.20	< 0.50	< 0.10	< 0.20
2-Dec-15	356.61	47.72	308.89	6.87	13.6	530	0.09	2.60	< 0.25	< 0.20	< 0.20	< 0.20	< 0.40	< 0.07	< 0.20	< 0.50	< 0.10	< 0.20
3-May-16	356.61	46.81	309.80	6.79	15.2	390	0.87	1.23	<0.10	<0.20	<0.20	<0.20	<0.40	<0.20	<0.20	<0.50	<0.10	<0.20
15-Nov-16	356.61	46.15	310.46	6.88	14.1	586	0.37	0.81	<0.10	<0.20	<0.20	<0.20	<0.40	<0.20	<0.20	<0.50	<0.10	<0.20
2-May-17	356.61	45.90	310.71	6.46	13.9	268	2.04	0.36	<0.10	<0.20	<0.20	<0.20	<0.40	<0.20	<0.20	<0.50	<0.106	<0.213
Clean-up Level	MTCA Method A for Groundwater (unrestricted landuse)								0.8 <sup>d</sup> /1.0 <sup>e</sup>	5 <sup>g</sup>	1000 <sup>g</sup>	700 <sup>g</sup>	1000 <sup>h</sup>	0.01 <sup>h</sup>	NSA	160	0.5	0.5
	MTCA Method B for Groundwater (unrestricted landuse)								NSA	5 <sup>i</sup>	640	800	1600	0.022	480	160	NSA	NSA

## Notes:

feet bgs	Feet below ground surface
feet bmp	Feet below measuring point
feet msl	Feet above mean sea level
<sup>a</sup>	Well not surveyed, elevation estimated.
<sup>b</sup>	IAS system not in operation.
<sup>c</sup>	Water levels collected at various times prior to sampling (see Table 1). Date/time is sampling time.
<sup>d</sup>	When benzene is present.
<sup>e</sup>	When benzene is not present.
<sup>f</sup>	Reported at Method Detection Limit (MDL). The MDL is greater than the MTCA CULs.
<sup>g</sup>	Inclusive of 40 CFR 141.61 Federal Law for drinking water MCLs
<sup>h</sup>	Value is more protective than Federal MCLs.
<sup>i</sup>	MTCA 173-340-705(5): Adjustments to cleanup levels based on applicable laws.

-	Not measured or not available
	Result exceeds Clean-up Level (CUL)
mg/L	Milligrams per liter
µg/L	Micrograms per liter
NTU	Nephelometric Turbidity Unit
µmhos/cm	Micromhos per centimeter
<	Analyte not detected above the reporting limit shown
MTCA	Model Toxics Control Act
MCL	Maximum Containment Level
NSA	No Standard Available
TOC	Top of casing inside PVC well
°C	Degrees Celsius

**Table B-9: Summary of Groundwater Sampling Results - Well MW-20  
Sea-Tac Development Site, Seatac WA**

	Field Parameters								Analytical Data									
Date Sampled <sup>b,c</sup>	TOC Elevation (feet msl)	Depth to Water (feet btoc)	Groundwater Elevation (feet msl)	pH (standard units)	Temperature (°C)	Conductivity (umhos/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	NWTPH-Gasoline (mg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	EDB (ethylene dibromide) (µg/L) <sup>f</sup>	N-hexane (µg/L)	Naphthalene (µg/L)	NWTPH-Diesel (mg/L)	NWTPH-Motor Oil (mg/L)
17-Mar-10	430.98	121.79	309.19	6.63	10.8	359	4.82	4.37	< 0.10	< 1.0	< 1.0	< 1.0	< 1.0	< 0.0095	< 1.0	< 5.0	-	-
20-Mar-14	416.61	106.13	310.48	6.74	11.4	377	7.82	3.32	< 0.10	< 0.25	< 0.25	< 0.25	< 0.50	< 0.07	< 0.20	< 0.50 UJ	< 0.10	< 0.20
29-May-14	416.61	106.66	309.95	6.73	12.3	257	6.37	0.82	< 0.10	< 0.25	< 0.25	< 0.25	< 0.50	< 0.07	< 0.20	< 0.50	< 0.10	< 0.20
10-Sep-14	416.61	106.53	310.08	6.83	13.2	355	7.55	0.69	< 0.10	< 0.25	< 0.25	< 0.25	< 0.50	< 0.07	< 0.20	< 0.50	< 0.10	< 0.20
3-Dec-14	416.61	106.53	310.08	6.79	12.4	355	7.67	1.30	< 0.10	< 0.25	< 0.25	< 0.25	< 0.50	< 0.07	< 0.20	< 0.50	< 0.10	< 0.20
17-Jun-15	416.61	106.68	309.93	6.77	13.3	350	7.41	1.06	< 0.25	< 0.20	< 0.20	< 0.20	< 0.40	< 0.07	< 0.20	< 0.50	< 0.10	< 0.20
3-Dec-15	416.61	108.61	308.00	7.66	12.4	290	6.76	4.28	< 0.25	< 0.20	< 0.20	< 0.20	< 0.40	< 0.07	< 0.20	< 0.50	< 0.10	< 0.20
3-May-16	416.61	107.56	309.05	6.58	13.3	138	5.31	3.55	<0.10	<0.20	<0.20	<0.20	<0.40	<0.20	<0.20	<0.50	<0.10	<0.20
15-Nov-16	416.61	106.97	309.64	6.75	13.0	241	7.12	0.41	<0.10	<0.20	<0.20	<0.20	<0.40	<0.20	<0.20	<0.50	<0.10	<0.20
3-May-17	416.61	106.66	309.95	6.63	12.8	118	8.97	1.35	<0.10	<0.20	<0.20	<0.20	<0.40	<0.20	<0.20	<0.50	<0.10	<0.20
Clean-up Level	MTCA Method A for Groundwater (unrestricted landuse)								0.8 <sup>d</sup> /1.0 <sup>e</sup>	5 <sup>g</sup>	1000 <sup>g</sup>	700 <sup>g</sup>	1000 <sup>h</sup>	0.01 <sup>h</sup>	NSA	160	0.5	0.5
	MTCA Method B for Groundwater (unrestricted landuse)								NSA	5 <sup>i</sup>	640	800	1600	0.022	480	160	NSA	NSA

Notes:

feet bgs	Feet below ground surface	-	Not measured or not available
feet bmp	Feet below measuring point		Result exceeds Clean-up Level (CUL)
feet msl	Feet above mean sea level	mg/L	Milligrams per liter
<sup>a</sup>	Well not surveyed, elevation estimated.	µg/L	Micrograms per liter
<sup>b</sup>	IAS system not in operation.	NTU	Nephelometric Turbidity Unit
<sup>c</sup>	Water levels collected at various times prior to sampling (see Table 1). Date/time is sampling time.	µmhos/cm	Micromhos per centimeter
<sup>d</sup>	When benzene is present.	<	Analyte not detected above the reporting limit shown
<sup>e</sup>	When benzene is not present.	MTCA	Model Toxics Control Act
<sup>f</sup>	Reported at Method Detection Limit (MDL). The MDL is greater than the MTCA CULs.	MCL	Maximum Containment Level
<sup>g</sup>	Inclusive of 40 CFR 141.61 Federal Law for drinking water MCLs	NSA	No Standard Available
<sup>h</sup>	Value is more protective than Federal MCLs.	TOC	Top of casing inside PVC well
<sup>i</sup>	MTCA 173-340-705(5): Adjustments to cleanup levels based on applicable laws.	°C	Degrees Celsius
		UJ	The constituent was analyzed for, but was not detected above the reported sample quantitation limit; however, the value reported is an estimated value because the result is less than the quantitation limit or quality control criteria were not met.



**Table B-10: Summary of Groundwater Sampling Results - Well MW-21  
Sea-Tac Development Site, Seatac WA**

Date Sampled <sup>b,c</sup>	Field Parameters								Analytical Data									
	TOC Elevation (feet msl)	Depth to Water (feet btoc)	Groundwater Elevation (feet msl)	pH (standard units)	Temperature (°C)	Conductivity (µmhos/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	NWTPH-Gasoline (mg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	EDB (ethylene dibromide) (µg/L) <sup>f</sup>	N-hexane (µg/L)	Naphthalene (µg/L)	NWTPH-Diesel (mg/L)	NWTPH-Motor Oil (mg/L)
17-Mar-10	390.79	81.26	309.53	5.97	11.5	257	3.21	5.13	< 0.10	< 1.0	< 1.0	< 1.0	< 1.0	< 0.0096	< 1.0	< 5.0	-	-
11-Feb-14	412.85	102.34	310.51	6.09	11.9	110	6.31	11.2	< 0.10	< 0.25	< 0.25	< 0.25	< 0.50	< 0.08	< 0.20	< 0.50	< 0.10	< 0.20
29-May-14	412.85	102.61	310.24	6.15	12.5	277	6.28	1.71	< 0.10	< 0.25	< 0.25	< 0.25	< 0.50	< 0.07	< 0.20	< 0.50	< 0.10	< 0.20
10-Sep-14	412.85	102.66	310.19	6.15	13.5	283	6.25	1.95	< 0.10	< 0.25	< 0.25	< 0.25	< 0.50	< 0.07	< 0.20	< 0.50	< 0.10	< 0.20
3-Dec-14	412.85	102.66	310.19	6.20	12.3	304	5.54	13.1	< 0.10	< 0.25	< 0.25	< 0.25	< 0.50	< 0.07	< 0.20	< 0.50	< 0.10	< 0.20
17-Jun-15	412.85	102.81	310.04	6.12	13.5	326	6.12	1.98	< 0.25	< 0.20	< 0.20	< 0.20	< 0.40	< 0.07	< 0.20	< 0.50	< 0.10	< 0.20
3-Dec-15	412.85	104.70	308.15	5.17	12.6	341	6.21	1.39	< 0.25	< 0.20	< 0.20	< 0.20	< 0.40	< 0.07	< 0.20	< 0.50	< 0.10	< 0.20
3-May-16	412.85	104.40	308.45	6.28	13.7	315	9.30	3.86	< 0.10	< 0.20	< 0.20	< 0.20	< 0.40	< 0.20	< 0.20	< 0.50	< 0.10	< 0.20
15-Nov-16	412.85	102.97	309.88	6.30	13.4	290	6.29	4.51	< 0.10	< 0.20	< 0.20	< 0.20	< 0.40	< 0.20	< 0.20	< 0.50	< 0.10	< 0.20
3-May-17	412.85	102.68	310.17	6.08	13.0	134	7.33	1.12	< 0.10	< 0.20	< 0.20	< 0.20	< 0.40	< 0.20	< 0.20	< 0.50	< 0.109	< 0.217
Clean-up Level	MTCA Method A for Groundwater (unrestricted landuse)								0.8 <sup>d</sup> /1.0 <sup>e</sup>	5 <sup>g</sup>	1000 <sup>g</sup>	700 <sup>g</sup>	1000 <sup>h</sup>	0.01 <sup>h</sup>	NSA	160	0.5	0.5
	MTCA Method B for Groundwater (unrestricted landuse)								NSA	5 <sup>i</sup>	640	800	1600	0.022	480	160	NSA	NSA

## Notes:

feet bgs	Feet below ground surface	-	Not measured or not available
feet bmp	Feet below measuring point		Result exceeds Clean-up Level (CUL)
feet msl	Feet above mean sea level	mg/L	Milligrams per liter
<sup>a</sup>	Well not surveyed, elevation estimated.	µg/L	Micrograms per liter
<sup>b</sup>	IAS system not in operation.	NTU	Nephelometric Turbidity Unit
<sup>c</sup>	Water levels collected at various times prior to sampling (see Table 1). Date/time is sampling time.	µmhos/cm	Micromhos per centimeter
<sup>d</sup>	When benzene is present.	<	Analyte not detected above the reporting limit shown
<sup>e</sup>	When benzene is not present.	MTCA	Model Toxics Control Act
<sup>f</sup>	Reported at Method Detection Limit (MDL). The MDL is greater than the MTCA CULs.	MCL	Maximum Containment Level
<sup>g</sup>	Inclusive of 40 CFR 141.61 Federal Law for drinking water MCLs	NSA	No Standard Available
<sup>h</sup>	Value is more protective than Federal MCLs.	TOC	Top of casing inside PVC well
<sup>i</sup>	MTCA 173-340-705(5): Adjustments to cleanup levels based on applicable laws.	°C	Degrees Celsius

**Table B-11: Summary of Groundwater Sampling Results - Well MW-22**  
**Sea-Tac Development Site, Seatac WA**

Date Sampled <sup>b,c</sup>	Field Parameters								Analytical Data									
	TOC Elevation (feet msl)	Depth to Water (feet btoc)	Groundwater Elevation (feet msl)	pH (standard units)	Temperature (°C)	Conductivity (µmhos/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	NWTPH-Gasoline (mg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	EDB (ethylene dibromide) (µg/L) <sup>f</sup>	N-hexane (µg/L)	Naphthalene (µg/L)	NWTPH-Diesel (mg/L)	NWTPH-Motor Oil (mg/L)
16-Mar-10	393.31	83.63	309.68	6.65	12.5	586	0.25	82.0	15	23	74	1400	2420	< 0.0095	15	380	-	-
20-Mar-14	393.31	82.93	310.38	6.68	12.2	381	0.87	64.8	17	5.7	12	990	1503	< 0.07	7.8	400 J	1.2 J	< 0.20
28-May-14	393.31	82.72	310.59	6.73	13.2	383	0.30	2.26	18	3.9	9.7	940	1900	< 0.07	8.6	420 B	1.7 J	< 0.20
12-Sep-14	393.31	82.98	310.33	6.81	13.7	423	0.29	1.03	16	4.8	9.3	690	1103	< 1.5	9.8	460 B J	1.1 J	< 0.20
5-Dec-14	393.31	82.98	310.33	6.81	12.8	378	0.26	3.71	16	8.7	11	740	1103	< 1.5	7.2	380	0.86 J	< 0.20
25-Jun-15	393.31	82.95	310.36	6.82	13.6	354	0.52	3.34	19	5.9	7.4	750	1402	< 0.74	4.7	310	1.0 J	< 0.20
2-Dec-15	393.31	84.83	308.48	6.87	13.0	325	0.25	3.42	19	4.4	6.2	840	1503	< 1.5	3.0 J	240	1.5 J	< 0.20
4-May-16	393.31	83.85	309.46	6.84	13.3	294	0.39	3.61	15	3.8	5.0	780	1403	<0.20	8.6	470 Q	2.8 J	<0.20
16-Nov-16	393.31	83.43	309.88	6.89	13.1	246	1.00	5.50	11	4.0	3.9	631	882	<0.20	5.9 J+	438	1.9	<0.20
2-May-17	393.31	82.95	310.36	6.67	13.3	172	0.41	1.87	13	4.2	4.4	651	960	<0.20	5.7	389	2.8	<0.222
Clean-up Level	MTCA Method A for Groundwater (unrestricted landuse)								0.8 <sup>d</sup> /1.0 <sup>e</sup>	5 <sup>g</sup>	1000 <sup>g</sup>	700 <sup>g</sup>	1000 <sup>h</sup>	0.01 <sup>h</sup>	NSA	160	0.5	0.5
	MTCA Method B for Groundwater (unrestricted landuse)								NSA	5 <sup>i</sup>	640	800	1600	0.022	480	160	NSA	NSA

## Notes:

feet bgs	Feet below ground surface
feet bmp	Feet below measuring point
feet msl	Feet above mean sea level
<sup>a</sup>	Well not surveyed, elevation estimated.
<sup>b</sup>	IAS system not in operation.
<sup>c</sup>	Water levels collected at various times prior to sampling (see Table 1). Date/time is sampling time.
<sup>d</sup>	When benzene is present.
<sup>e</sup>	When benzene is not present.
<sup>f</sup>	Reported at Method Detection Limit (MDL). The MDL is greater than the MTCA CULs.
<sup>g</sup>	Inclusive of 40 CFR 141.61 Federal Law for drinking water MCLs
<sup>h</sup>	Value is more protective than Federal MCLs.
<sup>i</sup>	MTCA 173-340-705(5): Adjustments to cleanup levels based on applicable laws.

-	Not measured or not available
	Result exceeds Clean-up Level (CUL)
mg/L	Milligrams per liter
µg/L	Micrograms per liter
NTU	Nephelometric Turbidity Unit
µmhos/cm	Micromhos per centimeter
<	Analyte not detected above the reporting limit shown
MTCA	Model Toxics Control Act
MCL	Maximum Containment Level
NSA	No Standard Available
TOC	Top of casing inside PVC well
°C	Degrees Celsius
J	The constituent was positively identified and detected; however, the concentration reported is an estimated value because the result is less than the quantitation limit or quality control criteria were not met.
J+	The constituent was positively identified and detected; however, the concentration reported is an estimated value because the result may be biased high.
B	Analyte detected in an associated Method Blank at a concentration greater than one-half of laboratory's Reporting Limit or 5% of the regulatory limit or 5% of the analyte concentration in the sample.

**Table B-12: Summary of Groundwater Sampling Results - Well PORT-MW-B  
Sea-Tac Development Site, Seatac WA**

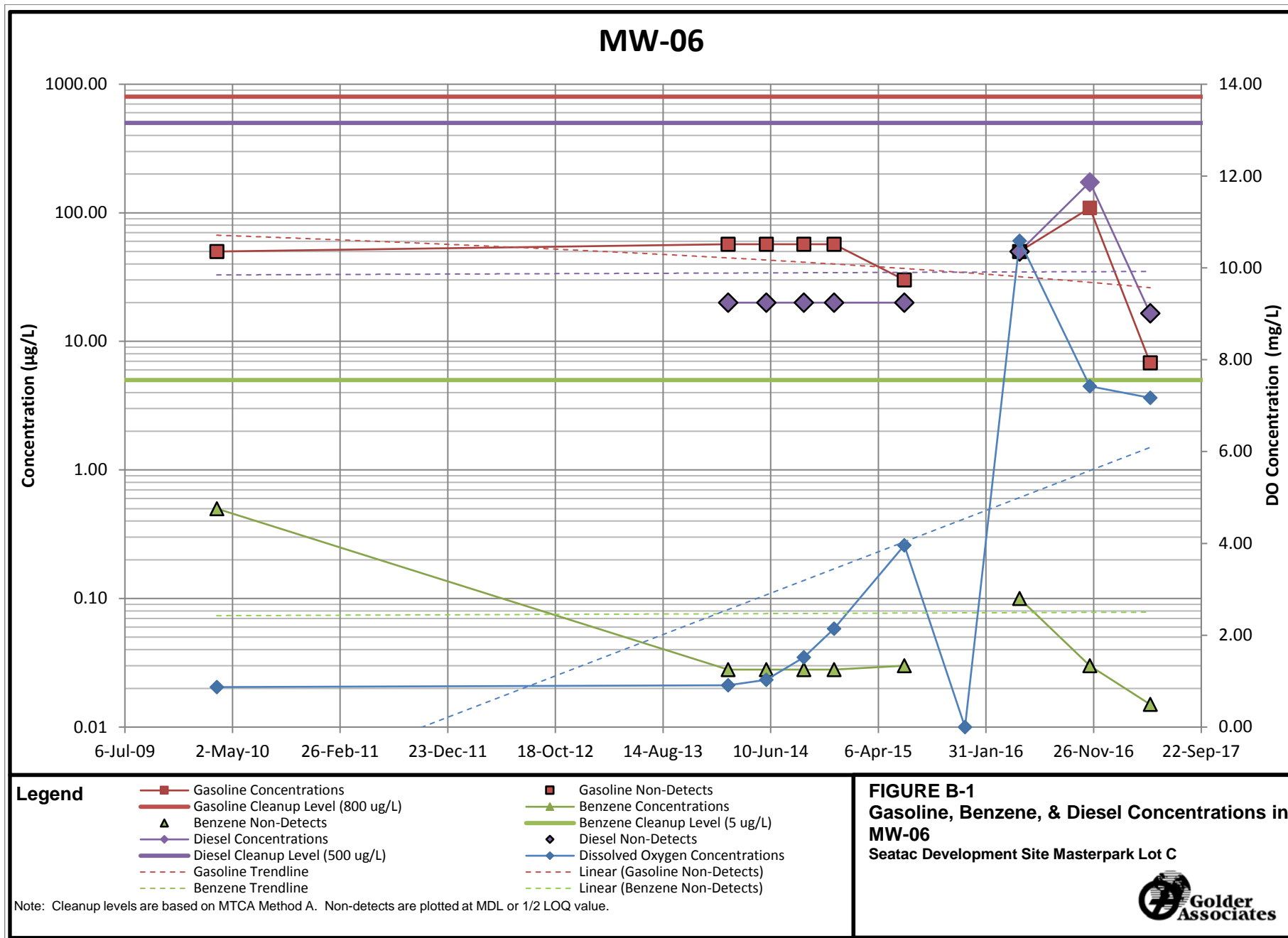
Date Sampled <sup>b,c</sup>	Field Parameters								Analytical Data									
	TOC Elevation (feet msl)	Depth to Water (feet btoc)	Groundwater Elevation (feet msl)	pH (standard units)	Temperature (°C)	Conductivity (µmhos/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	NWTPH-Gasoline (mg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	EDB (ethylene dibromide) (µg/L) <sup>f</sup>	N-hexane (µg/L)	Naphthalene (µg/L)	NWTPH-Diesel (mg/L)	NWTPH-Motor Oil (mg/L)
3-Aug-11	400.00	-	-	-	-	-	-	-	0.20	1.3	< 1.0	13	3.4	< 0.01	< 1.0	13	0.28	< 0.25
20-Mar-14	400.00	89.70	310.30	6.55	12.3	267	6.16	JJ	< 0.10	< 0.25	< 0.25	< 0.25	< 0.50	< 0.07	< 0.20	< 0.50 UJ	< 0.10	< 0.20
28-May-14	400.00	89.50	310.50	6.50	14.2	317	4.63	98.3	< 0.10	< 0.25	< 0.25	< 0.25	< 0.50	< 0.07	< 0.20	< 0.50	< 0.10	< 0.20
12-Sep-14	400.00	89.71	310.29	6.56	14.0	266	3.56	6.18	< 0.10	< 0.25	< 0.25	1.1	1.9	< 0.07	< 0.20	< 0.50	< 0.10	< 0.20
5-Dec-14	400.00	89.71	310.29	6.57	12.6	265	4.07	84.1	0.11	< 0.25	< 0.25	1.1	1.0	< 0.07	< 0.20	< 0.50	< 0.10	< 0.20
25-Jun-15	400.00	89.67	310.33	6.51	14.3	290	3.80	4.2	< 0.25	< 0.20	< 0.20	< 0.20	< 0.40	< 0.07	< 0.20	< 0.50	< 0.10	< 0.20
2-Dec-15	400.00	91.61	308.39	6.56	13.0	267	2.34	1.8	< 0.25	< 0.20	< 0.20	0.26	0.40 J+	< 0.07	< 0.20	2.3 J+	< 0.10	0.49
4-May-16	400.00	90.55	309.45	6.72	13.2	219	2.59	7.4	< 0.10	0.08 J	< 0.20	0.74	0.50	< 0.20	< 0.20	0.83 J	< 0.10	< 0.20
16-Nov-16	400.00	90.31	309.69	6.70	13.1	192	3.97	11.7	< 0.10	0.03 J	< 0.20	0.04 J	< 0.40	< 0.20	< 0.20	< 0.50	< 0.10	< 0.20
2-May-17	400.00	89.65	310.35	6.54	12.9	107	3.85	2.63	< 0.10	0.21	< 0.20	1.2	< 0.40	< 0.20	< 0.20	1.4	< 0.10	< 0.20
Clean-up Level	MTCA Method A for Groundwater (unrestricted landuse)								0.8 <sup>g</sup> /1.0 <sup>e</sup>	5 <sup>g</sup>	1000 <sup>g</sup>	700 <sup>g</sup>	1000 <sup>h</sup>	0.01 <sup>h</sup>	NSA	160	0.5	0.5
	MTCA Method B for Groundwater (unrestricted landuse)								NSA	5 <sup>i</sup>	640	800	1600	0.022	480	160	NSA	NSA

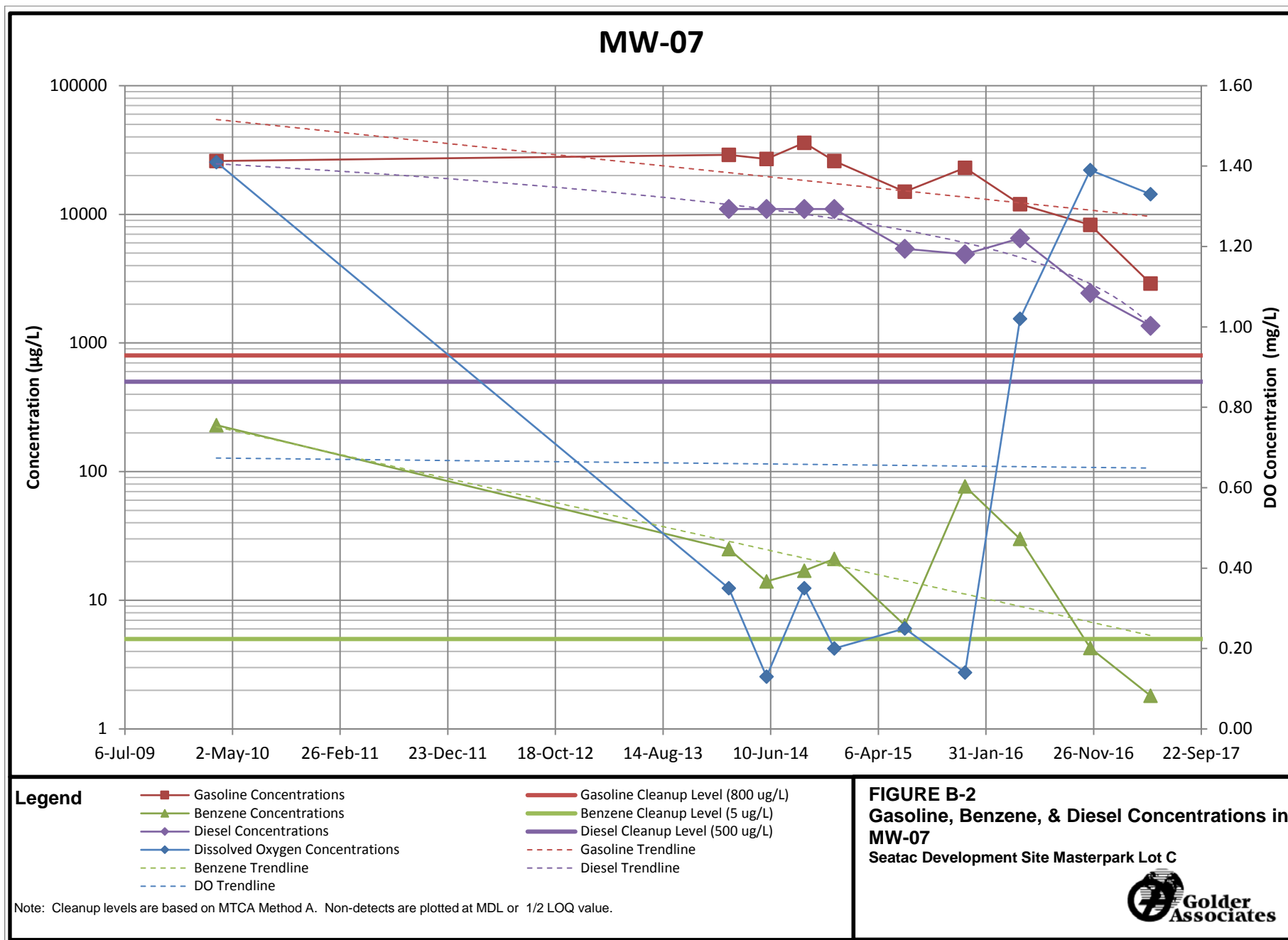
## Notes:

feet bgs	Feet below ground surface	-	Not measured or not available
feet bmp	Feet below measuring point		Result exceeds Clean-up Level (CUL)
feet msl	Feet above mean sea level	mg/L	Milligrams per liter
<sup>a</sup>	Well not surveyed, elevation estimated.	µg/L	Micrograms per liter
<sup>b</sup>	IAS system not in operation.	NTU	Nephelometric Turbidity Unit
<sup>c</sup>	Water levels collected at various times prior to sampling (see Table 1). Date/time is sampling time.	µmhos/cm	Micromhos per centimeter
<sup>d</sup>	When benzene is present.	<	Analyte not detected above the reporting limit shown
<sup>e</sup>	When benzene is not present.	MTCA	Model Toxics Control Act
<sup>f</sup>	Reported at Method Detection Limit (MDL). The MDL is greater than the MTCA CULs.	MCL	Maximum Containment Level
<sup>g</sup>	Inclusive of 40 CFR 141.61 Federal Law for drinking water MCLs	NSA	No Standard Available
<sup>h</sup>	Value is more protective than Federal MCLs.	TOC	Top of casing inside PVC well
<sup>i</sup>	MTCA 173-340-705(5): Adjustments to cleanup levels based on applicable laws.	°C	Degrees Celsius
<sup>j</sup>	Turbidity out of range. Well was purged using a bailer.	J	The constituent was positively identified and detected; however, the concentration reported is an estimated value because the result is less than the quantitation limit or quality control criteria were not met.
		UJ	The constituent was analyzed for, but was not detected above the reported sample quantitation limit; however, the value reported is an estimated value because the result is less than the quantitation limit or quality control criteria were not met.
		J+	The constituent was positively identified and detected; however, the concentration reported is an estimated value because the result may be biased high.

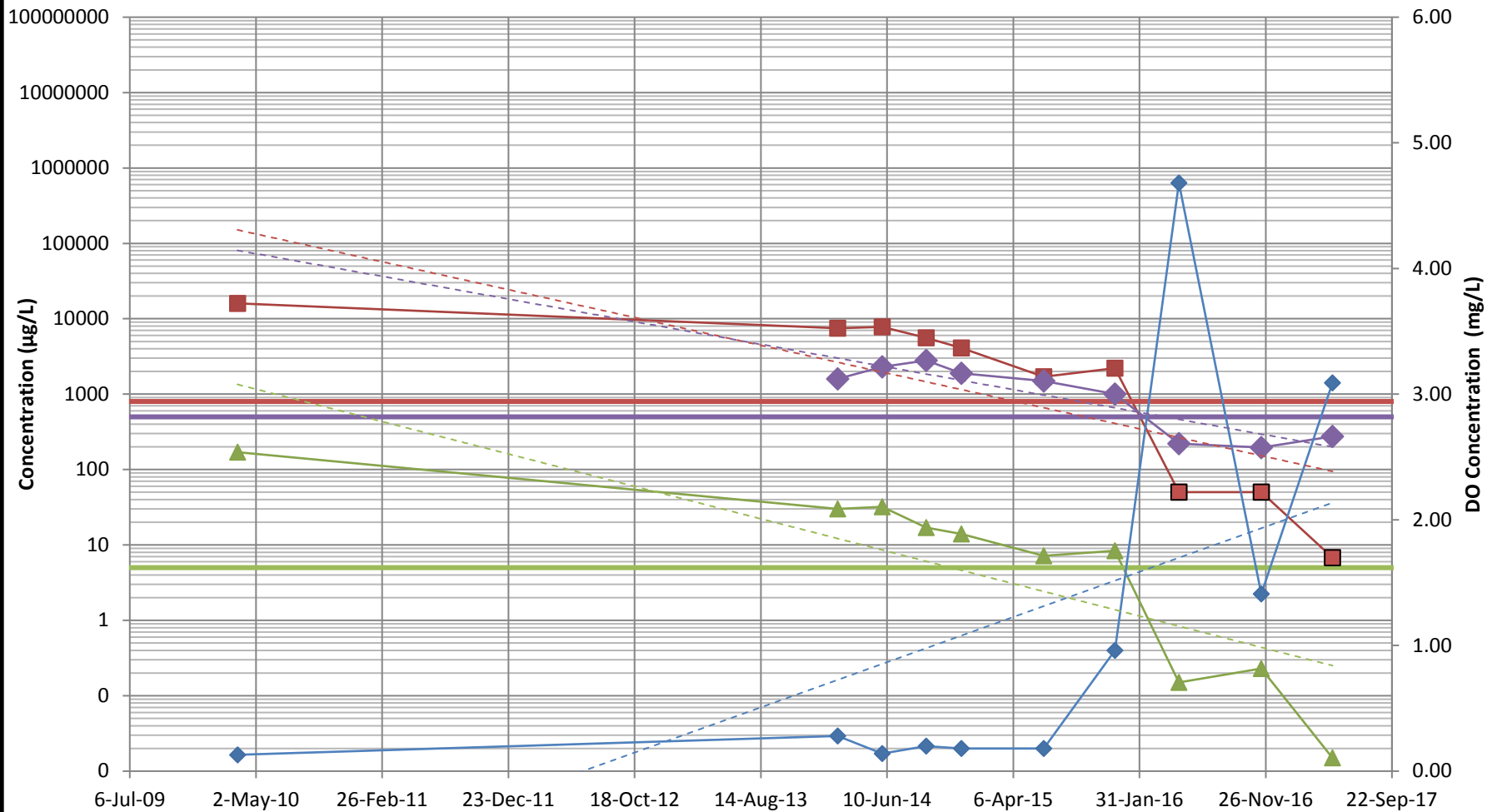
## TREND GRAPHS







# MW-09



## Legend

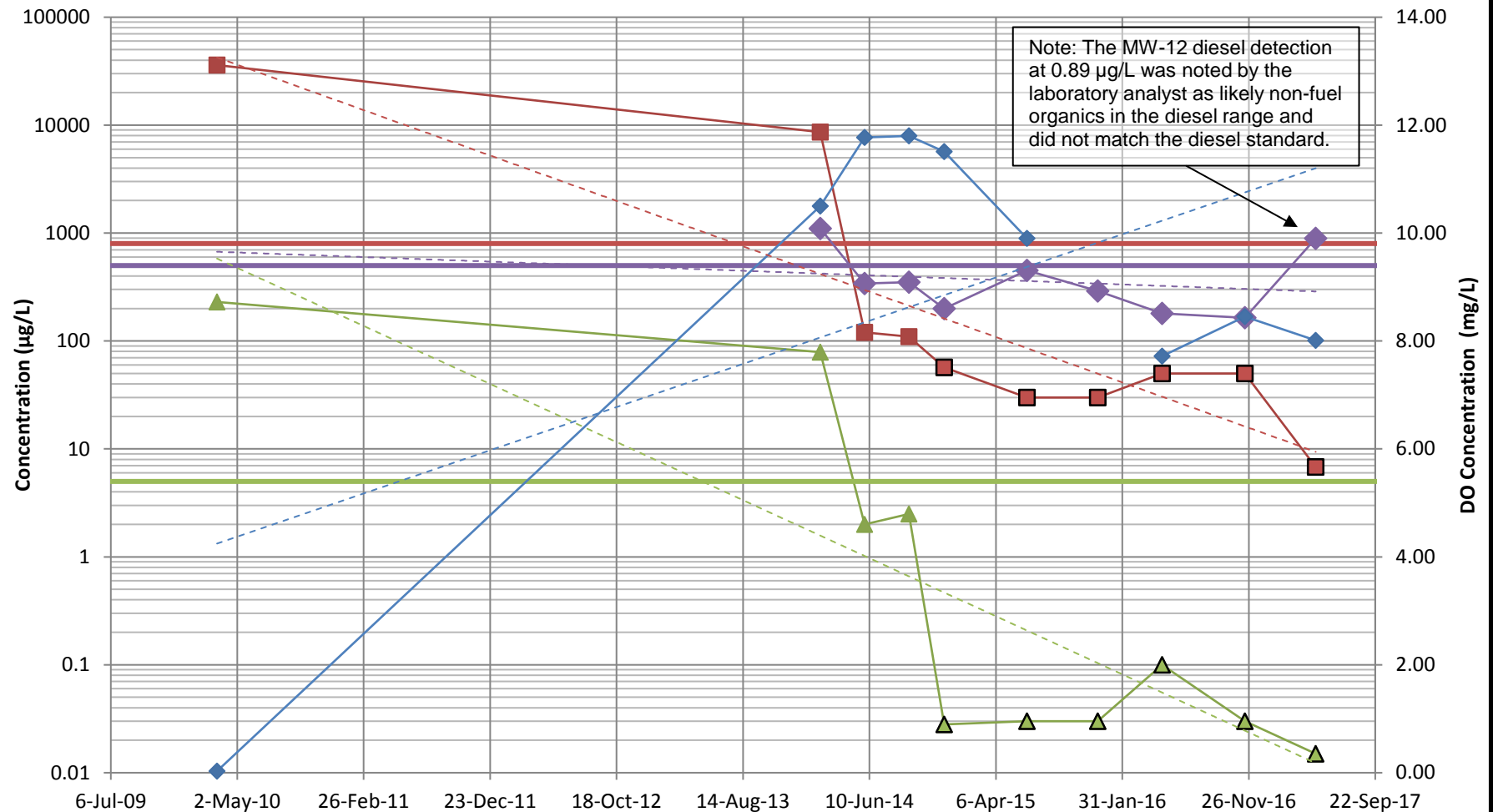
- Gasoline Concentrations
- Gasoline Cleanup Level (800 µg/L)
- ▲ Benzene Concentrations
- Benzene Cleanup Level (5 µg/L)
- ◆ Diesel Concentrations
- Diesel Cleanup Level (500 µg/L)
- - - Gasoline Trendline
- - - Diesel Trendline
- Gasoline Non-Detects
- ▲ Benzene Non-Detects
- ◆ Dissolved Oxygen Concentrations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

Note: Cleanup levels are based on MTCA Method A. Non-detects are plotted at MDL or 1/2 LOQ value.

**FIGURE B-3**  
**Gasoline, Benzene, & Diesel Concentrations in MW-09**  
 Seatac Development Site Masterpark Lot C



# MW-12



## Legend

- Gasoline Concentrations
- Gasoline Cleanup Level (800 µg/L)
- Benzene Non-Detects
- Diesel Concentrations
- Dissolved Oxygen Concentrations
- Benzene Trendline
- DO Trendline
- Gasoline Non-Detects
- Benzene Concentrations
- Benzene Cleanup Level (5 µg/L)
- Diesel Cleanup Level (500 µg/L)
- Gasoline Trendline
- Diesel Trendline

Note: Cleanup levels are based on MTCA Method A. Non-detects are plotted at MDL or 1/2 LOQ value.

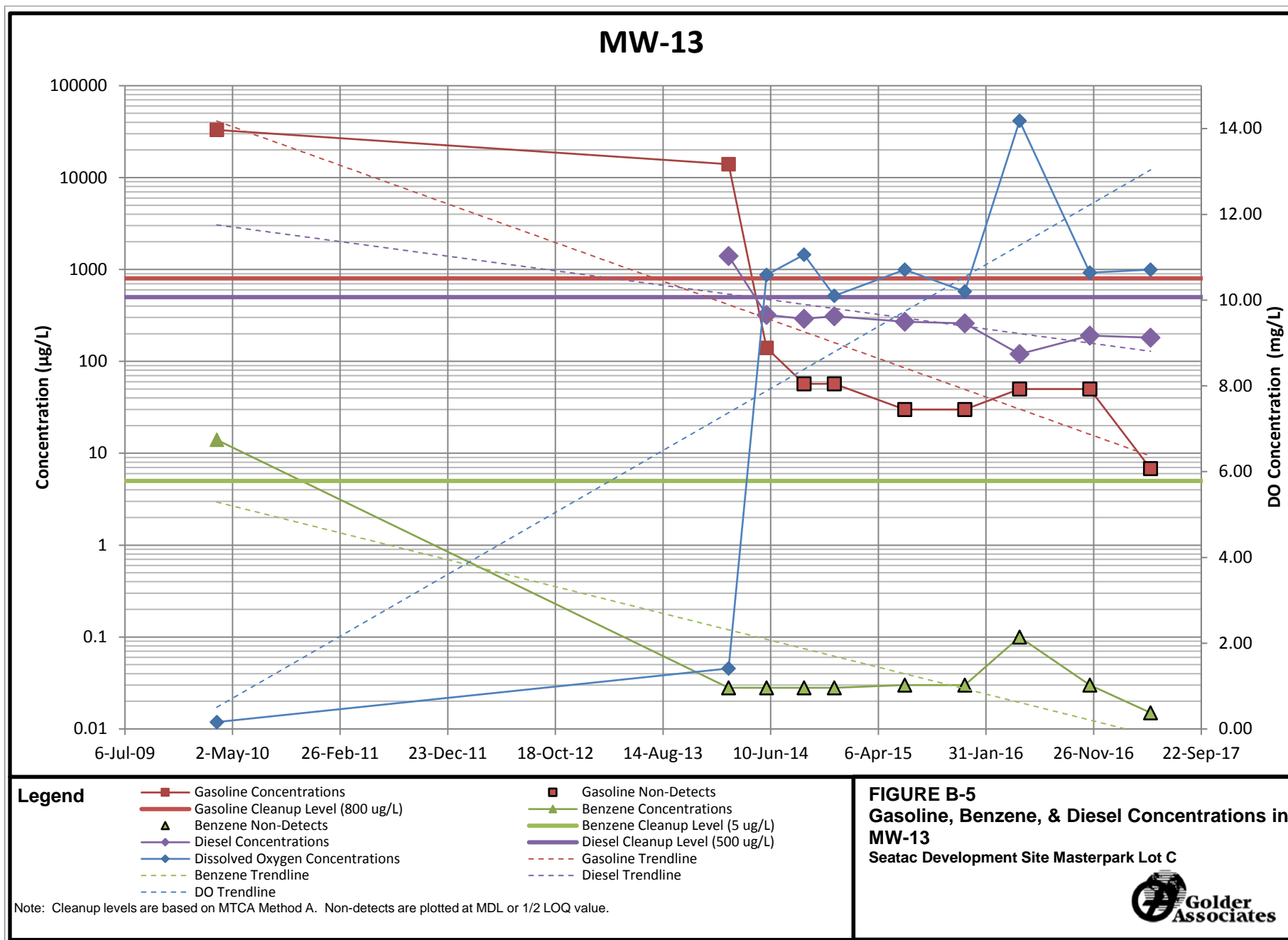
## FIGURE B-4

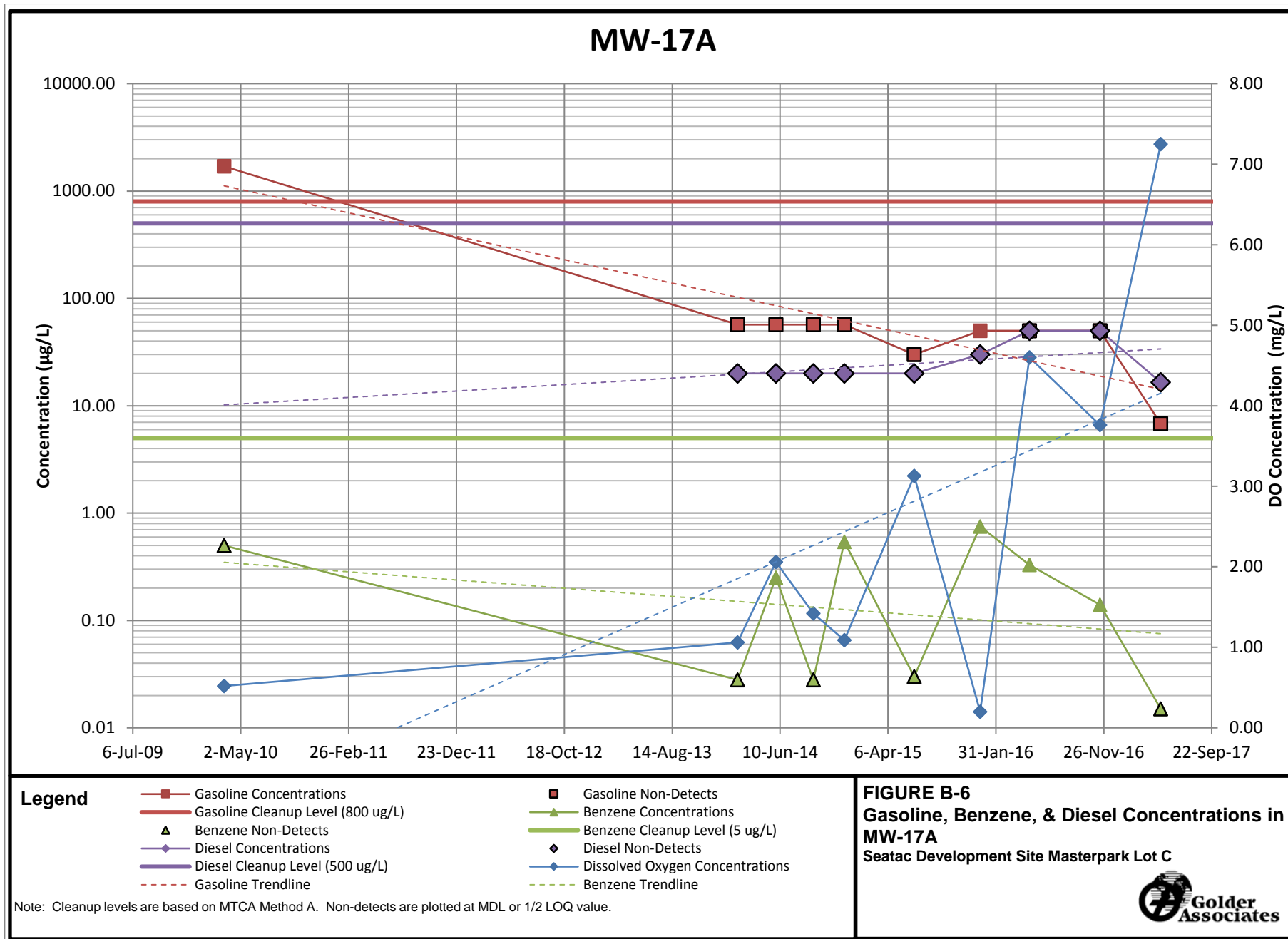
### Gasoline, Benzene, and Diesel Concentrations in MW-12

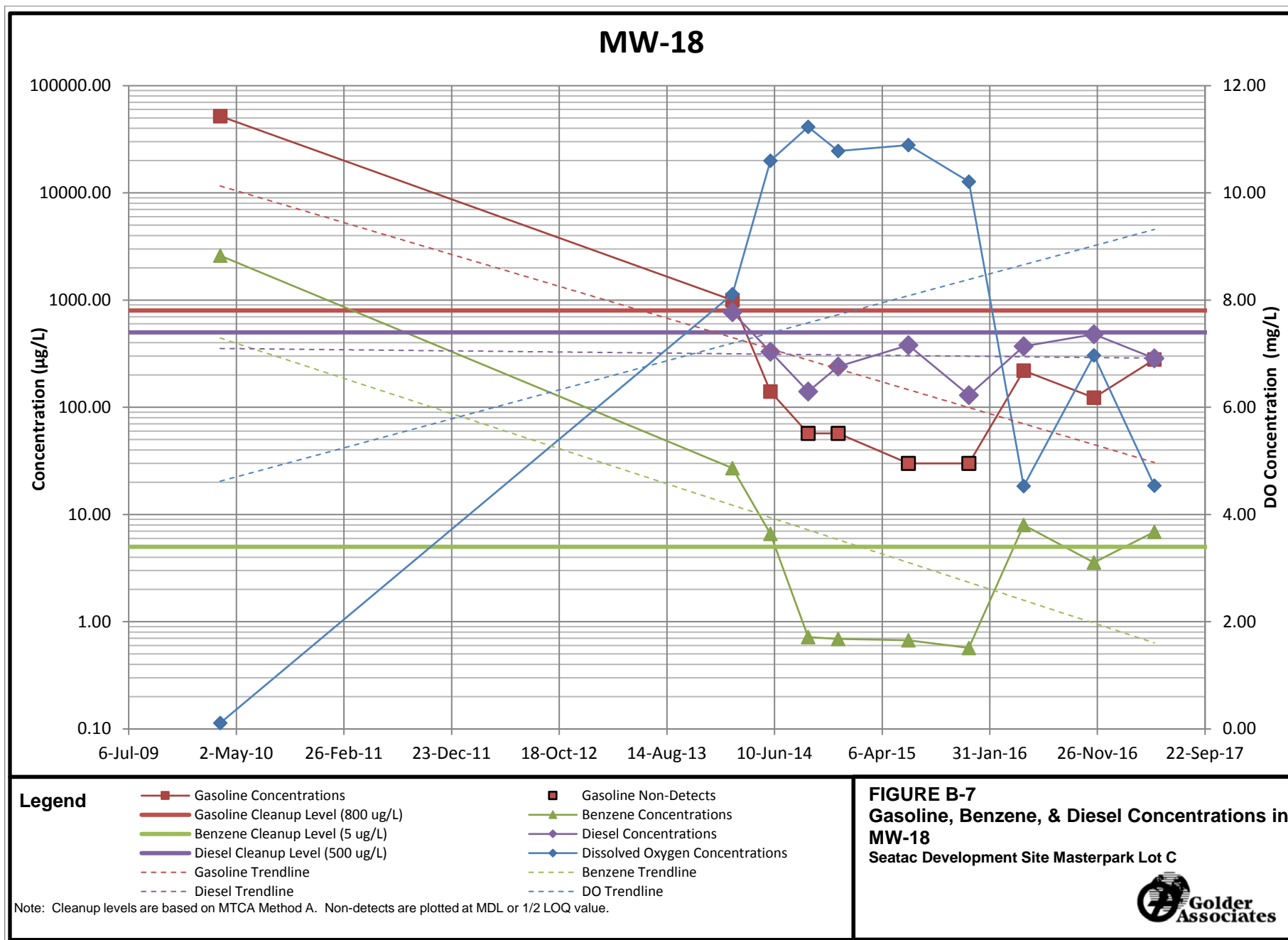
Seatac Development Site Masterpark Lot C



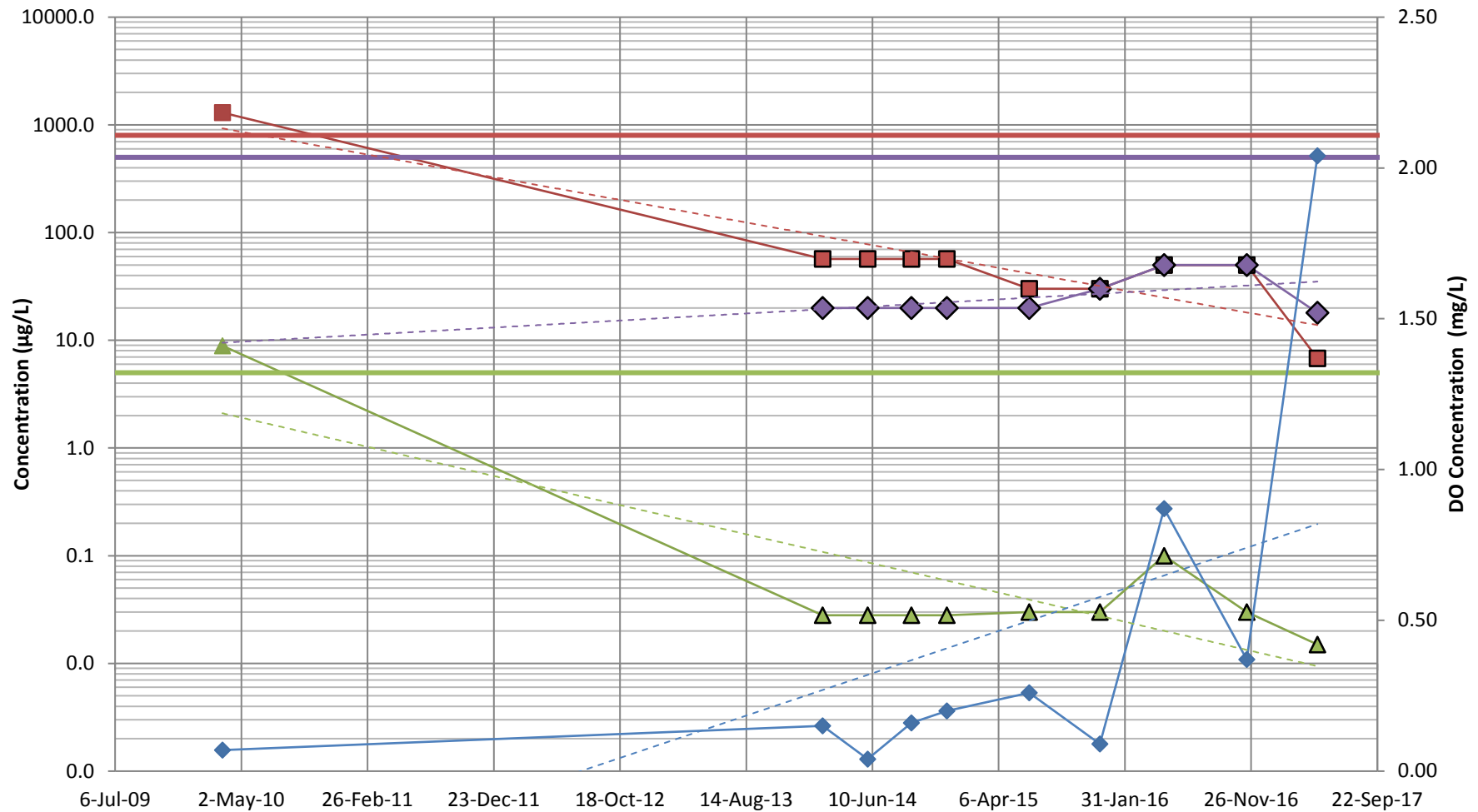








# MW-19



## Legend

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

Note: Cleanup levels are based on MTCA Method A. Non-detects are plotted at MDL or 1/2 LOQ value.

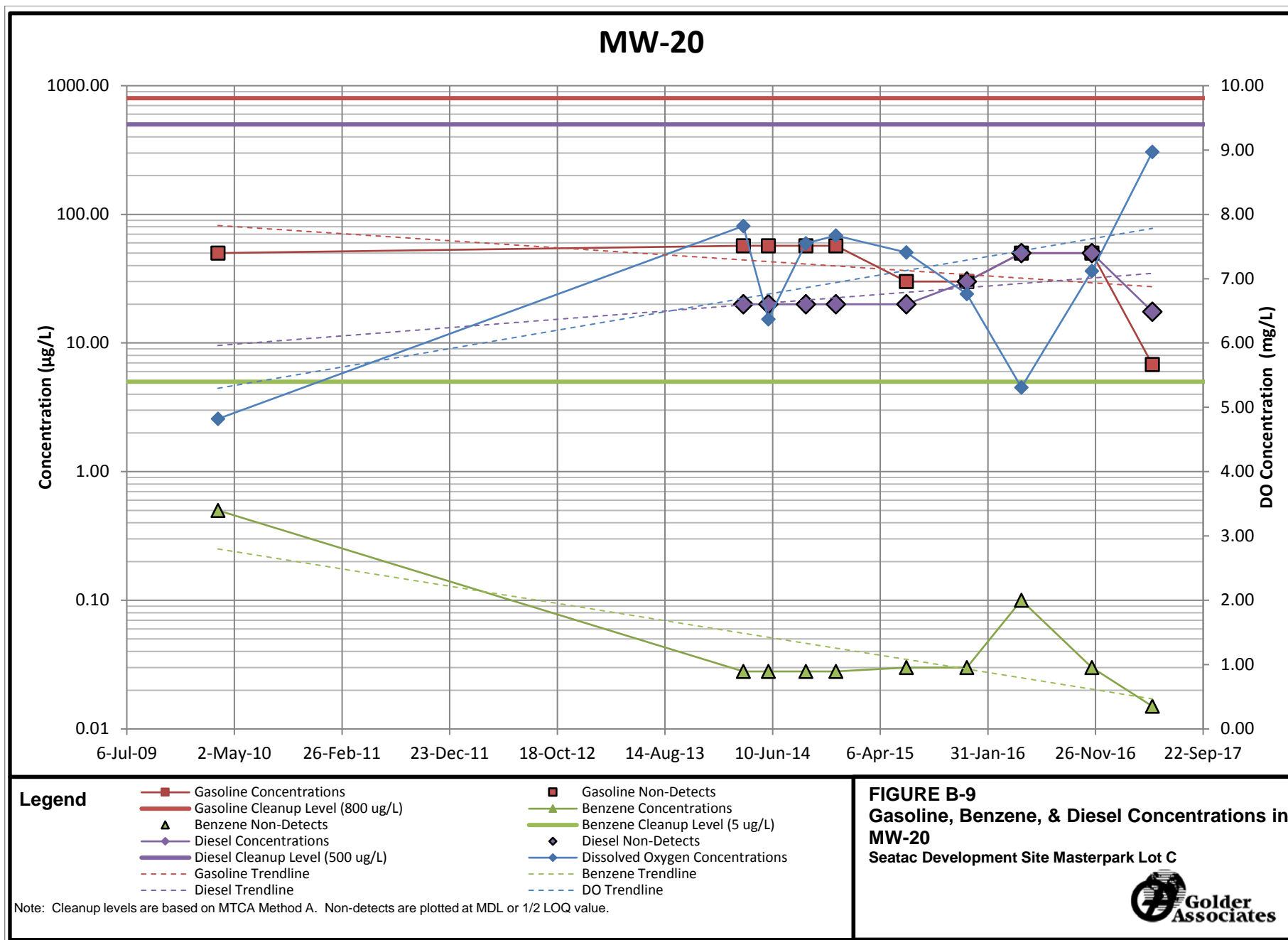
## FIGURE B-8

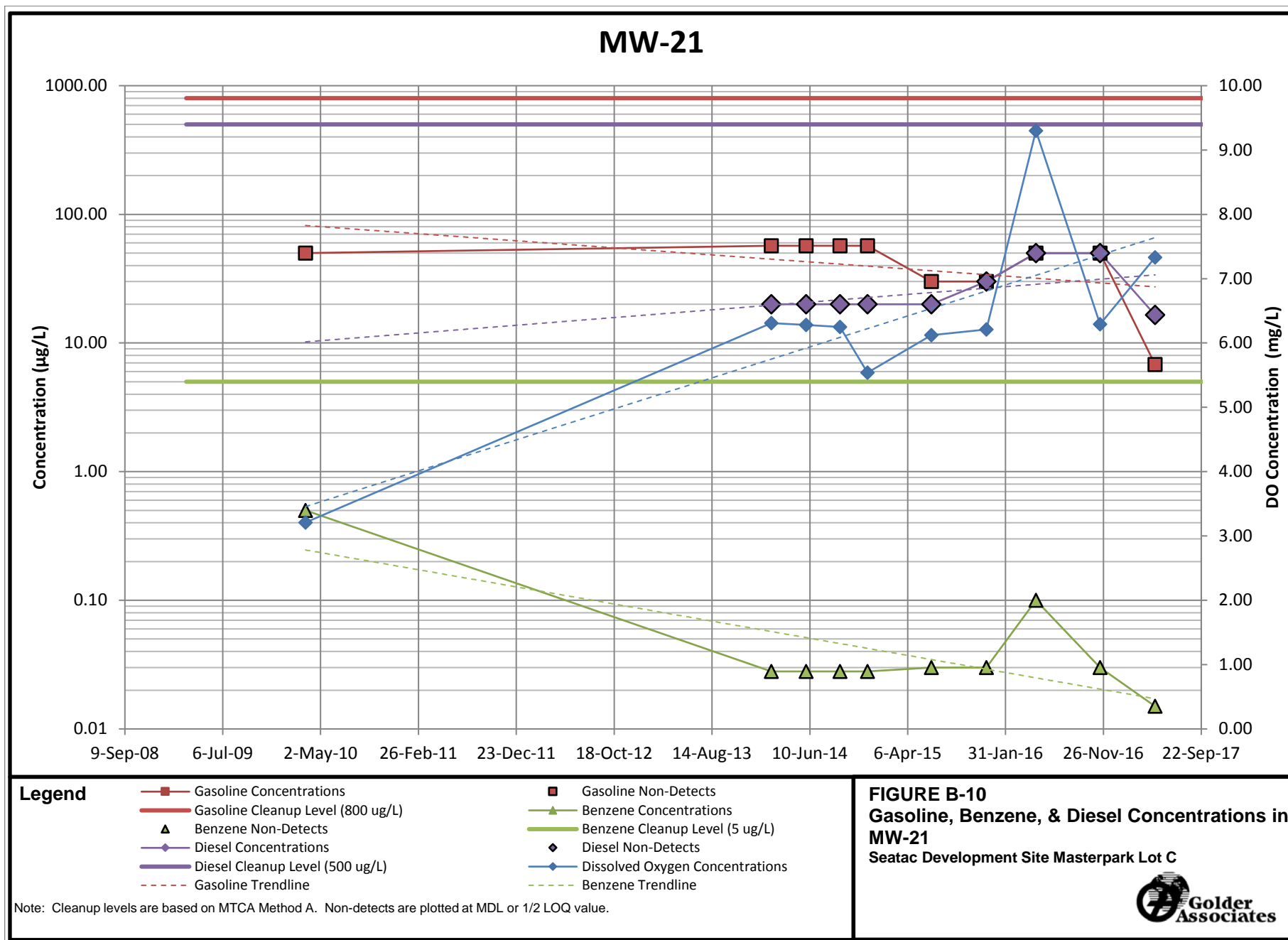
### Gasoline, Benzene, & Diesel Concentrations in MW-19

Seatac Development Site Masterpark Lot C

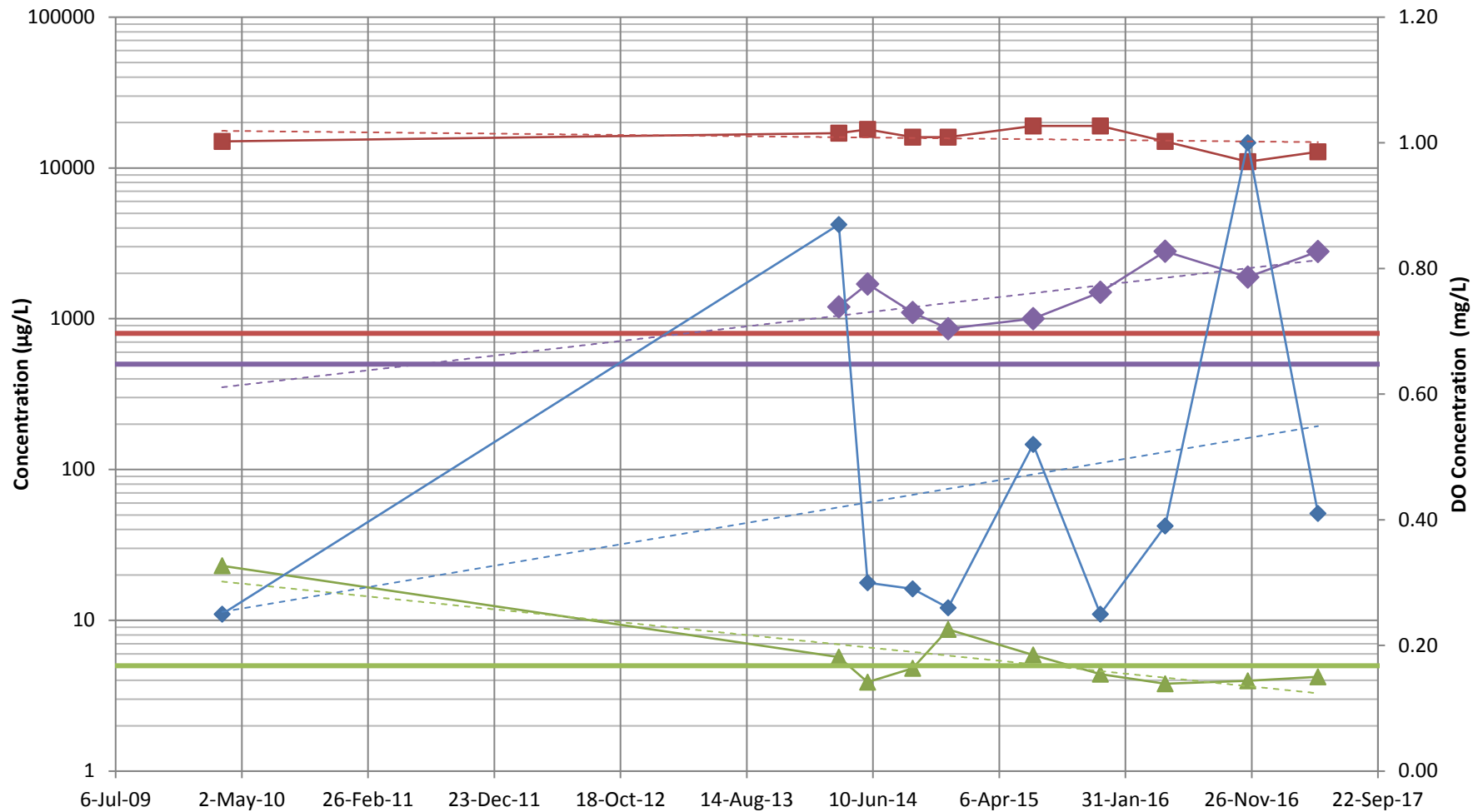








# MW-22



## Legend

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

Note: Cleanup levels are based on MTCA Method A. Non-detects are plotted at MDL or 1/2 LOQ value.

**FIGURE B-11**  
**Gasoline, Benzene, & Diesel Concentrations in MW-22**  
 Seatac Development Site Masterpark Lot C



