Stantec

Memo

To:	Mr. Frank Winslow Washington Department of Ecology Toxics Cleanup Program Central Regional Office 1250 West Alder Street, Union Gap, WA	From:	Mr. Paul Fairbairn Stantec Consulting Services Inc. 1687 114th Street, Suite 100 Bellevue, WA 98004
File:	**Former 7-Eleven Store No. 25821** **Facility Site ID #77113577** **Cleanup Site ID #6650; VCP #CE0457**	Date:	October 2, 2020

REFERENCE: CLEANUP ACTION REPORT ADDENDUM MEMO AND REQUEST FOR CLOSURE
Former 7-Eleven Store No. 25821 - 1824 George Washington Way, Richland, WA

On behalf of 7-Eleven Inc. (7-Eleven), Stantec Consulting Services (Stantec) has prepared this *Cleanup Action Report (CAR) Addendum Memo and Request for Closure* for the gasoline release at the former 7-Eleven Store No. 25821 located at 1824 George Washington Way, Richland, Washington (the Property). The purpose of this memo is to provide the results of supplementary groundwater monitoring and sampling data as required by the Department of Ecology (Ecology) in their Opinion Letter dated March 13, 2019. Based on the results provided herein with an empirical demonstration of the absence of petroleum hydrocarbon-impacted groundwater, this memo requests Closure/No Further Action (NFA).

RECENT BACKGROUND – 2017 THROUGH 2019

By way of recent background, Stantec submitted a *Cleanup Action Report* (CAR; dated May 25, 2017) to Ecology. It provided a summary of historic site usage and ownership; former underground storage tank (UST) history; results of prior assessment, remedial activities, and groundwater monitoring and sampling through February 2016; a completed Terrestrial Ecological Evaluation (TEE) and Conceptual Site Model (CSM) with geologic cross-sections; water supply information and a water well inventory for the overall Property area; and concluded with a request for NFA using ***Model Remedy #5*** as described in *Model Remedies for Sites with Petroleum Impacts to Groundwater* (Ecology Publication No. 16-09-057).

Ecology provided an Opinion Letter dated December 13, 2017 in which the following items were required prior to NFA consideration: reevaluation of groundwater flow direction; results of post-February 2016 groundwater sampling events; revised Site Plans showing the locations of the original USTs associated with the former Wascher Mobil Oil Service Station (1949-1984; pre-dating the 1984-1989 7-Eleven gasoline fueling-only station); and inclusion of diesel (TPH-D) and oil (TPH-O) into the groundwater analytical program.

In our document dated January 23, 2019, Stantec provided a detailed reevaluation of historic groundwater flow direction (confirming the early overall southeasterly flow with the initial few monitoring wells and confirming the subsequent south and northwesterly flow directions with the current, multi-well network), updated Site Plans, groundwater monitoring and sampling results through 2018, and based on analytical results from MW-3, recommended four additional quarters of groundwater sampling and analysis.

In their Opinion Letter dated March 13, 2019, Ecology "considers the four additional quarterly monitoring rounds sufficient to make the case that an empirical demonstration of a lack of further impact to groundwater is occurring, with the following exceptions:

- Nitrate was historically injected into the subsurface to serve as an electron acceptor. Nitrate was historically detected in MW-6 and MW-8 at concentrations above the drinking water Maximum Contaminant Level (MCL) of 10 µg/L. One round of sampling results from MW-6 and two rounds in MW-8 showed nitrate concentrations below the MCL. Further verification that nitrate concentrations

are below the MCL is warranted in these two monitoring wells. An additional two monitoring rounds is suggested.

- In addition to sampling for nitrates, sampling for sulfates is warranted. Gypsum ($CaSO_4$) was injected as part of the remedial approach, and elevated sulfate concentrations were detected in MW-6, MW-7, and MW-8. Although sulfate has no cleanup level, it does have a secondary MCL of 250 mg/L, and in general, remedial approaches should not result in any degradation of groundwater quality.

- There was one exceedance for TPH-d in monitoring well MW-3 in February of 2018. Three rounds of results below the cleanup level for the TPH-d followed. Two additional quarterly monitoring rounds for this well with TPH-d analysis are warranted. If the results are well below the cleanup level of 500 µg/L, this additional sampling is anticipated to be sufficient."

As a result of Ecology's March 13, 2019 Opinion Letter, Stantec proceeded with additional groundwater monitoring and sampling to specifically address Ecology's three items, listed above.

GROUNDWATER MONITORING/SAMPLING EVENTS – 2019 THROUGH 1Q2020

Stantec performed five consecutive quarterly groundwater monitoring and sampling events: four events in 2019 and an additional event during First Quarter 2020. As noted in the following summary table, sampling and analysis focused on MW-3 (petroleum hydrocarbons), and MW-6 through MW-8 (nitrate and sulfate). Groundwater elevations and dissolved phase petroleum hydrocarbon analytical results for the 2019-1Q2020 sampling events are included in ***Table 1***. Groundwater chemical indicators and hydrocarbon degrading bacteria results are included in ***Table 2***. ***Figures 3a through 3e*** are groundwater elevation contour maps for the five recent events. ***Figure 4*** presents the petroleum hydrocarbon groundwater analytical results from the sampling events. Copies of the laboratory analytical reports, chain-of-custody documentation, and groundwater monitoring field notes are appended to this document. Groundwater monitoring activities were performed in accordance with *Stantec's Monitoring Well Purging and Sampling Procedures*, also appended.

GROUNDWATER GAUGING AND ANALYTICAL RESULTS – 2019 THROUGH 1Q2020

Groundwater gauging results for the five recent quarterly events reveal depth to groundwater measurements (***Table 1***) and south and northwesterly flow directions, consistent with prior gauging data and calculated flow since approximately 2003.

Analytical results for nitrate in MW-6 and MW-8 were historically above the MCL of 10 ug/L in 2014/2015 and Ecology had requested two additional sampling events for nitrate at these two wells. During 1Q2019 and 2Q2019 and as documented herein, nitrate was below its MCL in both wells for both events (***Table 2***).

Analytical results for sulfate in MW-6 through MW-8 were above the secondary MCL of 250 mg/L in 2014/2015 and Ecology had requested additional sampling events for sulfate at these three wells. During 1Q2019 and 2Q2019 and as documented herein, sulfate remained above its secondary MCL in MW-6 during both events but the residual concentrations showed a decreasing trend. Sulfate in MW-7 and MW-8 was below its secondary MCL during both events (***Table 2***).

Reference: CLEANUP ACTION REPORT ADDENDUM MEMO AND REQUEST FOR CLOSURE
Former 7-Eleven Store No. 25821 - 1824 George Washington Way, Richland, WA

Analytical results for TPH-d in MW-3 showed a MTCA Method A exceedance in February 2018 (1Q2018), followed by three quarters of TPH-d concentrations less MTCA Method A CUL (2Q2018 through 4Q2018). Ecology requested additional sampling and analysis for TPHd at MW-3. As documented herein, Stantec conducted five consecutive quarterly events. In March 2019 (1Q2019), TPH-d exceeded its MTCA Method A CUL but four consecutive quarters of TPH-d concentrations below laboratory detection limits and below the MTCA Method A CUL were achieved (***Table 1***).

Quarter Date	Depth to Water Range (feet below top of casing)	Groundwater Flow Direction Estimate	Average Hydraulic Gradient (feet/foot)	Wells Sampled	Analytes	Well(s) with One or More Result Above MTCA Method A CULs or MCL for the Analyte(s)
1st 2019 3-12-19	15.86 to 17.67	South & northwesterly	0.0045	MW-3, MW-6, MW-7, MW-8	TPH-d*, TPH-o*, Nitrate, Sulfate	MW-3 (TPH-d, TPH-o); MW-6 (Sulfate)
2nd 2019 6-21-19	15.48 to 17.25	South & northwesterly	0.0046	MW-3, MW-6, MW-7, MW-8	TPH-d*, TPH-o*, Nitrate, Sulfate	MW-6 (Sulfate)
3rd 2019 9-30-19	15.33 to 17.10	South & northwesterly	0.0013	MW-3	TPH-d, TPH-o	None
4th 2019 11-21-19	15.72 to 17.54	South & northwesterly	0.0025	MW-3	TPH-d, TPH-o	None
1st 2020 3-30-20	16.20 to 18.00	Southwesterly & northwesterly	0.002	MW-3	TPH-d, TPH-o	None

Notes: * Well MW-3 was only analyzed for TPH-d and TPH-o
MCL = Maximum Contaminant Level (Federal)
MTCA = Model Toxics Cleanup Act (WA State)
TPH-d and TPH-o – total petroleum hydrocarbons as diesel and oil, respectively

ADDITIONAL REMEDIAL ACTIVITIES – MARCH 2020 BOS-200™ INJECTION EVENT

Purpose

The purpose of the second BOS-200™ injection remedial event (the first event occurred in 2014) was to inject BOS-200™ and conditioned activated hydrocarbon-degrading bacteria into the subsurface groundwater near MW-3 to "trap and treat" residual elevated dissolved TPH-d/TPH-o concentrations. The amount of BOS-200™ and conditioned bacteria injected around MW-3 was based on the analytical groundwater data from MW-3 from the March 2019 sampling event that represented the residual TPH-d/TPH-o concentrations.

Work Performed

Prior to injection, Stantec obtained Underground Injection Control (UIC) approval for the planned injection.

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On March 11, 2020, Stantec observed the in-situ injection of BOS-200™ and conditioned bacteria into the subsurface at the Site. Approximately 950 pounds of BOS-200® and 5 gallons of conditioned bacteria were injected into the subsurface via 48 injections into 12 temporary boreholes over an approximate 400 square feet area surrounding well MW-3. Injections occurred every 2-feet vertically at depths of 13- to 20-feet below ground surface (bgs). Injections occurred in alternating boreholes at intervals 13-, 15-, 17-, 19- and at intervals of 14-, 16-, 18-, and 20-feet bgs. Copies of Stantec's injection field sheets and a site plan showing the locations of the injection boreholes are attached. Following injection, MW-3 was redeveloped.

SUMMARY AND REQUEST FOR CLOSURE

As documented herein, the Ecology-requested additional groundwater sampling and analysis for nitrate at MW-6 and MW-8, for sulfate at MW-6 through MW-8, and for TPH-d at MW-3 has been conducted. Results reveal compliance with MCLs and/or MTCA Method A CULs for nitrate analyses at MW-6 and MW-8, for sulfate analyses at MW-7 and MW-8, and for TPH-d at MW-3. Sulfate concentrations (for which there is no CUL) at MW-6 show a decreasing trend.

Based on the information provided in our May 2017 CAR, the 2017-2018 groundwater gauging and analytical data submitted in our January 2019 document, and the most-recent groundwater data contained in this CAR Addendum Memo, Stantec formally requests that Ecology proceeds with a NFA determination. Stantec believes that the groundwater analytical data complies with ***Model Remedy #5*** as described in *Model Remedies for Sites with Petroleum Impacts to Groundwater* for the gasoline release associated with the former 7-11 gasoline USTs.

If you have any questions regarding this NFA request, please contact Paul Fairbairn.

Stantec Consulting Services Inc.

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Prepared by _____ (signature)
Carol Shestag, LG, Senior Geologist

State of Washington 3213 Licensed Geologist
Carol Buchanan Shestag

Reference: CLEANUP ACTION REPORT ADDENDUM MEMO AND REQUEST FOR CLOSURE
Former 7-Eleven Store No. 25821 - 1824 George Washington Way, Richland, WA

Attachments:

Figure 1 – Site Location Map
Figure 2 – Site Vicinity Map
Figure 3a -- Groundwater Elevation Contour Map - March 12, 2019
Figure 3b – Groundwater Elevation Contour Map - June 21, 2019
Figure 3c -- Groundwater Elevation Contour Map - September 30, 2019
Figure 3d – Groundwater Elevation Contour Map - November 21, 2019
Figure 3e -- Groundwater Elevation Contour Map - March 30, 2020
Figure 4 – Petroleum Hydrocarbon Groundwater Analytical Results – 2Q2019 through 1Q2020

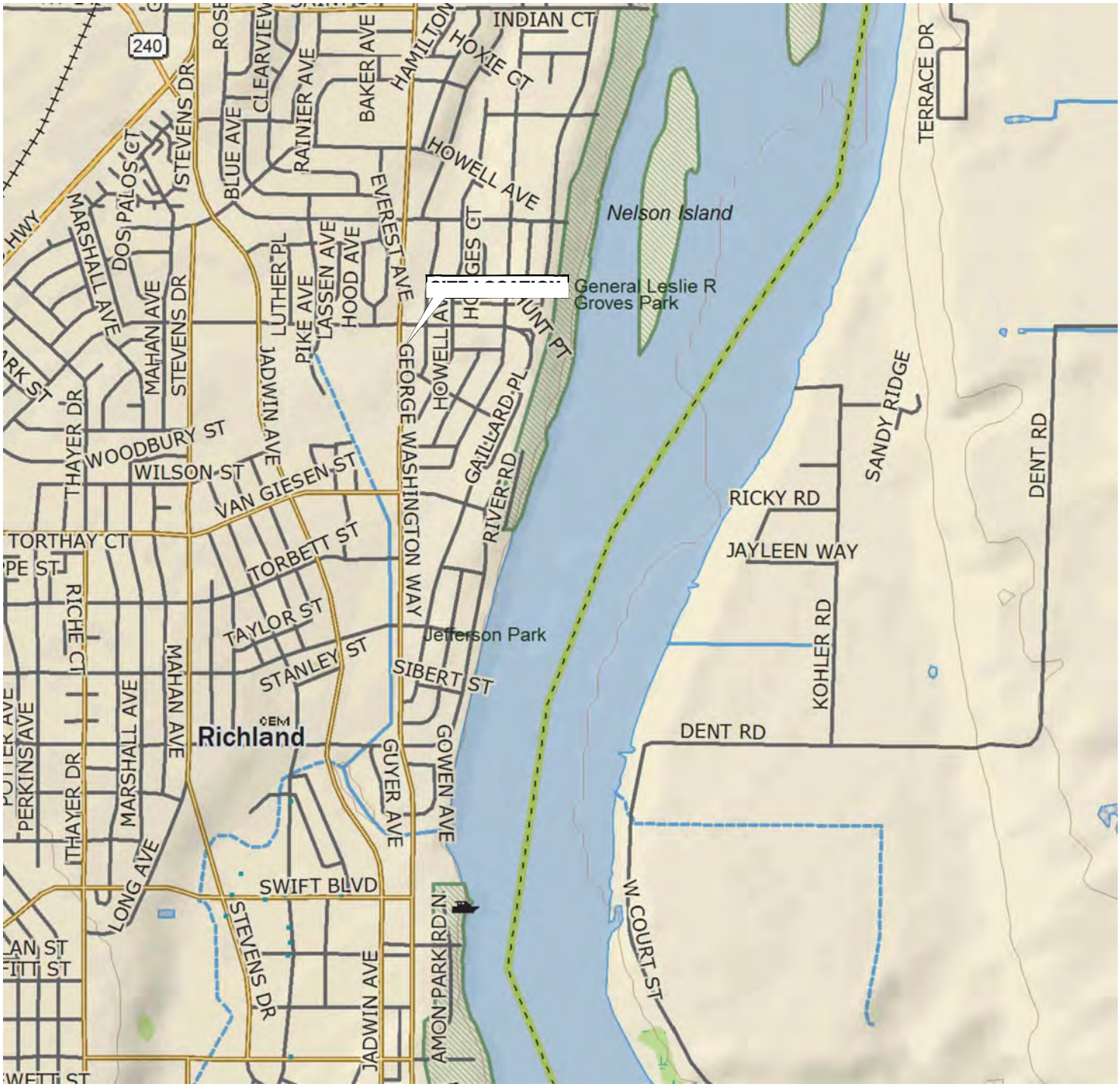
Table 1 – Cumulative Groundwater Monitoring and Analytical Results
Table 2 – Cumulative Groundwater Chemical Indicators and HDB Results

Plot 1-- Groundwater Flow Direction Rose Diagram

Appendix A - Registration with Underground Injection Control (UIC) Program Permit
Groundwater Injection Field Sheets and Site Plan with Injection Locations

Appendix B - Laboratory Analytical Reports and Chain-of-Custody Documentation
Groundwater Monitoring & Sampling Field Notes
Stantec's Monitoring Well Purging and Sampling Procedures

FIGURES



REFERENCE: USGS 7.5 MINUTE QUADRANGLE, RICHLAND, WASHINGTON

Stantec

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FOR:
FORMER FACILITY NO. 25821
1824 GEORGE WASHINGTON WAY
RICHLAND, WASHINGTON

SITE LOCATION MAP

FIGURE: **1**

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
185750037	MDR	EM	PF	NOV 2013

FILEPATH:M:_00 OTHER OFFICES\01-REDMOND\7-11\25821\FIG-1_SITE LOC.dwg | Layout Tab: Layout1 | Drafter: miramirez | Feb 19, 2016 at 10:40

LEGEND:

PROPERTY BOUNDARY

N

0 150 300

APPROXIMATE SCALE (FEET)

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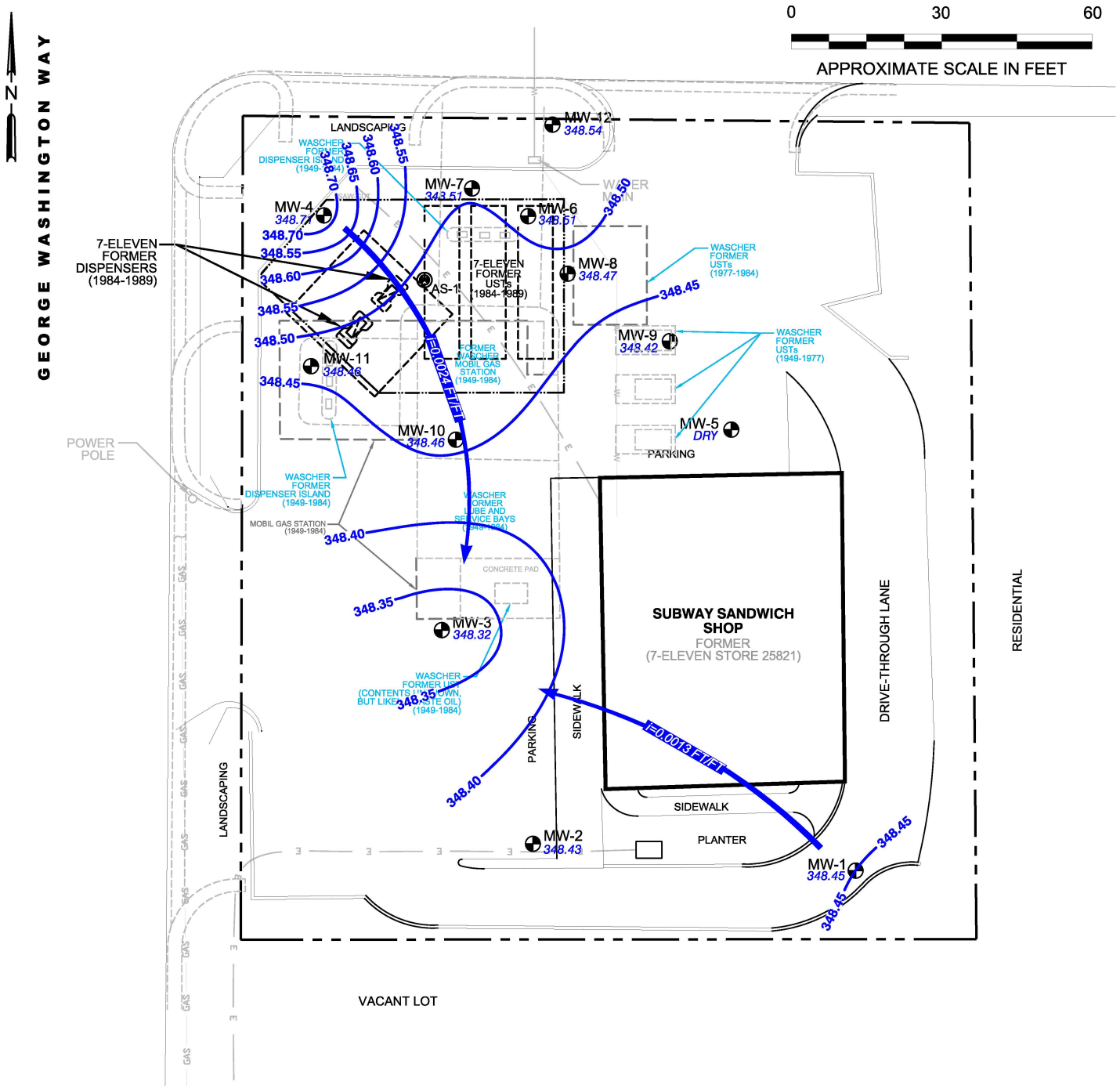
SITE VICINITY MAP

FIGURE: **2**

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
185750037	MDR	DH	PF	NOV 2015



LEGEND:

- SUBJECT PROPERTY LINE BOUNDARY
- MW-1 MONITORING WELL LOCATION
- AS-1 AIR SPARGE WELL LOCATION
- 348.32 RELATIVE GROUNDWATER ELEVATION (FEET)
- NM NOT MEASURED
- 348.50 INFERRED GROUNDWATER ELEVATION CONTOUR (FEET)
- INFERRED GROUNDWATER FLOW DIRECTION

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GROUNDWATER ELEVATION CONTOUR MAP MARCH 12, 2019

FIGURE: **3a**

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
185750037	MDR/STA	DH	PF	JULY 2019

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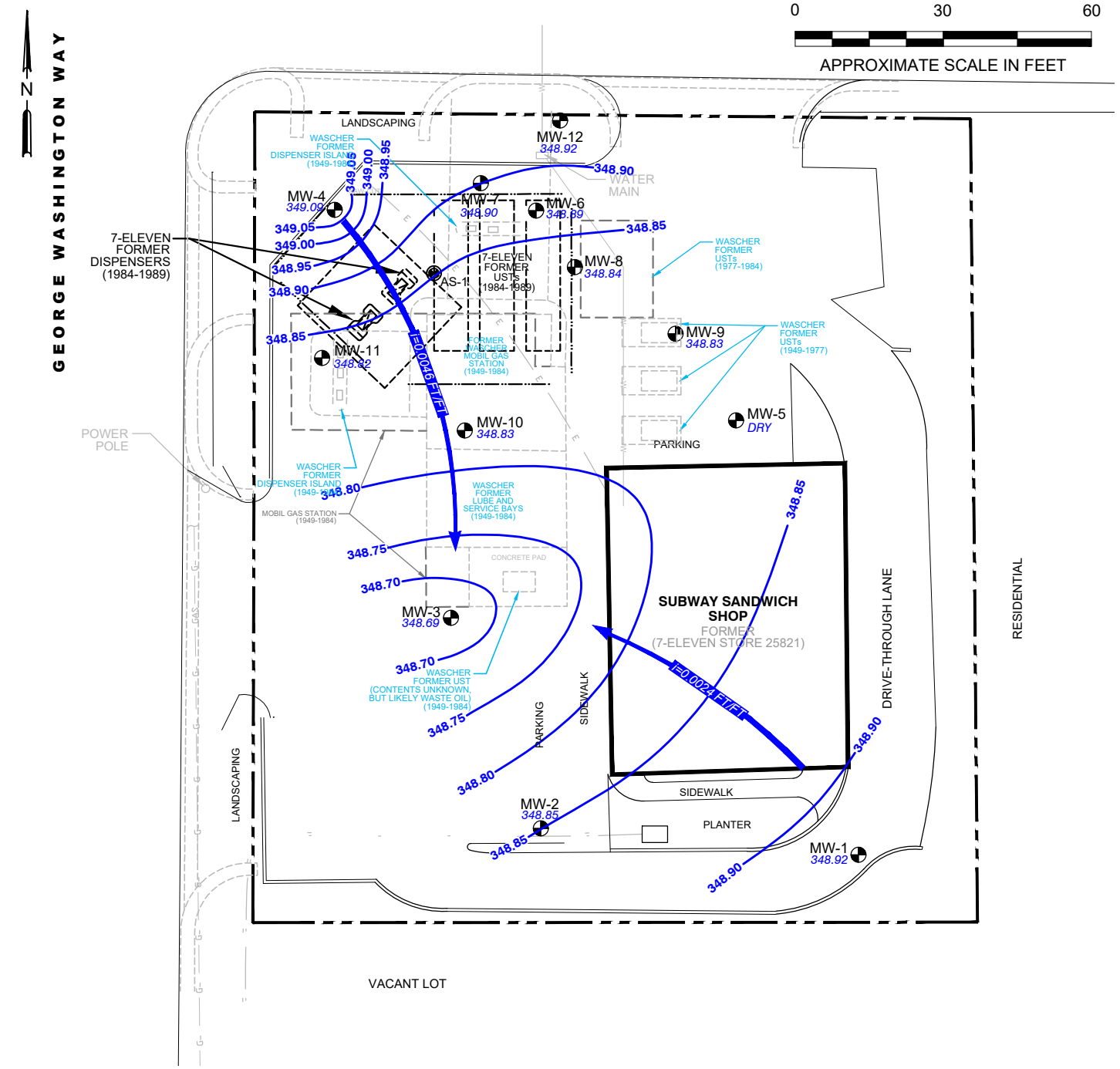

LEGEND:

- SUBJECT PROPERTY LINE BOUNDARY
- MW-1 — MONITORING WELL LOCATION
- AS-1 — AIR SPARGE WELL LOCATION
- 348.32 — RELATIVE GROUNDWATER ELEVATION (FEET)
- NM — NOT MEASURED
- **348.50** — INFERRED GROUNDWATER ELEVATION CONTOUR (FEET)
- INFERRED GROUNDWATER FLOW DIRECTION

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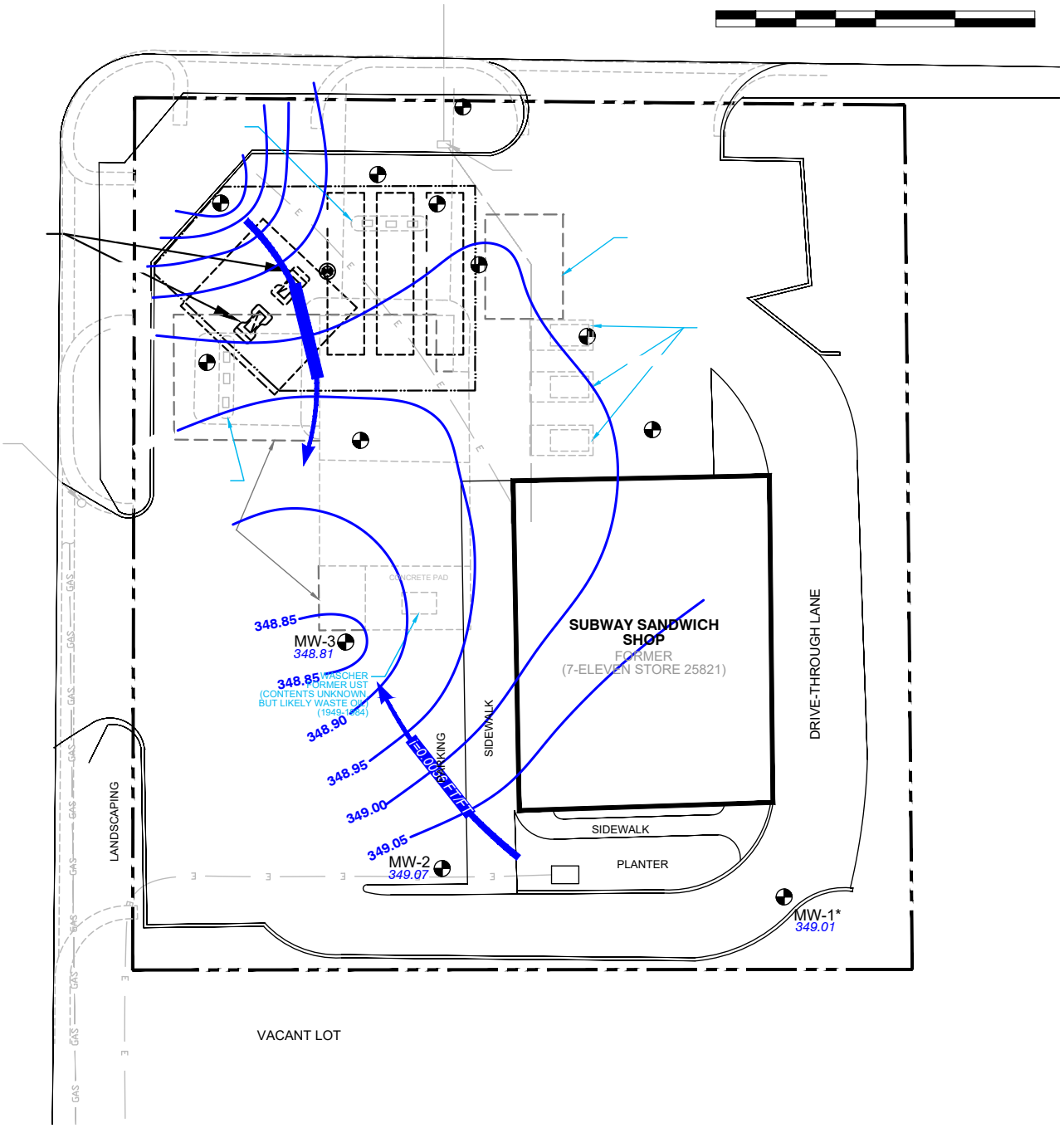
GROUNDWATER ELEVATION CONTOUR MAP JUNE 21, 2019

FIGURE: **3b**

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
185750037	MDR/STA	DH	PF	JULY 2019

FILEPATH:V:\1857\active\Secor\CADD_00 OTHER OFFICES\01-REDMOND\7-11 old rancho server\25821\2019\1Q 2019\FIG-3B_ 25821_2Q 2019.dwg | Layout Tab: 3B | Drafter: MiRamirez | Oct 01, 2020 at



LEGEND:

- SUBJECT PROPERTY LINE BOUNDARY
- MW-1 MONITORING WELL LOCATION
- AS-1 AIR SPARGE WELL LOCATION
- 348.32 RELATIVE GROUNDWATER ELEVATION (FEET)
- NM NOT MEASURED
- **348.50** INFERRED GROUNDWATER ELEVATION CONTOUR (FEET)
- INFERRED GROUNDWATER FLOW DIRECTION
- * NOT USED TO CALCULATE CONTOURS (MW-1 AND MW-12)

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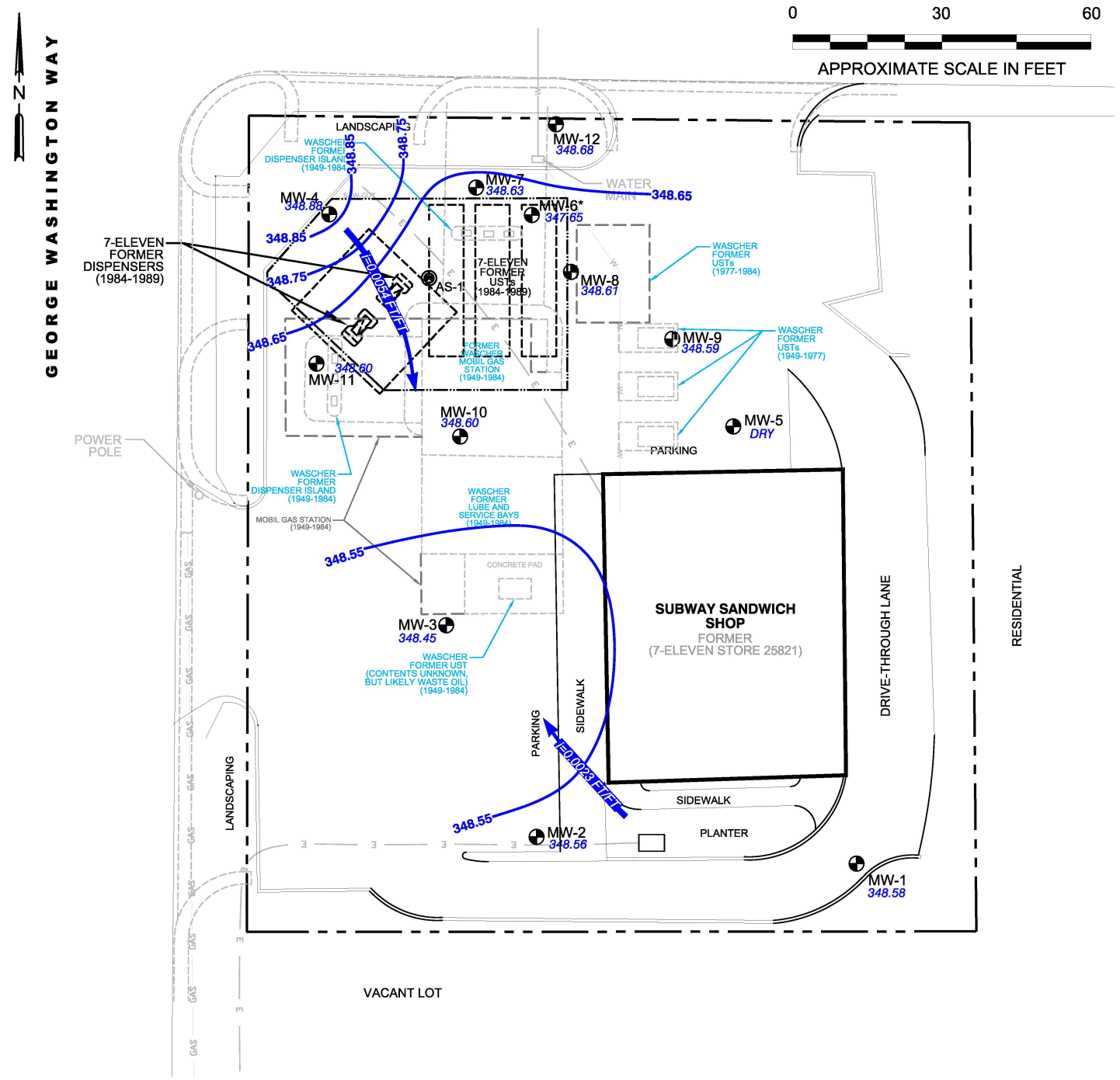
GROUNDWATER ELEVATION CONTOUR MAP SEPTEMBER 30, 2019

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:
185750037	MDR/STA	DH	

FILEPATH:V:\1857\active\Secor\CADD_00 OTHER OFFICES\01-REDMOND\7-11 old rancho server\25821\2020\FIG-3A_ 25821_1Q 2019.dwg | Layout Tab: 3C | Drafter: MiRamirez | Sep 28, 2020 at 11:52



LEGEND:

- SUBJECT PROPERTY LINE BOUNDARY
- MW-1 MONITORING WELL LOCATION
- AS-1 AIR SPARGE WELL LOCATION
- 348.32 RELATIVE GROUNDWATER ELEVATION (FEET)
- NM NOT MEASURED
- 348.50 INFERRED GROUNDWATER ELEVATION CONTOUR (FEET)
- INFERRED GROUNDWATER FLOW DIRECTION
- * NOT USED TO CALCULATE CONTOURS (MW-6)

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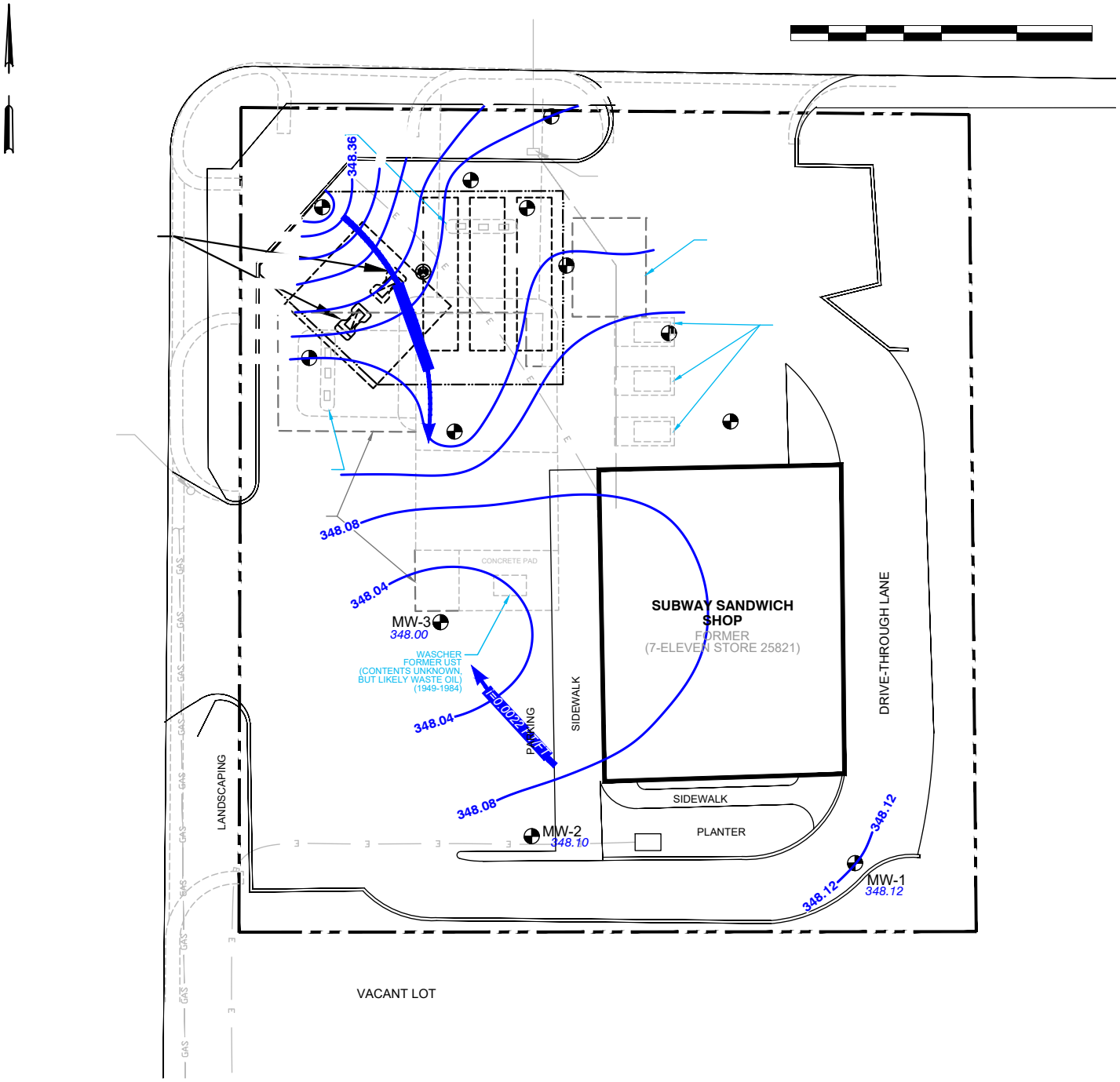
GROUNDWATER ELEVATION CONTOUR MAP NOVEMBER 21, 2019

FIGURE: 3d

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
185750037	MDR/STA	DH	PF	SEPT 2020

FILEPATH:V:\1857\active\Secor\CADD_00 OTHER OFFICES\01-REDMOND\7-11 old rancho server\25821\2020\FIG-3A_ 25821_1Q 2020.dwg | Layout Tab: 3D | Drafter: MiRamirez | Oct 01, 2020 at 19:21



LEGEND:

— — —	SUBJECT PROPERTY LINE BOUNDARY
MW-1 ⊕	MONITORING WELL LOCATION
AS-1 ⊗	AIR SPARGE WELL LOCATION
348.32	RELATIVE GROUNDWATER ELEVATION (FEET)
NM	NOT MEASURED
348.50	INFERRED GROUNDWATER ELEVATION CONTOUR (FEET)
←	INFERRED GROUNDWATER FLOW DIRECTION
*	NOT USED TO CALCULATE CONTOURS (MW-6)

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GROUNDWATER ELEVATION CONTOUR MAP MARCH 30, 2020

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:
185750037	MDR/STA	DH	

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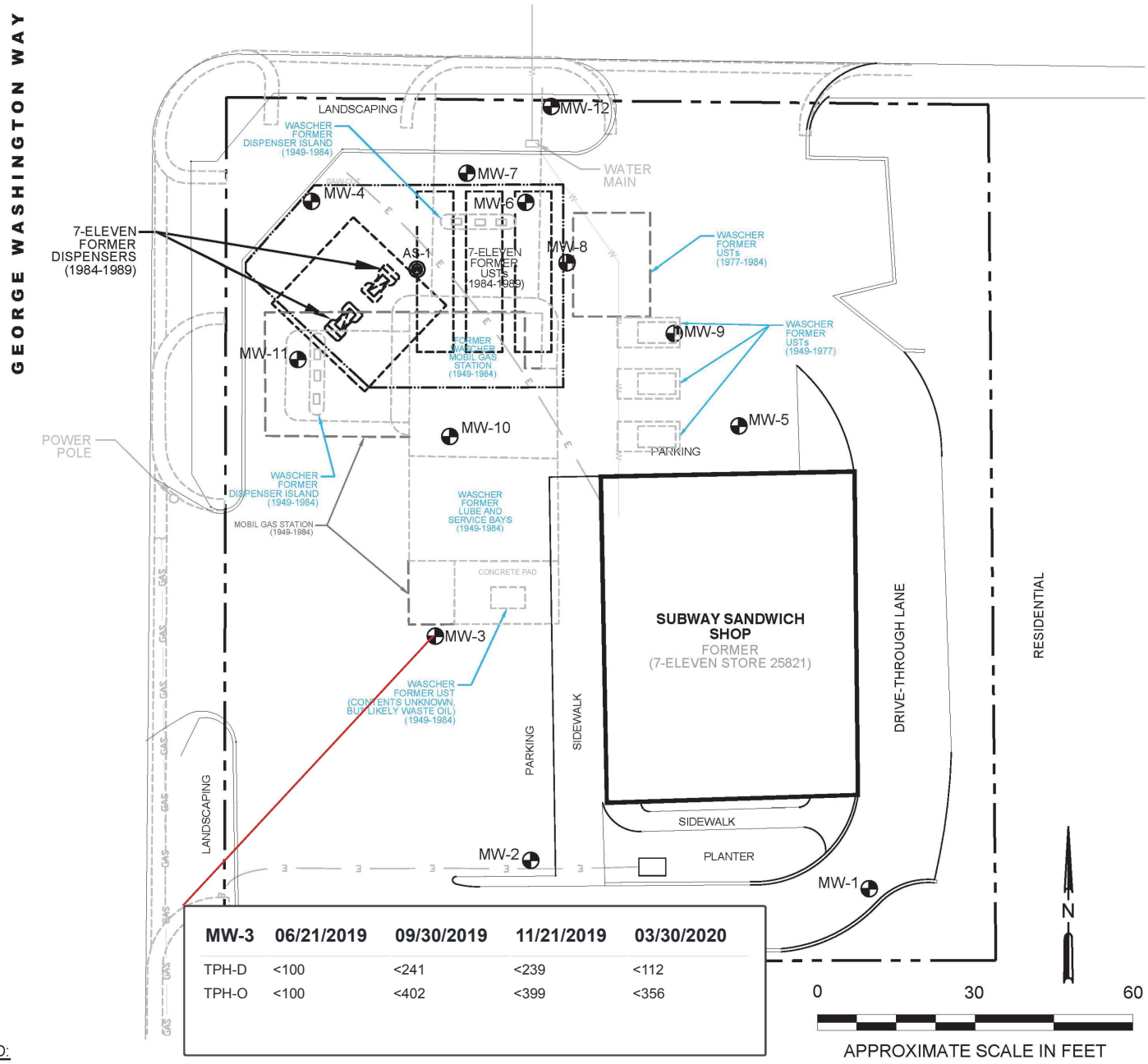

MW-3	06/21/2019	09/30/2019	11/21/2019	03/30/2020
TPH-D	<100	<241	<239	<112
TPH-O	<100	<402	<399	<356

LEGEND:

- SUBJECT PROPERTY LINE BOUNDARY
- MW-1 MONITORING WELL LOCATION
- AS-1 AIR SPARGE WELL LOCATION
- FORMER FEATURES

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Groundwater Analytical Data Petroleum Hydrocarbons 2019-2020

FIGURE: **4**

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
185703911	MDR/STA	CBS/DH	PF	JULY 2019

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TABLES

TABLE 1
CUMULATIVE GROUNDWATER MONITORING AND ANALYTICAL RESULTS
Former 7-Eleven Store #25821, 1824 George Washington Way, Richland, Washington 99352
All analytical results in micrograms per lite (µg/L)

Well ID (TOC)	Sample Date	Benzene	Toluene	Ethyl-benzene	Total Xylenes	TPH-G	TPH-D	TPH-O	EDB	EDC	MTBE	Naphtha-lene	2-Methyl Naphtha-lene	1-Methyl Naphtha-lene	Total Lead	Dissolved Lead	Depth To Groundwater (feet below TOC)	Groundwater Elevation (feet msl)
MW-2	6/30/1989	<0.5	<0.5	<0.5	<1.0	<1,000	<1,000[d]	--	--	--	--	--	--	--	--	--	14.44	347.88
	11/19/1989	<0.5	<0.5	<0.5	<1.0	<500	<500	--	--	--	--	--	--	--	--	--	14.68	347.64
	2/20/1990	<0.5	<0.5	<0.5	<1.0	<1,000[d]	<1,000[d]	--	--	--	--	--	--	--	--	--	14.95	347.37
	5/23/1990	<0.5	<0.5	1.5	5.6	<1,000[d]	<1,000[d]	--	--	--	--	--	--	--	--	--	14.22	348.10
	1/9/1991	<0.5	<0.5	<0.5	<0.5	<1,000[d]	<1,000[d]	--	--	--	--	--	--	--	--	--	14.69	347.63
362.32	9/1/1993	<0.3	<0.3	<0.3	<0.5	<10	--	--	--	--	--	--	--	--	--	--	15.29	347.03
	3/18/1994	<0.3	<0.3	<0.3	<0.5	<10	--	--	--	--	--	--	--	--	--	--	16.11	346.21
	9/19/1994	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	15.39	346.93
	3/2/1995	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	17.18	345.14
	8/9/1995	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	14.63	347.69
	6/13/1996	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	13.92	348.40
	12/11/1996	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	14.74	347.58
	6/24/1997	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	13.40	348.92
	12/30/1997	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16.65	345.67
	4/1/1998	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16.75	345.57
	6/25/1998	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16.95	345.37
	9/24/1998	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16.25	346.07
	12/15/1998	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16.83	345.49
	3/31/2000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16.95	345.37
	6/13/2000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16.33	345.99
	9/13/2000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	DRY	--
	10/25/2000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16.35	345.97
	11/22/2000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	DRY	--
	4/24/2001	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	DRY	--
	11/2/2001	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	DRY	--
	3/7/2002	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	DRY	--
	9/13/2002	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	DRY	--
	12/13/2002	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	DRY	--
	3/20/2003	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	17.42	344.90
	6/6/2003	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	--	--	--	--	--	--	17.23	345.09
	9/18/2003	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	17.50	344.82
	12/4/2003	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	DRY	--
	4/2/2004	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	18.21	344.11
	6/29/2004	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	--	--	--	--	--	--	17.66	344.66
	10/6/2004	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	--	--	--	--	--	--	17.84	344.48
	12/23/2004	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	18.41	343.91
	4/7/2005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	18.96	343.36
	6/21/2005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	DRY	--
	9/21/2005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	DRY	--
	11/22/2005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	DRY	--
	2/6/2006	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	--	--	--	--	--	--	18.20	344.12
	5/30/2006	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	--	--	--	--	--	--	17.90	344.42
	8/14/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	DRY	--
	4/10/2007	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	DRY	--
	6/5/2007	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16.00	346.32
	9/27/2007	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16.95	345.37
	12/7/2007	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	DRY	--
	4/7/2010	<0.20	<1.0	<0.20	<0.60	<100	--	--	<0.0095	<0.20	<0.20	--	--	--	--	--	17.74	344.58
	12/12/2012	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	17.02	345.30
	2/27/2013	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	17.25	345.07
366.10	10/17/2013	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16.80	349.30
	2/5/2014	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	17.70	348.40
	7/16/2014	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16.97	349.13
	9/8/2014	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16.86	349.24
	12/5/2014	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	17.37	348.73
	3/19/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	17.49	348.61
	6/30/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	17.21	348.89
	9/24/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16.96	349.14
	2/9/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	17.54	348.56
	2/22/2018	<1.00	<1.00	<1.00	<3.00	<100	<101	<101	<0.00629[c]	<1.00	<1.00	<0.109	<0.109	<0.109	0.191[J]	--	17.46	348.64
	6/6/2018	<1.00	<1.00	<1.00	<3.00	<100	<100	<100	<0.00602[c]	<1.00	<1.00	<0.109	<0.109	<0.109	<2.00	--	16.78	349.32
	9/12/2018	<1.00	<1.00	<1.00	<3.00	<100	<97.8	<97.8	<0.00600[c]	<1.00	<1.00	<0.0965	<0.0965	<0.0965	<2.00	--	17.01	349.09
	12/11/2018	<1.00	<1.00	<1.00	<3.00	<100	<105	<105	<0.00994[c]	<1.00	<1.00	<0.107	<0.107	<0.107	<2.00	--	17.68	348.42
	3/11/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	17.67	348.43
	6/20/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	17.25	348.85
	9/30/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	17.03	349.07
	11/21/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	17.54	348.56
	3/30/2020	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	18.00	348.10
MTCA Method A Cleanup Level		**5**	**1,000**	**700**	**1,000**	**800/1,000[b]**	**500**	**500**	**0.01**	**5**	**20**	**160**	**--**	**--**	**15**	**--**		

TABLE 1
CUMULATIVE GROUNDWATER MONITORING AND ANALYTICAL RESULTS
Former 7-Eleven Store #25821, 1824 George Washington Way, Richland, Washington 99352
All analytical results in micrograms per lite (µg/L)

Well ID (TOC)	Sample Date	Benzene	Toluene	Ethyl-benzene	Total Xylenes	TPH-G	TPH-D	TPH-O	EDB	EDC	MTBE	Naphtha-lene	2-Methyl Naphtha-lene	1-Methyl Naphtha-lene	Total Lead	Dissolved Lead	Depth To Groundwater (feet below TOC)	Groundwater Elevation (feet msl)
MW-3	6/30/1989	<0.5	<0.5	<0.5	0.7	<1,000	<1,000[d]	--	--	--	--	--	--	--	--	--	14.19	347.94
	11/19/1989	<0.5	<0.5	<0.5	<1.0	<500	<500	--	--	--	--	--	--	--	--	--	14.43	347.70
	2/20/1990	<0.5	<0.5	<0.5	<1.0	<1,000[d]	<1,000[d]	--	--	--	--	--	--	--	--	--	14.71	347.42
	5/23/1990	<0.5	<0.5	<0.5	<1.0	<1,000[d]	<1,000[d]	--	--	--	--	--	--	--	--	--	14.06	348.07
	1/9/1991	<0.5	<0.5	<0.5	<0.5	<1,000[d]	<1,000[d]	--	--	--	--	--	--	--	--	--	14.42	347.71
362.13	9/1/1993	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	15.12	347.01
	3/18/1994	<0.3	<0.3	<0.3	<0.5	<10	--	--	--	--	--	--	--	--	--	--	15.84	346.29
	9/19/1994	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	15.12	347.01
	3/2/1995	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	15.96	346.17
	8/9/1995	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	14.37	347.76
	6/13/1996	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	13.68	348.45
	12/11/1996	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	14.41	347.72
	6/24/1997	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	13.13	349.00
	12/30/1997	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16.47	345.66
	4/1/1998	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16.58	345.55
	6/25/1998	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16.15	345.98
	9/24/1998	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16.11	346.02
	12/15/1998	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16.66	345.47
	3/31/2000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16.73	345.40
	6/13/2000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16.21	345.92
	9/13/2000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	15.01	347.12
	10/25/2000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16.26	345.87
	11/22/2000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16.48	345.65
	4/24/2001	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	17.11	345.02
	11/2/2001	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16.50	345.63
	3/7/2002	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	17.26	344.87
	5/31/2002	<0.5	<1.0	<1.0	<3.0	--	--	--	--	--	--	--	--	--	--	--	16.85	345.28
	9/13/2002	<0.5	<1.0	<1.0	<2.0	<100	--	--	--	--	--	--	--	--	--	--	16.51	345.62
	12/13/2002	<0.5	<1.0	<1.0	<3.0	<100	--	--	--	--	--	--	--	--	--	--	17.04	345.09
	3/20/2003	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	--	--	--	--	--	--	17.36	344.77
	6/6/2003	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	--	--	--	--	--	--	17.05	345.08
	9/18/2003	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	--	--	--	--	--	--	17.34	344.79
	12/4/2003	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	DRY	--
	4/2/2004	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	--	--	--	--	--	--	16.00	346.13
	6/29/2004	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	--	--	--	--	--	--	17.51	344.62
	10/6/2004	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	--	--	--	--	--	--	17.69	344.44
	12/23/2004	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	18.20	343.93
	4/7/2005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	19.68	342.45
	6/21/2005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	17.46	344.67
	9/21/2005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	DRY	--
	11/22/2005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	18.01	344.12
	2/6/2006	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	--	--	--	--	--	--	18.00	344.13
	5/30/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	17.75	344.38
	8/14/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	DRY	--
	4/10/2007	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	17.01	345.12
	6/5/2007	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16.14	345.99
	9/27/2007	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16.83	345.30
	12/7/2007	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	DRY	
	6/11/2008	<1.0	<1.0	<1.0	<2.0	230	--	--	--	--	--	--	--	--	--	--	16.54	345.59
	10/29/2008	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	--	--	--	--	--	--	16.98	345.15
	4/13/2009	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	--	--	--	--	--	--	17.15	344.98
	10/22/2009	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	DRY	--
	4/7/2010	<0.20	<1.0	<0.20	<0.60	<100	--	--	<0.0096	<0.20	<0.20	--	--	--	--	--	19.55	342.58
	12/16/2010	<0.50	<0.50	<0.50	<0.50	<250	--	--	--	--	--	--	--	--	--	--	17.10	345.03
	3/8/2011	<0.50	<0.50	<0.50	<0.50	<250	--	--	--	--	--	--	--	--	--	--	17.01	345.12
	8/3/2011	<0.50	<0.50	<0.50	<0.50	<250	--	--	--	--	--	--	--	--	--	--	16.13	346.00
	3/27/2012	<0.50	<0.50	16.0	1.3	660	--	--	<0.010	<0.50	<0.50	--	--	--	<5	--	17.22	344.91
	12/12/2012	<1	<1	<1	<3	<100	--	--	<0.01	<1	<1	--	--	--	<1	--	16.86	345.27
	2/27/2013	<0.50	<0.50	<0.50	<0.50	<250	--	--	<0.010	<0.50	<0.50	--	--	--	<5	--	17.04	345.09
365.81	10/17/2013	<0.50	<0.50	<0.50	<0.50	<250	--	--	<0.010	<0.50	<0.50	--	--	--	<5	--	16.67	349.14
	2/5/2014	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	17.49	348.32
	7/16/2014	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16.88	348.93
	9/8/2014	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16.70	349.11
	12/5/2014	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	17.18	348.63
	3/19/2015	<1.00	<1.00	<1.00	<2.00	<100	--	--	<0.0201[d]	--	--	--	--	--	<2.00	--	17.24	348.57
	6/30/2015	<1.00	<1.00	<1.00	<3.00	<100	--	--	<0.0203[d]	<1.00	<1.00	--	--	--	<2.00	--	17.05	348.76
	9/24/2015	<1.00	<1.00	<1.00	<3.00	<100	--	--	<0.0200[d]	<1.00	<1.00	--	--	--	<2.00	<2.00	16.84	348.97
	2/9/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	17.36	348.45
	2/22/2018	<1.00	<1.00	<1.00	<3.00	<100	**1,080**	427	<0.00634[c]	<1.00	<1.00	<0.100	<0.100	<0.100	0.190[J]	--	17.29	348.52
	6/6/2018	<1.00	<1.00	<1.00	<3.00	<100	33.2[J]	<93.5	<0.00602[c]	<1.00	<1.00	<0.109	<0.109	<0.109	<2.00	--	16.74	349.07
	9/12/2018	<1.00	<1.00	<1.00	<3.00	<100	<98.5	<98.5	<0.00597[c]	<1.00	<1.00	<0.0965	<0.0965	<0.0965	<2.00	--	16.91	348.90
	12/11/2018	<1.00	<1.00	<1.00	<3.00	<100	41.6[J]	<103	<0.00204[*,c]	<1.00	<1.00	<0.109	<0.109	<0.109	<2.00	--	17.47	348.34
	3/12/2019	--	--	--	--	--	**1,650**	**774**	--	--	--	--	--	--	--	--	17.49	348.32
	6/21/2019	--	--	--	--	--	<100	<100	--	--	--	--	--	--	--	--	17.12	348.69
	9/30/2019	--	--	--	--	--	<241	<402	--	--	--	--	--	--	--	--	17.00	348.81
	11/21/2019	--	--	--	--	--	<239	<399	--	--	--	--	--	--	--	--	17.36	348.45
	3/30/2020	--	--	--	--	--	<112	<356	--	--	--	--	--	--	--	--	17.81	348.00
MTCA Method A Cleanup Level		**5**	**1,000**	**700**	**1,000**	**800/1,000[b]**	**500**	**500**	**0.01**	**5**	**20**	**160**	**--**	**--**	**15**	**--**		

TABLE 1
CUMULATIVE GROUNDWATER MONITORING AND ANALYTICAL RESULTS
Former 7-Eleven Store #25821, 1824 George Washington Way, Richland, Washington 99352
All analytical results in micrograms per lite (µg/L)

Well ID (TOC)	Sample Date	Benzene	Toluene	Ethyl-benzene	Total Xylenes	TPH-G	TPH-D	TPH-O	EDB	EDC	MTBE	Naphtha-lene	2-Methyl Naphtha-lene	1-Methyl Naphtha-lene	Total Lead	Dissolved Lead	Depth To Groundwater (feet below TOC)	Groundwater Elevation (feet msl)
MW-4	6/30/1989	<0.5	<0.5	<0.5	<1.0	<1,000	<1,000[d]	--	--	--	--	--	--	--	--	--	13.74	348.09
	11/19/1989	<0.5	<0.5	<0.5	<1.0	<500	<500	--	--	--	--	--	--	--	--	--	13.98	347.85
	2/20/1990	<0.5	<0.5	<0.5	<1.0	<1,000[d]	<1,000[d]	--	--	--	--	--	--	--	--	--	14.28	347.55
	5/23/1990	<0.5	<0.5	<0.5	<1.0	<1,000[d]	<1,000[d]	--	--	--	--	--	--	--	--	--	13.73	348.10
	1/9/1991	<0.5	<0.5	<0.5	<0.5	<1,000[d]	<1,000[d]	--	--	--	--	--	--	--	--	--	14.02	347.81
361.83	9/1/1993	0.4	<0.3	<0.3	<0.5	<10	--	--	--	--	--	--	--	--	--	--	14.66	347.17
	3/18/1994	<0.3	<0.3	<0.3	<0.5	<10	--	--	--	--	--	--	--	--	--	--	15.45	346.38
	9/19/1994	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	13.76	348.07
	3/2/1995	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	15.62	346.21
	8/9/1995	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	13.98	347.85
	6/13/1996	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	13.23	348.60
	12/11/1996	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	13.97	347.86
	6/24/1997	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	12.75	349.08
	12/30/1997	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	15.95	345.88
	4/1/1998	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16.25	345.58
	6/25/1998	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	15.70	346.13
	9/24/1998	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	15.64	346.19
	12/15/1998	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16.18	345.65
	3/31/2000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16.29	345.54
	6/13/2000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	15.74	346.09
	9/13/2000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	15.55	346.28
	10/25/2000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	15.72	346.11
	11/22/2000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16.08	345.75
	4/24/2001	<0.5	<0.5	<0.5	<1.0	<100	--	--	--	--	--	--	--	--	--	--	16.66	345.17
	11/2/2001	<0.5	<0.5	<0.5	<1.5	<100	--	--	--	--	--	--	--	--	--	--	16.02	345.81
	3/7/2002	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16.82	345.01
	5/31/2002	<0.5	<1.0	<1.0	<1.0	<100	--	--	--	--	--	--	--	--	--	--	16.49	345.34
	9/13/2002	<0.5	<1.0	<1.0	<2.0	<100	--	--	--	--	--	--	--	--	--	--	16.09	345.74
	12/13/2002	<0.5	<1.0	<1.0	<3.0	<100	--	--	--	--	--	--	--	--	--	--	16.55	345.28
	3/20/2003	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	--	--	--	--	--	--	16.92	344.91
	6/6/2003	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	--	--	--	--	--	--	16.61	345.22
	9/18/2003	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	--	--	--	--	--	--	16.82	345.01
	12/4/2003	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	--	--	--	--	--	--	17.38	344.45
	4/2/2004	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	--	--	--	--	--	--	17.53	344.30
	6/29/2004	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	17.03	344.80
	10/6/2004	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	--	--	--	--	--	--	17.21	344.62
	12/23/2004	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	17.75	344.08
	4/7/2005	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	--	--	--	--	--	--	17.89	343.94
	6/21/2005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	17.03	344.80
	9/21/2005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	DRY	--
	11/22/2005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	17.94	343.89
	2/6/2006	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	--	--	--	--	--	--	17.55	344.28
	5/30/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	17.25	344.58
	8/14/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	DRY	--
	4/10/2007	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16.53	345.30
	6/5/2007	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16.25	345.58
	9/27/2007	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16.38	345.45
	12/7/2007	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	DRY	--
	4/13/2009	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16.25	345.58
	10/22/2009	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16.47	345.36
	4/7/2010	<0.20	<1.0	<0.20	<0.60	<100	--	--	<0.0097	<0.20	<0.20	--	--	--	--	--	17.11	344.72
	12/12/2012	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16.38	345.45
	2/27/2013	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16.65	345.18
365.54	10/17/2013	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16.19	349.35
	2/5/2014	Iced Well-Could Not Open															--	--
	7/16/2014	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/8/2014	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/5/2014	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/19/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/24/2015	Could Not Open															--	--
	2/9/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2/22/2018	<1.00	<1.00	<1.00	<3.00	<100	<103	<103	<0.00623[c]	<1.00	<1.00	<0.114	<0.114	<0.114	0.179 [J]	--	16.89	348.65
	6/5/2018	<1.00	<1.00	<1.00	<3.00	<100	50.1[J]	71.9[J]	<0.00600[c]	<1.00	<1.00	<0.109	<0.109	<0.109	<2.00	--	16.39	349.15
	9/12/2018	<1.00	<1.00	<1.00	<3.00	<100	<96.9	<96.9	<0.00616[c]	<1.00	<1.00	<0.0959	<0.0959	<0.0959	<2.00	--	16.51	349.03
	12/11/2018	<1.00	<1.00	<1.00	<3.00	<100	<101	<101	<0.00202[c]	<1.00	<1.00	<0.101	<0.101	<0.101	<2.00	--	17.16	348.65
	3/11/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	17.10	348.71
	6/20/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16.72	349.09
	9/30/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16.57	349.24
	11/21/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16.93	348.88
	3/30/2020	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	17.40	348.41
MTCA Method A Cleanup Level		**5**	**1,000**	**700**	**1,000**	**800/1,000[b]**	**500**	**500**	**0.01**	**5**	**20**	**160**	**--**	**--**	**15**	**--**		

TABLE 1
CUMULATIVE GROUNDWATER MONITORING AND ANALYTICAL RESULTS
Former 7-Eleven Store #25821, 1824 George Washington Way, Richland, Washington 99352
All analytical results in micrograms per lite (µg/L)

Well ID (TOC)	Sample Date	Benzene	Toluene	Ethyl-benzene	Total Xylenes	TPH-G	TPH-D	TPH-O	EDB	EDC	MTBE	Naphtha-lene	2-Methyl Naphtha-lene	1-Methyl Naphtha-lene	Total Lead	Dissolved Lead	Depth To Groundwater (feet below TOC)	Groundwater Elevation (feet msl)
MW-5[a]	7/1/1989	<0.5	0.8	<0.5	4.2	<1,000	<1,000[d]	--	--	--	--	--	--	--	--	--	14.05	347.96
	11/19/1989	**6.4**	4.7	41	220	<500	<500	--	--	--	--	--	--	--	--	--	14.30	347.71
	2/20/1990	0.9	<0.5	6.1	38	<500	<1,000[d]	--	--	--	--	--	--	--	--	--	14.60	347.41
	5/30/1990	<0.5	0.5	1.1	7.5	<500	<1,000[d]	--	--	--	--	--	--	--	--	--	13.97	348.04
	1/9/1991	**6.4**	5.2	53	330	**2,000**	<1,000[d]	--	--	--	--	--	--	--	--	--	14.31	347.70
362.01	9/1/1993	2.0	0.5	5.0	1.0	290	--	--	--	--	--	--	--	--	--	--	14.98	347.03
	3/18/1994	<0.3	1.0	7.0	6.0	37	--	--	--	--	--	--	--	--	--	--	15.76	346.25
	9/19/1994	1.5	0.7	14.0	38.0	420	--	--	--	--	--	--	--	--	--	--	15.02	346.99
	3/2/1995	**5.4**	8.0	13.0	63.0	**930**	--	--	--	--	--	--	--	--	--	--	15.90	346.11
	8/9/1995	<0.3	<0.3	1.3	1.0	210	--	--	--	--	--	--	--	--	--	--	14.28	347.73
	6/13/1996	<0.5	<0.5	12.7	30.1	424	--	--	--	--	--	--	--	--	<2.0	--	13.53	348.48
	12/11/1996	<0.5	0.8	33.5	210.0	**1,860**	--	--	--	--	--	--	--	--	<2.0	--	14.30	347.71
	6/24/1997	<0.5	<0.5	<0.5	1.5	<50	--	--	--	--	--	--	--	--	4.09	--	13.00	349.01
	12/30/1997	<0.5	<0.5	<0.5	<1.0	<50	--	--	--	--	--	--	--	--	<2.0	--	16.27	345.74
	4/1/1998	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	DRY	--
	6/25/1998	<0.3	<0.3	<0.5	<0.6	<100	--	--	--	--	--	--	--	--	<5	--	15.96	346.05
	9/24/1998	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	15.91	346.10
	12/15/1998	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	DRY	--
	3/31/2000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	DRY	--
	6/13/2000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	DRY	--
	9/13/2000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	DRY	--
	10/25/2000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	DRY	--
	11/22/2000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	DRY	--
	4/24/2001	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	DRY	--
	11/2/2001	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	DRY	--
	3/7/2002	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	DRY	--
	9/13/2002	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	DRY	--
	12/13/2002	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	DRY	--
	3/20/2003	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	DRY	--
	6/6/2003	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	DRY	--
	9/18/2003	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	DRY	--
	12/4/2003	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	DRY	--
	4/2/2004	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	DRY	--
	6/29/2004	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	17.25	344.76
	10/6/2004	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	17.45	344.56
	12/23/2004	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	DRY	--
	4/7/2005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	DRY	--
	6/21/2005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	17.47	344.54
	9/21/2005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	DRY	--
	5/30/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	DRY	--
	8/14/2006	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	--	--	--	--	--	--	18.01	344.00
	4/10/2007	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	DRY	--
	6/5/2007	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	DRY	--
	9/27/2007	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	DRY	--
	12/7/2007	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	DRY	--
	6/11/2008	<4.0	<4.0	<4.0	<8.0	<400	--	--	--	--	--	--	--	--	--	--	16.45	345.56
	10/29/2008	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	DRY	--
	4/13/2009	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	DRY	--
	10/22/2009	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	DRY	--
	4/7/2010	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	DRY	--
	12/16/2010	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	DRY	--
	3/8/2011	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	DRY	--
	8/3/2011	<0.50	<0.50	<0.50	<0.50	<250	--	--	--	--	--	--	--	--	--	--	15.82	346.19
	3/27/2012	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	DRY	--
	12/12/2012	Dry Well															DRY	--
	2/27/2013	Dry Well															DRY	--
	10/17/2013	Dry Well															DRY	--
	2/5/2014	Dry Well															DRY	--
	7/16/2014	Dry Well															DRY	--
	9/8/2014	Dry Well															DRY	--
	12/5/2014	Dry Well															DRY	--
	3/19/2015	Dry Well															DRY	--
	6/30/2015	Dry Well															DRY	--
	9/24/2015	Dry Well															DRY	--
	2/9/2016	Dry Well															DRY	--
	6/6/2018	Dry Well															DRY	--
	9/12/2018	Dry Well															DRY	--
	12/11/2018	Dry Well															DRY	--
	3/11/2019	Dry Well															DRY	--
	6/20/2019	Dry Well															DRY	--
	9/30/2019	Dry Well															DRY	--
	11/21/2019	Dry Well															DRY	--
	3/30/2020	Dry Well															DRY	--
MTCA Method A Cleanup Level		**5**	**1,000**	**700**	**1,000**	**800/1,000[b]**	**500**	**500**	**0.01**	**5**	**20**	**160**	**--**	**--**	**15**	**--**		

TABLE 1
CUMULATIVE GROUNDWATER MONITORING AND ANALYTICAL RESULTS
Former 7-Eleven Store #25821, 1824 George Washington Way, Richland, Washington 99352
All analytical results in micrograms per lite (µg/L)

Well ID (TOC)	Sample Date	Benzene	Toluene	Ethyl-benzene	Total Xylenes	TPH-G	TPH-D	TPH-O	EDB	EDC	MTBE	Naphtha-lene	2-Methyl Naphtha-lene	1-Methyl Naphtha-lene	Total Lead	Dissolved Lead	Depth To Groundwater (feet below TOC)	Groundwater Elevation (feet msl)
MW-6	5/30/1990	**<500**	**8,500**	**1,300**	**140,000**	470	<10	--	--	--	--	--	--	--	--	--	13.33	348.09
	1/9/1991	**<500**	**4,900**	**760**	**8,100**	**52,000**	**7,000**	--	--	--	--	--	--	--	--	--	13.64	347.78
	9/1/1993	**65.0**	120.0	87.0	**3,000**	**15,000**	--	--	--	--	--	--	--	--	--	--	14.27	347.15
361.42	3/18/1994	**14.0**	140.0	82.0	**3,800**	**8,500**	--	--	--	--	--	--	--	--	--	--	15.03	346.39
	9/19/1994	<3.0	120.0	140.0	**4,700**	**43,000**	--	--	--	--	--	--	--	--	--	--	14.35	347.07
	3/2/1995	**14.0**	38.0	33.0	**1,500**	**15,000**	--	--	--	--	--	--	--	--	--	--	15.21	346.21
	8/9/1995	<1.5	32.0	23.0	**1,200**	**15,000**	--	--	--	--	--	--	--	--	--	--	13.59	347.83
	6/13/1996	<0.5	1.2	3.2	155	**3,000**	--	--	--	--	--	--	--	--	6.63	--	12.82	348.60
	12/11/1996	3.2	7.1	11.2	387	**4,000**	--	--	--	--	--	--	--	--	3.75	--	13.58	347.84
	6/24/1997	<2.50	<2.50	6.4	211	**2,040**	--	--	--	--	--	--	--	--	2.58	--	12.32	349.10
	12/30/1997	**17.1**	<2.50	49.7	695	**9,770**	--	--	--	--	--	--	--	--	2.47	--	15.54	345.88
	4/1/1998	**28.0**	44.5	328.0	**5,370**	**29,700**	--	--	--	--	--	--	--	--	--	--	15.90	345.52
	6/25/1998	1.9	19.0	120.0	**2,200**	**7,700**	--	--	--	--	--	--	--	--	8	--	15.25	346.17
	9/24/1998	**54.5**	66.6	202.0	**2,150**	**8,680**	--	--	--	--	--	--	--	--	--	--	15.23	346.19
	12/15/1998	<3	525.0	56	**6,500**	**25,000**	--	--	--	--	--	--	--	--	13	--	15.79	345.63
	3/31/2000	**<5**	23.0	82	**2,900**	**24,000**	--	--	--	--	--	--	--	--	**25**	--	15.85	345.57
	6/13/2000	<0.5	<0.5	88	**2,500**	**19,000**	--	--	--	--	--	--	--	--	--	--	15.26	346.16
	9/13/2000	**<50**	<50	<50	**1,100**	**19,000**	--	--	--	--	--	--	--	--	--	--	15.78	345.64
	10/25/2000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	15.33	346.09
	11/22/2000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	15.54	345.88
	4/24/2001	**<25**	<25	560	**4,900**	**22,000**	--	--	--	--	--	--	--	--	--	--	16.23	345.19
	11/2/2001	**<12**	19.0	210	**1,200**	**10,000**	--	--	--	--	--	--	--	--	--	--	16.63	344.79
	3/7/2002	<0.5	8.6	83.6	432	**11,900**	--	--	--	--	--	--	--	--	--	--	16.48	344.94
	5/31/2002	3.5	3.3	155	889	**6,610**	--	--	--	--	--	--	--	--	--	--	16.09	345.33
	9/13/2002	4.5	4.3	252	907	**10,600**	--	--	--	--	--	--	--	--	--	--	15.66	345.76
	12/13/2002	<0.5	<1.0	227	889	**8,220**	--	--	--	--	--	--	--	--	--	--	16.16	345.26
	3/20/2003	**23.0**	5.9	370	**1,940**	**26,000**	--	--	--	--	--	--	--	--	--	--	16.50	344.92
	6/6/2003	4.0	4.0	10.0	10.0	**1,000**	--	--	--	--	--	--	--	--	--	--	16.19	345.23
	9/18/2003	4.8	4.0	240	**1,020**	**9,300**[(i)]	--	--	--	--	--	--	--	--	--	--	16.43	344.99
	12/4/2003	Sheen Observed					--	--	--	--	--	--	--	--	--	--	16.81	344.61
	4/2/2004	<1.0	<1.0	150	**1,260**	**8,900**	--	--	--	--	--	--	--	--	--	--	17.12	344.30
	6/29/2004	3.8	1.1	110	940	**8,300**	--	--	--	--	--	--	--	--	--	--	16.50	344.92
	10/6/2004	3.1	1.3	300	**1,620**	**16,000**	--	--	--	--	--	--	--	--	--	--	16.80	344.62
	12/23/2004	3.6	<1.0	210	**1,190**	**9,900**	--	--	--	--	--	--	--	--	--	--	17.34	344.08
	4/7/2005	<1.0	<1.0	<1.0	<2.0	920	--	--	--	--	--	--	--	--	--	--	16.21	345.21
	6/22/2005	<1.0	2.2	1	<2.0	330	--	--	--	--	--	--	--	--	--	--	17.91	343.51
	9/21/2005	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	--	--	--	--	--	--	16.41	345.01
	11/22/2005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	18.04	343.38
	2/6/2006	3.8	<1.0	110	400	**6,300**	--	--	--	--	--	--	--	--	--	--	17.11	344.31
	5/30/2006	**7.9**	<1.0	130	770	**7,500**	--	--	--	--	--	--	--	--	--	--	16.85	344.57
	8/14/2006	**5.4**	<1.0	<1.0	1.3	720	--	--	--	--	--	--	--	--	--	--	17.68	343.74
	11/7/2006	**14**	290	**1,300**	**7,600**	**35,000**	--	--	--	--	--	--	--	--	--	--	14.26	347.16
	4/10/2007	**12**	<4.0	260	**1,200**	**13,000**	--	--	--	--	--	--	--	--	--	--	16.11	345.31
	6/5/2007	**11**	<4.0	140	540	**7,600**	--	--	--	--	--	--	--	--	--	--	15.84	345.58
	9/27/2007	**9.0**	<10	620	**3,300**	**20,000**	--	--	--	--	--	--	--	--	--	--	15.93	345.49
	12/7/2007	**5.5**	<4.0	280	**1,290**	**9,200**	--	--	--	--	--	--	--	--	--	--	16.42	345.00
	6/11/2008	**12**	<10	250	940	**11,000**	--	--	--	--	--	--	--	--	--	--	16.03	345.39
	10/29/2008	**7.3**	<4.0	240	**1,040**	**9,000**	--	--	--	--	--	--	--	--	--	--	16.01	345.41
	4/13/2009	**9.0**	<4.0	75	198	**5,300**	--	--	--	--	--	--	--	--	--	--	16.15	345.27
	10/22/2009	**5.5**	<4.0	90	206	**3,800**	--	--	--	--	--	--	--	--	--	--	16.07	345.35
	4/7/2010	<0.4	<2.0	52	97	**2,600**	--	--	<0.0096[a]	<0.40	<0.40	--	--	--	--	--	16.67	344.75
	12/16/2010	<0.50	<0.50	73	240	**5,300**	--	--	--	--	--	--	--	--	--	--	16.10	345.32
	3/8/2011	<0.50	<0.50	42	140	**3,600**	--	--	--	--	--	--	--	--	--	--	16.15	345.27
	8/3/2011	<0.50	<0.50	7.6	30	270	--	--	--	--	--	--	--	--	--	--	16.00	345.42
	3/27/2012	<0.50	<0.50	63	180	**3,900**	--	--	<0.010	<0.50	<0.50	--	--	--	<5	--	16.38	345.04
	12/12/2012	3.50	14	140	360	**6,700**	--	--	<0.01	<1	<1	--	--	--	1.14	--	15.95	345.47
	2/27/2013	<0.50	<0.50	26	62	**2,000**	--	--	<0.010	<0.50	<0.50	--	--	--	<5	--	16.08	345.34
365.15	10/17/2013	<0.50	<0.50	110	190	**4,600**	--	--	<0.010	<0.50	<0.50	--	--	--	<5	--	15.77	349.38
	2/6/2014	<1.00	<1.00	32.9	64.3	**5,290**	--	--	<0.010	<1.00	<1.00	--	--	--	<1.00	--	16.65	348.50
	7/16/2014	<1.00	<1.00	6.02	13.81	**1,470**	--	--	--	--	--	--	--	--	--	--	16.00	349.15
	9/4/2014	--	BOS 200 Injection			--	--	--	--	--	--	--	--	--	--	--	--	--
	9/8/2014	<1.00	<1.00	<1.00	<2.00	<50.0	--	--	--	--	--	--	--	--	--	--	15.76	349.39
	12/5/2014	<1.00	<1.00	<1.00	<2.00	<50.0	--	--	--	--	--	--	--	--	1.11	--	16.26	348.89
	3/19/2015	<1.00	<1.00	<1.00	<2.00	<100	--	--	<0.0198[d]	--	--	--	--	--	<2.00	--	16.37	348.78
	6/30/2015	<1.00	<1.00	<1.00	<3.00	<100	--	--	<0.0201[d]	<1.00	<1.00	--	--	--	<2.00	<2.00	16.23	348.92
	9/24/2015	<1.00	<1.00	<1.00	<3.00	<100	--	--	<0.0203[d]	<1.00	<1.00	--	--	--	<2.00	<2.00	15.94	349.21
	2/9/2016	--	--	--	--	<100	--	--	--	--	--	--	--	--	--	--	16.49	348.66
	2/22/2018	<1.00	<1.00	<1.00	<3.00	<100	61.0 [J]	<104	<0.00619[c]	<1.00	<1.00	<0.109	0.0885[J]	0.133	0.273 [J]	--	16.45	348.70
	6/6/2018	<1.00	<1.00	<1.00	<3.00	<100	488	<100	<0.00607[c]	<1.00	<1.00	0.720	0.435	0.303	11.3[B]	--	15.90	349.25
	9/13/2018	<1.00	<1.00	2.83	2.83 [J]	<100	270	<97.0	<0.00610[c]	<1.00	<1.00	11.2	5.99	4.06	0.425 [J]	--	16.05	349.10
	12/12/2018	<1.00	<1.00	<1.00	<3.00	<100	35.8 [J]	<100	<0.00201[*,c]	<1.00	<1.00	<0.106	<0.106	0.0668[J]	0.168[J]	--	16.64	348.51
	3/12/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16.64	348.51
	6/20/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16.26	348.89
	9/30/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16.12	349.03
	11/21/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	17.50	347.65
	3/30/2020	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16.89	348.26
MTCA Method A Cleanup Level		**5**	**1,000**	**700**	**1,000**	**800/1,000[b]**	**500**	**500**	**0.01**	**5**	**20**	**160**	**--**	**--**	**15**	**--**		

TABLE 1
CUMULATIVE GROUNDWATER MONITORING AND ANALYTICAL RESULTS
Former 7-Eleven Store #25821, 1824 George Washington Way, Richland, Washington 99352
All analytical results in micrograms per lite (µg/L)

Well ID (TOC)	Sample Date	Benzene	Toluene	Ethyl-benzene	Total Xylenes	TPH-G	TPH-D	TPH-O	EDB	EDC	MTBE	Naphtha-lene	2-Methyl Naphtha-lene	1-Methyl Naphtha-lene	Total Lead	Dissolved Lead	Depth To Groundwater (feet below TOC)	Groundwater Elevation (feet msl)
MW-7	12/11/1996	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
361.23	6/24/1997	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	12.17	349.06
	4/24/2001	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16.03	345.20
	11/2/2001	<1	1.0	17.0	49.0	**6,100**	--	--	--	--	--	--	--	--	--	--	15.41	345.82
	3/7/2002	<0.5	2.2	5.9	13.5	**6,900**	--	--	--	--	--	--	--	--	--	--	16.18	345.05
	5/31/2002	1.5	1.6	6.7	28.6	**5,110**	--	--	--	--	--	--	--	--	--	--	15.88	345.35
	9/13/2002	3.5	1.2	8.8	13.0	**5,240**	--	--	--	--	--	--	--	--	--	--	15.43	345.80
	12/13/2002	<0.5	<1.0	9.0	<3.0	**7,600**	--	--	--	--	--	--	--	--	--	--	15.95	345.28
	3/20/2003	**12.0**	<1.0	1.6	3.1	**2,400**	--	--	--	--	--	--	--	--	--	--	16.30	344.93
	6/6/2003	**5.7**	<1.0	8.0	17.2	**7,800**	--	--	--	--	--	--	--	--	--	--	15.97	345.26
	9/18/2003	**6.1**	<1.0	5.4	5.7	**3,600**[(i)]	--	--	--	--	--	--	--	--	--	--	16.22	345.01
	12/4/2003	**7.4**	<5.0	<5.0	<10	**3,300**	--	--	--	--	--	--	--	--	--	--	16.75	344.48
	4/2/2004	**6.3**	<1.0	2.0	2.2	**2,500**	--	--	--	--	--	--	--	--	--	--	16.91	344.32
	6/29/2004	3.7	<1.0	1.0	<2.0	**1,800**	--	--	--	--	--	--	--	--	--	--	16.30	344.93
	10/6/2004	4.6	<1.0	2.0	<2.0	**2,700**	--	--	--	--	--	--	--	--	--	--	16.60	344.63
	12/23/2004	**7.8**	1.7	2.5	4.6	**5,100**	--	--	--	--	--	--	--	--	--	--	17.12	344.11
	4/7/2005	**6.9**	<1.0	1.1	1.8	**4,700**	--	--	--	--	--	--	--	--	--	--	17.2	344.03
	6/22/2005	**5.7**	<1.0	1.6	1.7	**5,600**	--	--	--	--	--	--	--	--	--	--	15.97	345.26
	9/21/2005	<4.0	<4.0	<4.0	<8.0	<400	--	--	--	--	--	--	--	--	--	--	16.91	344.32
	11/22/2005	2.6	<1.0	<1.0	<2.0	**1,100**	--	--	--	--	--	--	--	--	--	--	16.82	344.41
	2/6/2006	**5.8**	<1.0	1.3	<2.0	**3,300**	--	--	--	--	--	--	--	--	--	--	16.96	344.27
	5/30/2006	<1.0	<1.0	<1.0	<2.0	190	--	--	--	--	--	--	--	--	--	--	16.60	344.63
	8/14/2006	3.8	<1.0	<1.0	<2.0	250	--	--	--	--	--	--	--	--	--	--	17.29	343.94
	11/7/2006	**11**	<1.0	17	18.5	710	--	--	--	--	--	--	--	--	--	--	13.11	348.12
	4/10/2007	1.4	<1.0	<1.0	<2.0	750	--	--	--	--	--	--	--	--	--	--	15.91	345.32
	6/5/2007	3.0	<1.0	<1.0	<2.0	**910**	--	--	--	--	--	--	--	--	--	--	15.62	345.61
	9/27/2007	**5.1**	<4.0	<4.0	<8.0	**800**	--	--	--	--	--	--	--	--	--	--	15.71	345.52
	12/7/2007	**11**	<1.0	<1.0	<2.0	**2,200**	--	--	--	--	--	--	--	--	--	--	16.24	344.99
	6/11/2008	<1.0	<1.0	<1.0	<2.0	190	--	--	--	--	--	--	--	--	--	--	15.83	345.40
	10/29/2008	<4.0	<4.0	<4.0	<8.0	480	--	--	--	--	--	--	--	--	--	--	15.93	345.30
	4/13/2009	1.7	<1.0	<1.0	<2.0	240	--	--	--	--	--	--	--	--	--	--	15.95	345.28
	10/22/2009	3.0	1.4	<1.0	4.5	**1,500**	--	--	--	--	--	--	--	--	--	--	15.87	345.36
	4/7/2010	<0.2	<1.0	0.24	1.63	**910**	--	--	<0.0096[q]	<0.20	<0.20	--	--	--	--	--	16.46	344.77
	12/16/2010	<0.50	<0.50	<0.50	<0.50	390	--	--	--	--	--	--	--	--	--	--	16.04	345.19
	3/8/2011	<0.50	<0.50	<0.50	<0.50	290	--	--	--	--	--	--	--	--	--	--	15.93	345.30
	8/3/2011	<0.50	<0.50	<0.50	<0.50	<250	--	--	--	--	--	--	--	--	--	--	15.00	346.23
	3/27/2012	<0.50	<0.50	<0.50	<0.50	**840**	--	--	<0.010	<0.50	<0.50	--	--	--	<5		16.16	345.07
	12/12/2012	<1	1.4	<1	<3	340	--	--	<0.01	<1	<1	--	--	--	<1	--	15.77	345.46
	2/27/2013	<0.50	<0.50	<0.50	<0.50	400	--	--	<0.010	<0.50	<0.50	--	--	--	<5	--	16.02	345.21
364.95	10/17/2013	<0.50	<0.50	<0.50	<0.50	<250	--	--	<0.010	<0.50	<0.50	--	--	--	<5	--	15.56	349.39
	2/6/2014	<1.00	<1.00	<1.00	<2.00	780	--	--	<0.010	<1.00	<1.00	--	--	--	<1.00	--	16.46	348.49
	7/16/2014	<1.00	<1.00	<1.00	<2.00	**1,130**	--	--	--	--	--	--	--	--	--	--	15.81	349.14
	9/4/2014	--	BOS 200 Injection			--	--	--	--	--	--	--	--	--	--	--		
	9/4/2014	--	BOS 200 Injection			--	--	--	--	--	--	--	--	--	--	--		
	9/8/2014	<1.00	<1.00	<1.00	<2.00	<50.0	--	--	--	--	--	--	--	--	--	--	15.56	349.39
	12/5/2014	<1.00	<1.00	<1.00	<2.00	<50.0	--	--	--	--	--	--	--	--	<1	--	16.06	348.89
	3/19/2015	<1.00	<1.00	<1.00	<2.00	<100	--	--	<0.0203[d]	--	--	--	--	--	<2.00	--	16.17	348.78
	6/30/2015	<1.00	<1.00	<1.00	<3.00	<100	--	--	<0.0199[d]	<1.00	<1.00	--	--	--	<2.00	<2.00	16.04	348.91
	9/24/2015	<1.00	<1.00	<1.00	<3.00	<100	--	--	<0.0199[d]	<1.00	<1.00	--	--	--	<2.00	<2.00	15.75	349.20
	2/9/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	17.30	347.65
	2/22/2018	<1.00	<1.00	<1.00	<3.00	<100	49.5[J]	<105	<0.00598[c]	<1.00	<1.00	<0.0962	<0.0962	<0.0962	0.946[J]	--	16.24	348.71
	6/6/2018	<1.00	<1.00	<1.00	<3.00	<100	<101	<101	<0.00600[c]	<1.00	<1.00	<0.109	<0.109	<0.109	0.225[J,B]	--	15.71	349.24
	9/12/2018	<1.00	<1.00	<1.00	<3.00	<100	<96.2	<96.2	<0.00609[c]	<1.00	<1.00	<0.0962	<0.0962	<0.0962	<2.00	--	15.85	349.10
	12/11/2018	<1.00	<1.00	<1.00	<3.00	<100	78.0[J]	<103	<0.00201[*,c]	<1.00	<1.00	<0.105	0.117	0.119	0.709[J]	--	16.45	348.50
	3/12/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16.44	348.51
	6/20/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16.05	348.90
	9/30/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	15.92	349.03
	11/21/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16.32	348.63
	3/30/2020	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16.77	348.18
MTCA Method A Cleanup Level		**5**	**1,000**	**700**	**1,000**	**800/1,000**[b]	**500**	**500**	**0.01**	**5**	**20**	**160**	**--**	**--**	**15**	**--**		

TABLE 1
CUMULATIVE GROUNDWATER MONITORING AND ANALYTICAL RESULTS
Former 7-Eleven Store #25821, 1824 George Washington Way, Richland, Washington 99352
All analytical results in micrograms per lite (µg/L)

Well ID (TOC)	Sample Date	Benzene	Toluene	Ethyl-benzene	Total Xylenes	TPH-G	TPH-D	TPH-O	EDB	EDC	MTBE	Naphtha-lene	2-Methyl Naphtha-lene	1-Methyl Naphtha-lene	Total Lead	Dissolved Lead	Depth To Groundwater (feet below TOC)	Groundwater Elevation (feet msl)
MW-8	4/24/2001	**<5**	40.0	49.0	840.0	**9,200**	--	--	--	--	--	--	--	--	--	--	16.18	345.16
361.34	11/2/2001	**5.9**	43.0	32.0	240.0	**4,900**	--	--	--	--	--	--	--	--	--	--	15.56	345.78
	3/7/2002	<0.5	<1.0	<1.0	<3.0	326	--	--	--	--	--	--	--	--	--	--	16.34	345.00
	5/31/2002	<0.5	<1.0	<1.0	1.4	<100	--	--	--	--	--	--	--	--	--	--	16.04	345.30
	9/13/2002	1.63	0.6	20.0	54.5	**1,240**	--	--	--	--	--	--	--	--	--	--	15.59	345.75
	12/13/2002	<0.5	<1.0	<1.0	<3.0	<100	--	--	--	--	--	--	--	--	--	--	16.08	345.26
	3/20/2003	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	--	--	--	--	--	--	16.43	344.91
	6/6/2003	<1.0	<1.0	13.0	44	**1,100**	--	--	--	--	--	--	--	--	--	--	16.03	345.31
	9/18/2003	<1.0	<1.0	97	187	**5,200**[(0)]	--	--	--	--	--	--	--	--	--	--	16.35	344.99
	12/4/2003	4.5	1.9	100	57	**4,200**	--	--	--	--	--	--	--	--	--	--	16.75	344.59
	4/2/2004	2.1	3.4	96	130	**2,500**	--	--	--	--	--	--	--	--	--	--	17.05	344.29
	6/29/2004	2.7	2.2	83	241	**3,800**	--	--	--	--	--	--	--	--	--	--	16.54	344.80
	10/6/2004	1.9	2.3	100	156	**4,000**	--	--	--	--	--	--	--	--	--	--	16.63	344.71
	12/23/2004	2.5	4.1	67	11.8	**1,900**	--	--	--	--	--	--	--	--	--	--	17.26	344.08
	4/7/2005	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	--	--	--	--	--	--	17.37	343.97
	6/22/2005	<1.0	2.3	1.2	1.1	280	--	--	--	--	--	--	--	--	--	--	16.15	345.19
	9/21/2005	**16.0**	<4.0	<4.0	<8.0	<400	--	--	--	--	--	--	--	--	--	--	17.01	344.33
	11/22/2005	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	--	--	--	--	--	--	16.95	344.39
	2/6/2006	<1.0	<1.0	1.4	1.2	190	--	--	--	--	--	--	--	--	--	--	17.09	344.25
	5/30/2006	<1.0	<1.0	1.0	29.0	450	--	--	--	--	--	--	--	--	--	--	16.80	344.54
	8/14/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	17.47	343.87
	11/7/2006	**12**	330	**1,600**	**9,500**	**36,000**	--	--	--	--	--	--	--	--	--	--	13.24	348.10
	4/10/2007	<4.0	<4.0	<4.0	<8.0	<400	--	--	--	--	--	--	--	--	--	--	16.04	345.30
	6/5/2007	<1.0	<1.0	<1.0	7.2	210	--	--	--	--	--	--	--	--	--	--	15.76	345.58
	9/27/2007	<4.0	<4.0	8.7	4.9	<400	--	--	--	--	--	--	--	--	--	--	15.85	345.49
	12/7/2007	<4.0	<4.0	<4.0	<8.0	<400	--	--	--	--	--	--	--	--	--	--	16.32	345.02
	6/11/2008	<4.0	<4.0	<4.0	<8.0	<400	--	--	--	--	--	--	--	--	--	--	15.96	345.38
	10/29/2008	<1.0	<1.0	11	<2.0	180	--	--	--	--	--	--	--	--	--	--	16.05	345.29
	4/13/2009	4.3	9.6	3.4	10.1	230	--	--	--	--	--	--	--	--	--	--	16.10	345.24
	10/22/2009	<1.0	<1.0	22	18.0	640	--	--	--	--	--	--	--	--	--	--	16.00	345.34
	4/7/2010	<0.20	<1.0	0.75	0.31	130	--	--	<0.0096	<0.20	<0.20	--	--	--	--	--	16.61	344.73
	12/16/2010	<0.50	<0.50	1.9	18	<250	--	--	--	--	--	--	--	--	--	--	16.20	345.14
	3/8/2011	<0.50	<0.50	<0.50	<0.50	<250	--	--	--	--	--	--	--	--	--	--	16.05	345.29
	8/3/2011	<0.50	<0.50	<0.50	<0.50	<250	--	--	--	--	--	--	--	--	--	--	15.12	346.22
	3/27/2012	<0.50	<0.50	<0.50	<0.50	<250	--	--	<0.010	<0.50	<0.50	--	--	--	11	--	16.29	345.05
	12/12/2012	<1	<1	<1	4.2	140	--	--	<0.01	<1	<1	--	--	--	1.05	--	15.89	345.45
	2/27/2013	<0.50	<0.50	<0.50	<0.50	<250	--	--	<0.010	<0.50	<0.50	--	--	--	<5	--	16.13	345.21
365.03	10/17/2013	<0.50	<0.50	<0.50	0.78	<250	--	--	<0.010	<0.50	<0.50	--	--	--	<5	--	15.68	349.35
	2/6/2014	<1.00	<1.00	<1.00	<2.00	<50.0	--	--	<0.010	<1.00	<1.00	--	--	--	<1.00	--	16.56	348.47
	7/16/2014	<1.00	<1.00	<1.00	<2.00	84.6	--	--	--	--	--	--	--	--	--	--	15.92	349.11
	9/4/2014	--	BOS-200 Injection			--	--	--	--	--	--	--	--	--	--	--	--	--
	9/4/2014	--	BOS-200 Injection			--	--	--	--	--	--	--	--	--	--	--	--	--
	9/8/2014	<1.00	<1.00	<1.00	<2.00	<50.0	--	--	--	--	--	--	--	--	--	--	15.71	349.32
	12/5/2014	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16.21	348.82
	3/19/2015	<1.00	<1.00	<1.00	<2.00	<100	--	--	<0.0196[d]	--	--	--	--	--	<2.00	--	16.31	348.72
	6/30/2015	<1.00	<1.00	<1.00	<3.00	<100	--	--	<0.0200[d]	<1.00	<1.00	--	--	--	<2.00	--	16.13	348.90
	9/24/2015	<1.00	<1.00	<1.00	<3.00	<100	--	--	<0.0201[d]	<1.00	<1.00	--	--	--	<2.00	<2.00	15.86	349.17
	2/9/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16.42	348.61
	2/22/2018	<1.00	<1.00	<1.00	<3.00	<100	39.9[J]	<102	<0.00616[c]	<1.00	<1.00	<0.109	<0.109	<0.109	4.76	--	16.38	348.65
	6/6/2018	<1.00	<1.00	<1.00	<3.00	<100	43.5[J]	<102	<0.00607[c]	<1.00	<1.00	<0.109	<0.109	<0.109	**16.5**[B]	--	15.81	349.22
	9/13/2018	<1.00	<1.00	<1.00	<3.00	<100	<102	<102	<0.00603[c]	<1.00	<1.00	<0.0970	<0.0970	<0.0970	<2.00	--	15.97	349.06
	12/12/2018	<1.00	<1.00	<1.00	<3.00	<100	<103	<103	<0.00203*[,c]	<1.00	<1.00	<0.0991	<0.0991	<0.0991	0.851[J]	--	16.56	348.47
	3/12/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16.56	348.47
	6/20/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16.19	348.84
	9/30/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16.05	348.98
	11/21/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16.42	348.61
	3/30/2020	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16.89	348.14
MW-9	10/17/2013	<0.50	<0.50	<0.50	<0.50	<250	--	--	<0.010	<0.50	<0.50	--	--	--	<5	--	16.01	349.31
365.32	2/6/2014	<1.00	<1.00	<1.00	<2.00	<50.0	--	--	<0.010	<1.00	<1.00	--	--	--	4.07	--	16.89	348.43
	7/16/2014	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16.20	349.12
	9/8/2014	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16.02	349.30
	12/5/2014	<1.00	<1.00	<1.00	<2.00	<50.0	--	--	--	--	--	--	--	--	<1	--	16.53	348.79
	3/19/2015	<1.00	<1.00	<1.00	<2.00	<100	--	--	<0.0201[d]	--	--	--	--	--	<2.00	--	16.62	348.70
	6/30/2015	<1.00	<1.00	<1.00	<3.00	<100	--	--	<0.0198[d]	<1.00	<1.00	--	--	--	<2.00	--	16.44	348.88
	9/24/2015	<1.00	<1.00	<1.00	<3.00	<100	--	--	<0.0201[d]	<1.00	<1.00	--	--	--	<2.00	--	16.17	349.15
	2/9/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16.74	348.58
	2/22/2018	<1.00	<1.00	<1.00	<3.00	<100	<102	<102	<0.00629[c]	<1.00	<1.00	<0.109	<0.109	<0.109	0.179[J]	--	16.69	348.63
	6/6/2018	<1.00	<1.00	<1.00	<3.00	<100	<101	<101	<0.00602[c]	<1.00	<1.00	<0.109	<0.109	<0.109	<2.00	--	16.08	349.24
	9/13/2018	<1.00	<1.00	<1.00	<3.00	<100	<98.7	<98.7	<0.00595[c]	<1.00	<1.00	<0.0963	<0.0963	<0.0963	<2.00	--	16.27	349.05
	12/11/2018	<1.00	<1.00	<1.00	<3.00	<100	<104	<104	<0.00202*[,c]	<1.00	<1.00	<0.108	<0.108	<0.108	<2.00	--	16.88	348.44
	3/11/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16.90	348.42
	6/20/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16.49	348.83
	9/30/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16.31	349.01
	11/21/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16.73	348.59
	3/30/2020	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	17.21	348.11

TABLE 1
CUMULATIVE GROUNDWATER MONITORING AND ANALYTICAL RESULTS
Former 7-Eleven Store #25821, 1824 George Washington Way, Richland, Washington 99352
All analytical results in micrograms per lite (µg/L)

Well ID (TOC)	Sample Date	Benzene	Toluene	Ethyl-benzene	Total Xylenes	TPH-G	TPH-D	TPH-O	EDB	EDC	MTBE	Naphtha-lene	2-Methyl Naphtha-lene	1-Methyl Naphtha-lene	Total Lead	Dissolved Lead	Depth To Groundwater (feet below TOC)	Groundwater Elevation (feet msl)
MTCA Method A Cleanup Level		**5**	**1,000**	**700**	**1,000**	**800/1,000[b]**	**500**	**500**	**0.01**	**5**	**20**	**160**	**--**	**--**	**15**	**--**		
MW-10	10/17/13	<0.50	<0.50	<0.50	<0.50	<250	--	--	<0.010	<0.50	<0.50	--	--	--	<5	--	16.48	349.29
365.77	02/06/14	<1.00	<1.00	<1.00	<2.00	<50.0	--	--	<0.0100	<1.00	<1.00	--	--	--	**63.0**	--	17.32	348.45
	07/16/14	<1.00	<1.00	<1.00	<2.00	55.9	--	--	--	--	--	--	--	--	--	--	16.69	349.08
	09/08/14	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16.48	349.29
	12/05/14	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16.97	348.80
	03/19/15	<1.00	<1.00	<1.00	<2.00	<100	--	--	<0.0201[d]	--	--	--	--	--	<2.00	--	17.08	348.69
	06/30/15	<1.00	<1.00	<1.00	<3.00	<100	--	--	<0.0204[d]	<1.00	<1.00	--	--	--	<2.00	<2.00	16.92	348.85
	09/24/15	<1.00	<1.00	<1.00	<3.00	<100	--	--	<0.0199[d]	<1.00	<1.00	--	--	--	<2.00	<2.00	16.66	349.11
	02/09/16	--	--	--	--	--	--	--	--	--	--	--	--	--	3.92	<1.00	17.18	348.59
	02/22/18	<1.00	<1.00	<1.00	<3.00	<100	<104	<104	<0.00629[c]	<1.00	<1.00	<0.0943	<0.0943	<0.0943	6.31	--	17.13	348.64
	06/06/18	<1.00	<1.00	<1.00	<3.00	<100	31.1[J]	<100	<0.00610[c]	<1.00	<1.00	<0.109	<0.109	<0.109	11.5[B]	--	16.62	349.15
	09/12/18	<1.00	<1.00	<1.00	<3.00	<100	<98.3	<98.3	<0.00602[c]	<1.00	<1.00	<0.0963	<0.0963	<0.0963	0.591[J]	--	16.75	349.02
	12/11/18	<1.00	<1.00	<1.00	<3.00	<100	<101	<101	<0.00201[*,c]	<1.00	<1.00	<0.112	<0.112	<0.112	1.94[J]	--	17.31	348.46
	03/11/19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	17.31	348.46
	06/20/19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16.94	348.83
	09/30/19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16.83	348.94
	11/21/19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	17.17	348.60
	03/30/20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	17.63	348.14
MW-11	10/17/13	<0.50	<0.50	<0.50	<0.50	<250	--	--	<0.010	<0.50	<0.50	--	--	--	<5	--	16.25	349.32
365.57	02/06/14	<1.00	<1.00	<1.00	<2.00	<50.0	--	--	<0.0100	<1.00	<1.00	--	--	--	3.75	--	17.09	348.48
	07/16/14	<1.00	<1.00	<1.00	<2.00	67.3	--	--	--	--	--	--	--	--	--	--	16.50	349.07
	09/08/14	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16.23	349.34
	12/05/14	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16.75	348.82
	03/19/15	<1.00	<1.00	<1.00	<2.00	<100	--	--	<0.0206[d]	--	--	--	--	--	**23.5**	--	16.85	348.72
	06/30/15	<1.00	<1.00	<1.00	<3.00	<100	--	--	<0.0198[d]	<1.00	<1.00	--	--	--	<2.00	<2.00	16.70	348.87
	09/24/15	<1.00	<1.00	<1.00	<3.00	<100	--	--	<0.0198[d]	<1.00	<1.00	--	--	--	<2.00	<2.00	16.45	349.12
	02/09/16	--	--	--	--	--	--	--	--	--	--	--	--	--	<1.00	<1.00	16.97	348.60
	06/30/16	--	--	--	--	--	--	--	--	--	--	--	--	--	<2.00	<2.00	16.66	348.91
	02/22/18	<1.00	<1.00	<1.00	<3.00	<100	<102	<102	<0.00689[c]	<1.00	<1.00	<0.109	<0.109	<0.109	0.153[J]	--	16.93	348.64
	06/05/18	<1.00	<1.00	<1.00	<3.00	<100	<101	<101	<0.00605[c]	<1.00	<1.00	<0.109	<0.109	<0.109	0.310[J,B]	--	16.40	349.17
	09/12/18	<1.00	<1.00	<1.00	<3.00	<100	<98.5	<98.5	<0.00607[c]	<1.00	<1.00	<0.0960	<0.0960	<0.0960	0.441[J]	--	16.55	349.02
	12/11/18	<1.00	<1.00	<1.00	<3.00	<100	<99.5	<99.5	<0.00203[*,c]	<1.00	<1.00	<0.100	<0.100	<0.100	<2.00	--	17.08	348.49
	03/11/19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	17.11	348.46
	06/20/19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16.75	348.82
	09/30/19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16.61	348.96
	11/21/19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16.97	348.60
	03/30/20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	17.41	348.16
MW-12	10/17/13	<0.50	<0.50	<0.50	<0.50	<250	--	--	<0.010	<0.50	<0.50	--	--	--	<5	--	14.96	349.44
364.40	02/06/14	<1.00	<1.00	<1.00	<2.00	<50.0	--	--	<0.0100	<1.00	<1.00	--	--	--	<1.00	--	15.87	348.53
	07/16/14	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	15.20	349.20
	09/08/14	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	14.96	349.44
	12/05/14	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	15.49	348.91
	03/19/15	<1.00	<1.00	<1.00	<2.00	<100	--	--	<0.0197[d]	--	--	--	--	--	<2.00	--	15.58	348.82
	06/30/15	<1.00	<1.00	<1.00	<3.00	<100	--	--	<0.0199[d]	<1.00	<1.00	--	--	--	<2.00	--	15.44	348.96
	09/24/15	<1.00	<1.00	<1.00	<3.00	<100	--	--	<0.0201[d]	<1.00	<1.00	--	--	--	<2.00	<2.00	15.18	349.22
	02/09/16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	15.72	348.68
	02/22/18	<1.00	<1.00	<1.00	<3.00	<100	<105	<105	<0.00612[c]	<1.00	<1.00	<0.111	<0.111	<0.111	0.130[J]	--	15.67	348.73
	06/06/18	<1.00	<1.00	<1.00	<3.00	<100	<102	<102	<0.00597[c]	<1.00	<1.00	<0.109	<0.109	<0.109	<2.00	--	15.09	349.31
	09/13/18	<1.00	<1.00	<1.00	<3.00	<100	<95.9	<95.9	<0.00602[c]	<1.00	<1.00	<0.0996	<0.0996	<0.0996	<2.00	--	15.26	349.14
	12/12/18	<1.00	<1.00	<1.00	<3.00	<100	<102	<102	<0.00202[*,c]	<1.00	<1.00	<0.0990	<0.0990	<0.0990	0.519[J]	--	15.86	348.54
	03/11/19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	15.86	348.54
	06/20/19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	15.48	348.92
	09/30/19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	15.33	349.07
	11/21/19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	15.72	348.68
	03/30/20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16.20	348.20
MTCA Method A Cleanup Level		**5**	**1,000**	**700**	**1,000**	**800/1,000[b]**	**500**	**500**	**0.01**	**5**	**20**	**160**	**--**	**--**	**15**	**--**		

Bold values exceed MTCA Method A Cleanup Levels
< = less than the laboratory practical quantitation limits
-- = not measured, not available or not sampled
EDB = ethylene dibromide
EDC = ethylene dichloride
msl = mean sea level
MTBE = methyl tertiary butyl ether
MTCA = Model Toxics Control Act
TOC = top of casing elevation on the north side
TPH-D = total petroleum hydrocarbons as diesel
TPH-G = total petroleum hydrocarbons as gasoline
TPH-O = total petroleum hydrocarbons as oil
B = Compound was found in the blank and sample
J = Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value
* RPD of the LCS and LCSD exceeds the control limits.
[a] MW-5 has been dry and not sampled since August 2011
[b] The TPH-G cleanup level is reduced from 1,000 µg/L to 800 µg/L if benzene is present in the sample
[c] The laboratory reporting limit (RL) exceeded the MTCA Method A CUL. Therefore, the method detection limit (MDL) was reported for this analyte.
[d] The laboratory reporting limit (RL) exceeded the MTCA Method A CUL.
[e] MS and/or MSD Recovery is outside acceptance limits.
[o] hydrocarbons outside the defined gasoline range are present in the sample
[q] surrogate recovery is outside of the control limits

TABLE 2
CUMULATIVE GROUNDWATER CHEMICAL INDICATOR AND HYDROCARBON DEGRADING BACTERIA (HDB) RESULTS
7-Eleven Store No. 25821
1824 George Washington Way, Richland, Washington
All concentrations in milligrams per liter (mg/L), unless otherwise noted

Well ID (TOC)	Sample Date	Sulfate (SO_4^{2-})	Nitrate (NO_3^-)	Total Iron	Ferrous Iron (Fe^{2+})	Total Organic Carbon	Total Inorganic Carbon	Carbon Dioxide (CO_2)	Hydrocarbon Degrading Bacteria (HDB) (CFU/ml)
MW-1	02/21/18	--	4.15^{H}	--	--	--	--	--	--
MW-2	02/22/18	--	3.20^{H}	--	--	--	--	--	--
MW-3	06/30/15	--	--	<0.025	--	--	--	--	--
	09/24/15	--	--	--	--	--	--	--	--
	02/22/18	--	9.61^{H}	--	--	--	--	--	--
MW-4	02/22/18	--	5.41^{HB}	--	--	--	--	--	--
MW-6	07/16/14	153	1.75	12.8	0.980	9.92	106	--	--
	09/08/14	**1,670**	**96.5**	--	--	0.524	88.7	--	600
	12/05/14	249	0.764	15.4	--	1.02	94.1	--	300
	06/30/15	**956**	**64.5**	2.78	--	--	--	--	1,100
	02/22/18	--	2.88^{H}	--	--	--	--	--	--
	03/12/19	**902**	0.587^{Be}	--	--	--	--	--	--
	06/21/19	**341**	0.924^{H}	--	--	--	--	--	--
MW-7	07/16/14	122	0.406	17.0	3.10	5.98	63.6	--	--
	12/05/14	**547**	0.498	6.62	--	1.18	114	--	6,300
	06/30/15	**385**	1.61	3.02	--	--	--	--	960
	02/22/18	0	1.35	--	--	--	--	--	--
	03/12/19	115	0.914^{B}	--	--	--	--	--	--
	06/21/19	145	1.35^{H}	--	--	--	--	--	--
MW-8	07/16/14	30.8	4.86	1.24	<0.0300	1.78	89.7	--	--
	09/08/14	**934**	**36.5**	--	--	1.69	104	--	800
	09/24/15	120	2.52	2.6	--	--	--	--	3,700
	02/22/18	0	4.38^{H}	--	--	--	--	--	--
	03/12/19	37.7	5.14^{B}	--	--	--	--	--	--
	06/21/19	44.1	4.19^{H}	--	--	--	--	--	--
MW-9	12/05/14	74.1	4.72	0.225	--	0.868	103	--	2,300
	03/19/15	--	--	--	--	--	--	--	--
	06/30/15	--	--	0.17	--	--	--	--	--
	09/24/15	32.6	3.27	0.144	--	--	--	--	14,000
	02/22/18	--	3.99^{H}	--	--	--	--	--	--
MW-10	07/16/14	41.0	5.62	1.48	0.260	1.30	73.5	--	--
	09/08/14	31.1	2.67	0.401	--	2.26	85.3	--	700
	06/30/15	61.3	5.59	3.7	--	--	--	--	--
	09/24/15	27.4	3.92	1.89	--	--	--	--	1,200,000
	02/22/18	--	3.79^{H}	--	--	--	--	--	--
MW-11	07/16/14	36.4	4.11	1.21	0.380	0.873	71.2	--	--
	09/08/14	141	7.20	0.204	--	--	--	--	--
	06/30/15	60.1	5.07	1.08	--	--	--	--	--
	09/24/15	103	3.24	1.13	--	--	--	--	230,000
	02/22/18	--	5.46^{H}	--	--	--	--	--	--
MW-12	07/16/14	36.4	4.11	1.21	0.380	0.873	71.2	--	--
	06/30/15	--	--	0.369	--	--	--	--	--
	09/24/15	23.3	2.43	0.273	--	--	--	--	160,000
	02/22/18	--	4.33^{H}	--	--	--	--	--	--
Groundwater Quality Criteria - WAC 173-200-050		**250**	**10**	**0.3** [a]	**NA**	**NA**	**NA**	**NA**	**NA**
MTCA Method B CUL		**--**	**25.6**	**--**	**--**	**--**	**--**	**--**	**--**
National Primary Drinking Water Maximum Contaminant Level		**--**	**10**	**11.2**	**--**	**--**	**--**	**--**	**--**

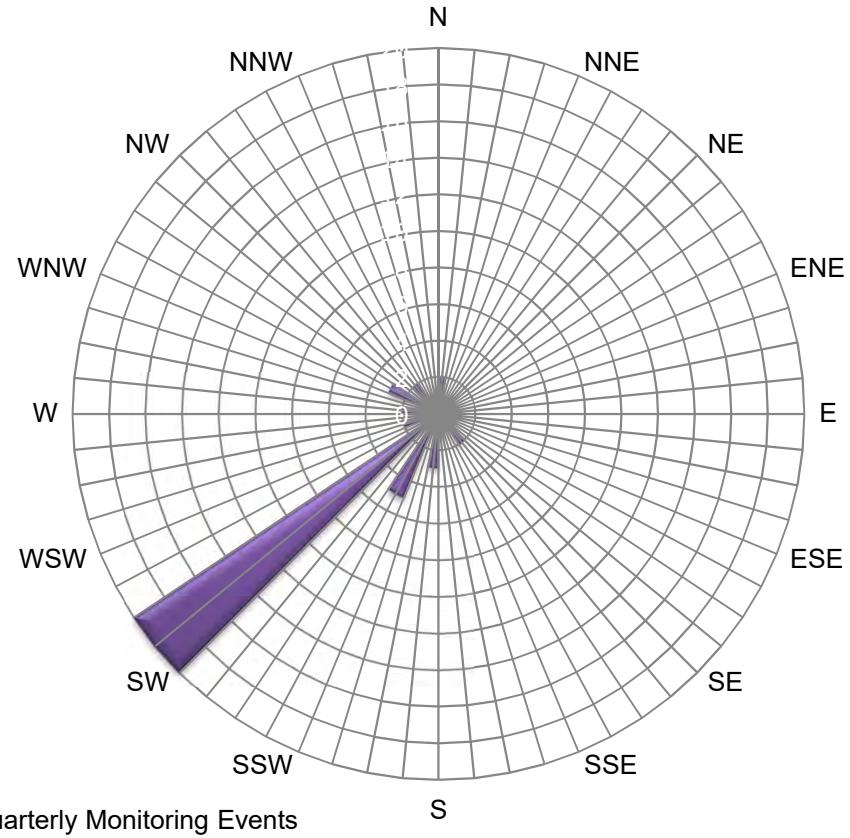
Notes:
[a] = The groundwater quality standard for metals are measured as total metals
< = less than the laboratory practical quantitation limit
-- = not sampled, not measured or not analyzed
NA = not applicable
HF = Analyte has a holding time of 15 minutes. Results are outside of hold time.

Explanation of Abbreviations:
MTCA = Model Toxics Control Act
TOC = top of casing
HDB = hydrocarbon degrading bacteria
CFU/ml = colony forming units per mililiter
EPA = Environmental Protection Agency

Analytical Methods:
Sulfate = by EPA Method 300.0
Nitrate = by EPA Method 300.0
Total Iron = by EPA Method 200.8
Total Organic Carbon = by SM 5310C
Total Inorganic Carbon = by SM 5310C
Ferrous Iron = by SM3500-Fe B
HDB = Method Reference: Manual of Environmental Microbiology, 2nd Edition, 2001: Chapter 84
Carbon Dioxide = by SM 4500C

GRAPH

GRAPH 1
GROUNDWATER FLOW DIRECTION ROSE DIAGRAM
7-Eleven Store No. 25821
1824 George Washington Way
Richland, Washington



Groundwater Flow Direction

Legend
Concentric Circles represent Quarterly Monitoring Events
Fourth Quarter 2002 through First Quarter 2020
50 Data Points Shown

Appendix A

Registration with Underground Injection Control (UIC) Program Permit Groundwater Injection Field Sheets and Site Plan with Injection Locations

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
PO Box 47600 • Olympia, WA 98504-7600 • 360-407-6000
711 for Washington Relay Service • Persons with a speech disability can call 877-833-6341

March 3, 2020

Jose Rios
7-Eleven Inc.
PO Box 7-11
Dallas, TX 75221

Re: Registration with the Underground Injection Control (UIC) Program, Subway Restaurant (former 7-eleven No. 25821), 1824 George Washington Way, Richland, WA

Dear Jose Rios:

This letter is to acknowledge receipt of your registration form received July 22, 2014 to register the above-mentioned site with the UIC Program. The project will include:

- One time injection of 3,300 pounds of BOS-200 and 25-50 pounds of gypsum mixed with potable water into 27 temporary boreholes at depths ranging from 14 to 21 feet below the ground surface.
- The injection will begin in March 2020.
- Quarterly down gradient groundwater monitoring for sulfate, nitrate and iron will occur in MW-10 and MW-11.

Clean up actions/sites that are not approved by the Department of Ecology (Ecology) under the Model Toxics Control Act (MTCA), chapter 70.105D RCW or approved by the United States Environmental Protection Agency under the Comprehensive Environmental Response Compensation and Liability Act, 42 U.S.C. 9601 et seq are required to meet the Water Quality Standards for Ground Waters of the State of Washington, Chapter 173-200 WAC (GWQS). The injected compounds are intended to improve groundwater quality. There are inherent environmental risks associated with injecting compounds into groundwater. Carefully characterize, manage, and monitor the site to minimize risk and prevent unforeseen degradation of groundwater quality. Mobilized metals or other substances, injected chemicals or hazardous bi-products, are not allowed to migrate beyond the site property boundary.

The two UIC Program requirements for rule authorization are, registration of UIC wells (prior to use) and the discharge from the well must meet the nonendangerment standard, of WAC 173-218-080. The UIC site is number 32603. Listed below are the minimum requirements to meet the

nonendangerment standard. Your site is conditionally rule authorized when the following have been met:

- Meet the groundwater quality standards, chapter 173-200-WAC;
- Complete a thorough site characterization including: geologic investigation, concentration and extent of contaminant plume, aquifer characteristics, and location of preferential migration pathways (natural and manmade);
- A groundwater monitoring program that includes: well location and sampling sufficient to characterize the background groundwater quality, the water quality at the point of compliance, and identify any changes in groundwater quality resulting from the injected compounds;
- Develop a conceptual site model that balances the injection rate, concentration, and total mass of injected compound with that of the subsurface material. The model should predict the expected changes in groundwater chemistry over time, final groundwater quality at the point of compliance, and predicted restoration timeframe;
- Hydrologically contain within the site property boundaries, the injected compounds and any regulated substances mobilized by the injected products;
- Prepare a written contingency plan that describes, in detail, the actions to be taken in case of spills, failures, equipment breakdowns and/or unforeseen environmental degradation caused by the cleanup activities; and,
- Retain all plans, modeling, monitoring results, interim and final reports. Upon request, provide these documents to Ecology.

If ground water quality does not meet the Ground Water Quality Standards at the point of compliance, you must notify Ecology within 24 hours of discovery.

At any time, Ecology may require you to apply for and obtain a Waste Discharge Permit for the continued use of these compounds to promote In Situ Chemical Oxidation.

A formal approval for this project may be obtained through the Departments' State Waste Discharge Permit Program or the MTCA Program.

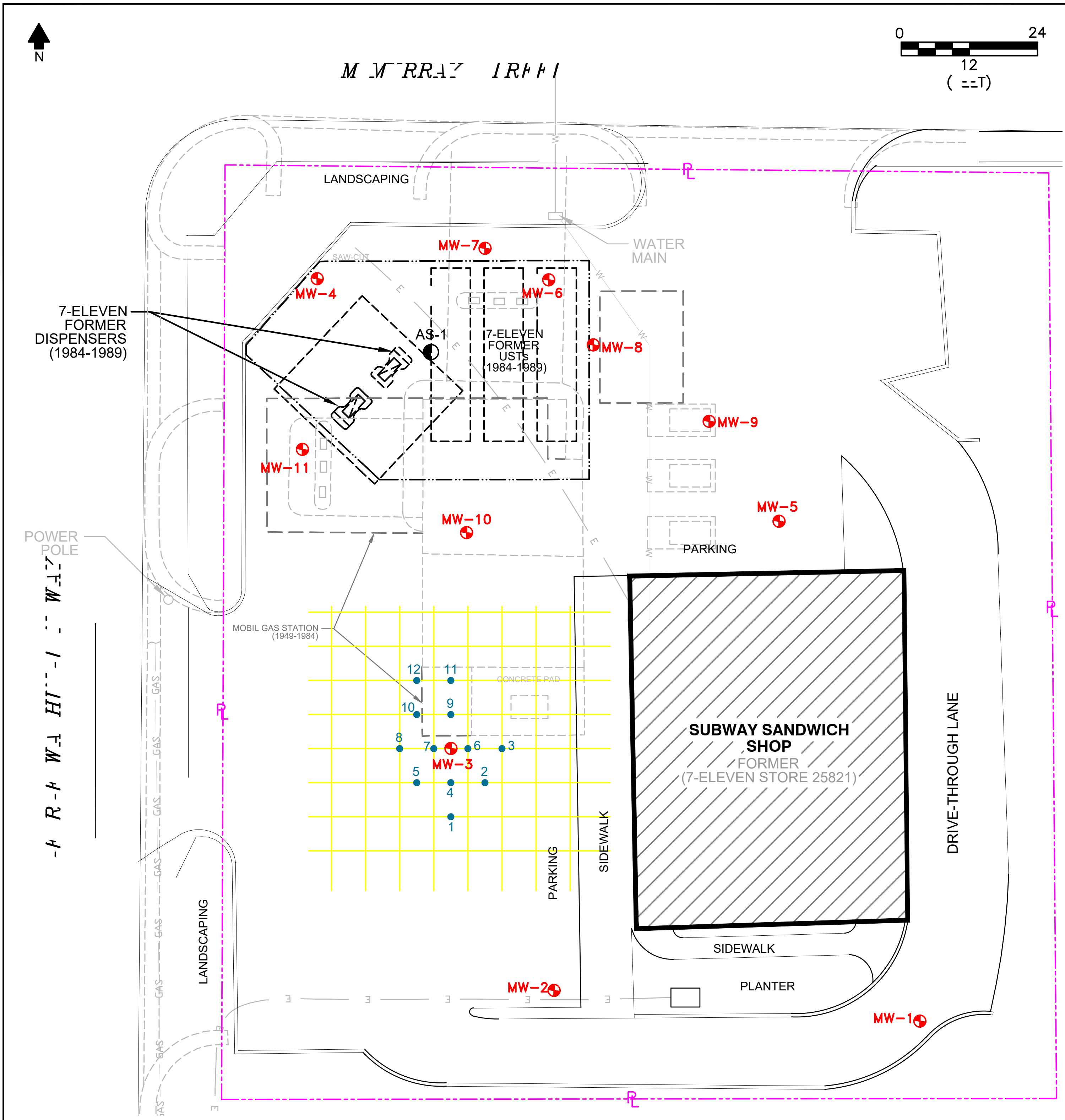
If you have questions, please call me at (360) 407-6143. Additional information on the UIC Program can also be found at our website
http://www.ecy.wa.gov/programs/wq/grndwtr/uic/index.html

Sincerely,

MShansen

Mary Shaleen-Hansen
UIC Coordinator
Water Quality Program

cc: Greg McCormick, Stantec Consulting Services Inc.



L=G=ND

8	Proposed BOS-200 Soil Injec-ion Loca-ion and Iden-i-ica-ion Number (By BB& =nv.)	MW-1	Moni- ring Well Loca-ion and Iden-i-ica-ion Number (By S-an-		ıilding
				PL	Proper- ine
		AS-1	-ir Sparge Well Loca-ion and Iden-i-ica-ion Number (By S-an-		

BB&A ENVIRONMENTAL	Ꮀ Ꮀ I -ICᎰ \ober -. Coburg, OR ph: 541.484.9484	PORI -ND O -ICᎰ arkway - .,# ilsonville, OR ph: 503.570.9484	ITᎰ -N COMMᎰ \CIAL PROPᎰ \T 1824 GᎰ \GᎰ -SHINGT -Y, RICHLAND, WASHINGT
	www.BBAENV.COM		

\OJE T DE	D-TE	SC- E.	DR- .	HE ᏁᎰD.	-I \I #.
T- T=C-RICHL-	/12/20	1"=24'	K.D.D= IGNS	R - =	1

Daily Injection Sheet

Site: 1824 George Washington Way, Richland
Client: Stantec
S2

Personel: Rob, Rod, Randy
Equipment:

Date: 3/11/2020
Page: 1 of 2

MW3 - 12 pts / 48 Injections

		BOS Mix							
Inj. Point	Depth	Gallons of Water	lbs. of BOS 200	Ozs. of Bacteria	lbs. of Gypsum	Time Start	Injection Pressure	Final Pressure	Notes:
IP-1	13	~15	20	13.0			800-900		
	15	~15	20	13.0			580		
	17	~15	20	13.0			800-900		
	19	~15	20	13.0			800		
IP-2	14	~15	20	13.0			580		
	16	~15	20	13.0			850		
	18	~15	20	13.0			800-900		
	20	~15	20	13.0			600		
IP-3	13	~15	20	13.0			900		
	15	~15	20	13.0			520		
	17	~15	20	13.0			740		
	19	~15	20	13.0			640		
IP-4	14	~15	20	13.0			600		
	16	~15	20	13.0			600		
	18	~15	20	13.0			900		
	20	~15	20	13.0			700		
IP-5	13	~15	20	13.0			820		
	15	~15	20	13.0			800		
	17	~15	20	13.0			580		
	19	~15	20	13.0			670		
IP-6	14	~15	20	13.0			480		
	16	~15	20	13.0			560		
	18	~15	20	13.0			700		**Connection with MW3**
	20	~15	20	13.0			*---*		No injection, too tight
IP-7	13	~15	20	13.0			730		
	15	~15	20	13.0			*---*		No injection, too tight
	17	~15	20	13.0			600		**Connection with MW3**
	19	~15	20	13.0			740		Double shot
IP-8	14	~15	20	13.0			540		
	16	~15	20	13.0			800		
	18	~15	20	13.0			900		
	20	~15	20	13.0			850		

Daily Injection Sheet

Site: 1824 George Washington Way, Richland
Client: Stantec
S2

Personel: Rob, Rod, Randy
Equipment:

Date: 3/11/2020
Page: 1 of 2

		BOS Mix					MW3 - 12 pts / 48 Injections		
Inj. Point	Depth	Gallons of Water	lbs. of BOS 200	Ozs. of Bacteria	lbs. of Gypsum	Time Start	Injection Pressure	Final Pressure	Notes:
IP-9	13	~15	20	13.0			560		
	15	~15	20	13.0			580		
	17	~15	20	13.0			740		
	19	~15	20	13.0			680		
IP-10	14	~15	20	13.0			800-900		
	16	~15	20	13.0			620		
	18	~15	20	13.0			740		
	20	~15	20	13.0			560		
IP-11	13	~15	20	13.0			900		
	15	~15	20	13.0			730		
	17	~15	20	13.0			850		
	19	~15	20	13.0			640		
IP-12	14	~15	20	13.0			720		
	16	~15	20	13.0			800-900		
	18	~15	20	13.0			780		
	20	~15	20	13.0			680-400		
IP-	13	~15	20	13.0					
	15	~15	20	13.0					
	17	~15	20	13.0					
	19	~15	20	13.0					
IP-	14	~15	20	13.0					
	16	~15	20	13.0					
	18	~15	20	13.0					
	20	~15	20	13.0					
IP-	13	~15	20	13.0					
	15	~15	20	13.0					
	17	~15	20	13.0					
	19	~15	20	13.0					
IP-	14	~15	20	13.0					
	16	~15	20	13.0					
	18	~15	20	13.0					
	20	~15	20	13.0					

Appendix B

Laboratory Analytical Reports and Chain-of-Custody Documentation
Groundwater Monitoring & Sampling Field Notes
Stantec's Monitoring Well Purging and Sampling Procedures

Stantec

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Nashville
2960 Foster Creighton Drive
Nashville, TN 37204
Tel: (615)726-0177

TestAmerica Job ID: 490-169982-1
TestAmerica Sample Delivery Group: 25821 Richland
Client Project/Site: 1Q19 GWM 25821

For:
Stantec Consulting Corp.
11130 NE 33rd Place
Suite 200
Bellevue, Washington 98004-1465

Attn: Paul Fairbairn

Authorized for release by:
3/25/2019 3:30:44 PM

Jimmy Huckaba, Project Manager I
(615)301-5746
jimmy.huckaba@testamericainc.com

Table of Contents

Sample Summary

Client: Stantec Consulting Corp.
Project/Site: 1Q19 GWM 25821

TestAmerica Job ID: 490-169982-1
SDG: 25821 Richland

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
490-169982-1	MW-3	Water	03/12/19 09:12	03/13/19 10:25
490-169982-2	MW-6	Water	03/12/19 08:15	03/13/19 10:25
490-169982-3	MW-7	Water	03/12/19 07:43	03/13/19 10:25
490-169982-4	MW-8	Water	03/12/19 08:45	03/13/19 10:25

Job ID: 490-169982-1

Laboratory: TestAmerica Nashville

Narrative

Job Narrative
490-169982-1

Comments
No additional comments.

Receipt
The samples were received on 3/13/2019 10:25 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.1° C.

HPLC/IC
Method(s) 300.0: Due to the high concentration of Sulfate, the matrix spike (MS) for analytical batch 490-581094 could not be evaluated for accuracy and precision. The associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) met acceptance criteria.

Method(s) 300.0: The following sample was diluted due to the nature of the sample matrix: MW-7 (490-169982-3). Elevated reporting limits (RLs) are provided.

Method(s) 300.0: The following sample was diluted due to the nature of the sample matrix: MW-6 (490-169982-2). Elevated reporting limits (RLs) are provided.

Method(s) 300.0: The method blank for analytical batch 490-581095 contained Nitrate as N above the method detection limit (MDL). Associated sample(s) were not re-extracted and/or re-analyzed because results were greater than 10X the value found in the method blank.

Method(s) 300.0: The matrix spike (MS) recoveries for analytical batch 490-581095 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) 300.0: The following sample was diluted due to the nature of the sample matrix: MW-8 (490-169982-4). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC Semi VOA
Method(s) NWTPH-Dx: The following samples contained a hydrocarbon pattern that most closely resembles a Motor oil product used by the laboratory for quantitative purposes: MW-3 (490-169982-1) and (490-169982-B-1-A DU).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
F1	MS and/or MSD Recovery is outside acceptance limits.
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
E	Result exceeded calibration range.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client: Stantec Consulting Corp.
Project/Site: 1Q19 GWM 25821

TestAmerica Job ID: 490-169982-1
SDG: 25821 Richland

Client Sample ID: MW-3
Date Collected: 03/12/19 09:12
Date Received: 03/13/19 10:25

Lab Sample ID: 490-169982-1
Matrix: Water

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	1650		101	28.4	ug/L		03/22/19 13:54	03/23/19 11:46	1
Motor Oil Range Organics (C24-C40)	774		101	50.7	ug/L		03/22/19 13:54	03/23/19 11:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*68*		*50 - 150*	*03/22/19 13:54*	*03/23/19 11:46*	*1*

Client Sample Results

Client: Stantec Consulting Corp.
Project/Site: 1Q19 GWM 25821

TestAmerica Job ID: 490-169982-1
SDG: 25821 Richland

Client Sample ID: MW-6
Date Collected: 03/12/19 08:15
Date Received: 03/13/19 10:25

Lab Sample ID: 490-169982-2
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	0.587	B F1	0.100	0.0500	mg/L			03/13/19 20:32	1
Sulfate	902		50.0	30.0	mg/L			03/20/19 13:01	50

Client Sample Results

Client: Stantec Consulting Corp.
Project/Site: 1Q19 GWM 25821

TestAmerica Job ID: 490-169982-1
SDG: 25821 Richland

Client Sample ID: MW-7
Date Collected: 03/12/19 07:43
Date Received: 03/13/19 10:25

Lab Sample ID: 490-169982-3
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	0.914	B	0.100	0.0500	mg/L			03/13/19 21:17	1
Sulfate	115		10.0	6.00	mg/L			03/13/19 21:32	10

Client Sample Results

Client: Stantec Consulting Corp.
Project/Site: 1Q19 GWM 25821

TestAmerica Job ID: 490-169982-1
SDG: 25821 Richland

Client Sample ID: MW-8
Date Collected: 03/12/19 08:45
Date Received: 03/13/19 10:25

Lab Sample ID: 490-169982-4
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	5.14	B	1.00	0.500	mg/L			03/13/19 22:01	10
Sulfate	37.7		1.00	0.600	mg/L			03/13/19 21:47	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Lab Sample ID: MB 490-582810/1-A
Matrix: Water
Analysis Batch: 582896

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 582810

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		100	28.0	ug/L		03/22/19 13:54	03/23/19 11:12	1
Motor Oil Range Organics (C24-C40)	ND		100	50.0	ug/L		03/22/19 13:54	03/23/19 11:12	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*113*		*50 - 150*	*03/22/19 13:54*	*03/23/19 11:12*	*1*

Lab Sample ID: LCS 490-582810/2-A
Matrix: Water
Analysis Batch: 582896

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 582810

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
#2 Diesel (C10-C24)	1000	942.5		ug/L		94	51 - 132

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
o-Terphenyl	*102*		*50 - 150*

Lab Sample ID: 490-169982-1 DU
Matrix: Water
Analysis Batch: 582896

Client Sample ID: MW-3
Prep Type: Total/NA
Prep Batch: 582810

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
#2 Diesel (C10-C24)	1650		1563		ug/L		4	41
Motor Oil Range Organics (C24-C40)	774		716.3		ug/L		8	41

Surrogate	*DU %Recovery*	*DU Qualifier*	*Limits*
o-Terphenyl	*103*		*50 - 150*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 490-581094/3
Matrix: Water
Analysis Batch: 581094

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		1.00	0.600	mg/L			03/13/19 19:48	1

Lab Sample ID: LCS 490-581094/4
Matrix: Water
Analysis Batch: 581094

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	10.0	9.334		mg/L		93	90 - 110

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 490-581094/5
Matrix: Water
Analysis Batch: 581094

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate			10.0	9.392		mg/L		94	90 - 110	1	20

Lab Sample ID: 490-169982-2 MS
Matrix: Water
Analysis Batch: 581094

Client Sample ID: MW-6
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	846	E	10.0	849.5	E 4	mg/L		30	80 - 120

Lab Sample ID: MB 490-581095/3
Matrix: Water
Analysis Batch: 581095

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	0.05416	J	0.100	0.0500	mg/L			03/13/19 19:48	1

Lab Sample ID: LCS 490-581095/4
Matrix: Water
Analysis Batch: 581095

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N			1.00	0.9888		mg/L		99	90 - 110

Lab Sample ID: LCSD 490-581095/5
Matrix: Water
Analysis Batch: 581095

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate as N			1.00	0.9780		mg/L		98	90 - 110	1	20

Lab Sample ID: 490-169982-2 MS
Matrix: Water
Analysis Batch: 581095

Client Sample ID: MW-6
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N	0.587	B F1	1.00	1.844	F1	mg/L		126	80 - 120

Lab Sample ID: MB 490-581932/3
Matrix: Water
Analysis Batch: 581932

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		1.00	0.600	mg/L			03/19/19 23:57	1

Lab Sample ID: MB 490-581932/36
Matrix: Water
Analysis Batch: 581932

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		1.00	0.600	mg/L			03/20/19 09:38	1

QC Sample Results

Client: Stantec Consulting Corp.
Project/Site: 1Q19 GWM 25821

TestAmerica Job ID: 490-169982-1
SDG: 25821 Richland

Lab Sample ID: LCS 490-581932/37
Matrix: Water
Analysis Batch: 581932

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	10.0	9.772		mg/L		98	90 - 110

Lab Sample ID: LCS 490-581932/4
Matrix: Water
Analysis Batch: 581932

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	10.0	9.741		mg/L		97	90 - 110

Lab Sample ID: LCSD 490-581932/38
Matrix: Water
Analysis Batch: 581932

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	10.0	9.770		mg/L		98	90 - 110	0	20

Lab Sample ID: LCSD 490-581932/5
Matrix: Water
Analysis Batch: 581932

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	10.0	9.709		mg/L		97	90 - 110	0	20

GC Semi VOA

Prep Batch: 582810

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-169982-1	MW-3	Total/NA	Water	3510C	
MB 490-582810/1-A	Method Blank	Total/NA	Water	3510C	
LCS 490-582810/2-A	Lab Control Sample	Total/NA	Water	3510C	
490-169982-1 DU	MW-3	Total/NA	Water	3510C	

Analysis Batch: 582896

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-169982-1	MW-3	Total/NA	Water	NWTPH-Dx	582810
MB 490-582810/1-A	Method Blank	Total/NA	Water	NWTPH-Dx	582810
LCS 490-582810/2-A	Lab Control Sample	Total/NA	Water	NWTPH-Dx	582810
490-169982-1 DU	MW-3	Total/NA	Water	NWTPH-Dx	582810

HPLC/IC

Analysis Batch: 581094

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-169982-3	MW-7	Total/NA	Water	300.0	
490-169982-4	MW-8	Total/NA	Water	300.0	
MB 490-581094/3	Method Blank	Total/NA	Water	300.0	
LCS 490-581094/4	Lab Control Sample	Total/NA	Water	300.0	
LCSD 490-581094/5	Lab Control Sample Dup	Total/NA	Water	300.0	
490-169982-2 MS	MW-6	Total/NA	Water	300.0	

Analysis Batch: 581095

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-169982-2	MW-6	Total/NA	Water	300.0	
490-169982-3	MW-7	Total/NA	Water	300.0	
490-169982-4	MW-8	Total/NA	Water	300.0	
MB 490-581095/3	Method Blank	Total/NA	Water	300.0	
LCS 490-581095/4	Lab Control Sample	Total/NA	Water	300.0	
LCSD 490-581095/5	Lab Control Sample Dup	Total/NA	Water	300.0	
490-169982-2 MS	MW-6	Total/NA	Water	300.0	

Analysis Batch: 581932

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-169982-2	MW-6	Total/NA	Water	300.0	
MB 490-581932/3	Method Blank	Total/NA	Water	300.0	
MB 490-581932/36	Method Blank	Total/NA	Water	300.0	
LCS 490-581932/37	Lab Control Sample	Total/NA	Water	300.0	
LCS 490-581932/4	Lab Control Sample	Total/NA	Water	300.0	
LCSD 490-581932/38	Lab Control Sample Dup	Total/NA	Water	300.0	
LCSD 490-581932/5	Lab Control Sample Dup	Total/NA	Water	300.0	

Lab Chronicle

Client: Stantec Consulting Corp.
Project/Site: 1Q19 GWM 25821

TestAmerica Job ID: 490-169982-1
SDG: 25821 Richland

Client Sample ID: MW-3
Date Collected: 03/12/19 09:12
Date Received: 03/13/19 10:25

Lab Sample ID: 490-169982-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			986.2 mL	1 mL	582810	03/22/19 13:54	KWS	TAL NSH
Total/NA	Analysis	NWTPH-Dx		1			582896	03/23/19 11:46	GMH	TAL NSH

Client Sample ID: MW-6
Date Collected: 03/12/19 08:15
Date Received: 03/13/19 10:25

Lab Sample ID: 490-169982-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			581095	03/13/19 20:32	SW1	TAL NSH
Total/NA	Analysis	300.0		50			581932	03/20/19 13:01	JHS	TAL NSH

Client Sample ID: MW-7
Date Collected: 03/12/19 07:43
Date Received: 03/13/19 10:25

Lab Sample ID: 490-169982-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			581095	03/13/19 21:17	SW1	TAL NSH
Total/NA	Analysis	300.0		10			581094	03/13/19 21:32	SW1	TAL NSH

Client Sample ID: MW-8
Date Collected: 03/12/19 08:45
Date Received: 03/13/19 10:25

Lab Sample ID: 490-169982-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			581094	03/13/19 21:47	SW1	TAL NSH
Total/NA	Analysis	300.0		10			581095	03/13/19 22:01	SW1	TAL NSH

Laboratory References:

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

Method Summary

Client: Stantec Consulting Corp.
Project/Site: 1Q19 GWM 25821

TestAmerica Job ID: 490-169982-1
SDG: 25821 Richland

Method	Method Description	Protocol	Laboratory
NWTPH-Dx	Northwest - Semi-Volatile Petroleum Products (GC)	NWTPH	TAL NSH
300.0	Anions, Ion Chromatography	MCAWW	TAL NSH
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	TAL NSH

Protocol References:

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
NWTPH = Northwest Total Petroleum Hydrocarbon
SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

Accreditation/Certification Summary

Client: Stantec Consulting Corp.
Project/Site: 1Q19 GWM 25821

TestAmerica Job ID: 490-169982-1
SDG: 25821 Richland

Laboratory: TestAmerica Nashville

The accreditations/certifications listed below are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Washington	State Program	10	C789	07-19-19

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
Nashville, TN

COOLER RECEIPT FORM

490-169982 Chain of Custody

Cooler Received/Opened On 03-13-2019 @ 10:25

Time Samples Removed From Cooler 1200 Time Samples Placed In Storage 1224 (2 Hour Window)

1. Tracking # 9498 (last 4 digits, FedEx) Courier: FedEx

IR Gun ID 31470368 pH Strip Lot _____ Chlorine Strip Lot _____

2. Temperature of rep. sample or temp blank when opened: 3.1 *Degrees Celsius*

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO NA

4. Were custody seals on outside of cooler? YES...NO...NA

If yes, how many and where: 1 (front)

5. Were the seals intact, signed, and dated correctly? YES...NO...NA

6. Were custody papers inside cooler? YES...NO...NA

I certify that I opened the cooler and answered questions 1-6 (intial) KA

7. Were custody seals on containers: YES NO and Intact YES...NO...NA

Were these signed and dated correctly? YES...NO...NA

8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Other None

10. Did all containers arrive in good condition (unbroken)? YES...NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? YES...NO...NA

12. Did all container labels and tags agree with custody papers? YES...NO...NA

13a. Were VOA vials received? YES...NO...NA TR 3/13/19

b. Was there any observable headspace present in any VOA vial? YES...NO...NA

Larger than this.

14. Was there a Trip Blank in this cooler? YES...NO...NA If multiple coolers, sequence # _____

I certify that I unloaded the cooler and answered questions 7-14 (intial) TR

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES...NO...NA

b. Did the bottle labels indicate that the correct preservatives were used YES...NO...NA

16. Was residual chlorine present? YES...NO...NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (intial) TR

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

18. Did you sign the custody papers in the appropriate place? YES...NO...NA

19. Were correct containers used for the analysis requested? YES...NO...NA

20. Was sufficient amount of sample sent in each container? YES...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (intial) TR

I certify that I attached a label with the unique LIMS number to each container (intial) TR

21. Were there Non-Conformance issues at login? YES...NO Was a NCM generated? YES...NO...#_____

BIS = Broken in shipment
Cooler Receipt Form.doc

LF-1
End of Form

Revised 8/23/17

TestAmerica Nashville
Nashville, TN 37204
Phone (615) 726-0177 Fax (615) 726-3404

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: Brian Schoenneman	Lab PM: Leah Klingensmith	Carrier Tracking No(s):	COC No:
Client Contact: Paul Fairbairn	Phone: 916-213-3205	E-Mail: Leah.Klingensmith@testamericainc.com		Page: Page 1 of 1
Company: Stantec Consulting Corp.				Job #: Store No. 25821
Address: 11130 NE 33rd Place Suite 200	Due Date Requested:			
City: Bellevue	TAT Requested (days): Standard			
State, Zip: WA, 98004-1465				
Phone: 425-298-1000(Tel)	PO #: Purchase Order Requested			
Email: paul.fairbairn@stantec.com	WO #: 794963			
Project Name: 1Q19 GWM 25821	Project #: 185703911			
Site: 25821 Richland	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2SO3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify), Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	NWTPH-Dx	Nitrates and Sulfates (300.1)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
MW-3	3/12/19	0912	G	W			X			
MW-6	3/12/19	0925	G	W				X		
MW-7	3/12/19	0743	G	W				X		
MW-8	3/12/19	0845	G	W				X		
			G	W						
			G	W						
			G	W						
			G	W						
			G	W						
			G	W						
			G	W						

Loc: 490
159982

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by: | Date: | Time: | Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
[signature]	3/12/19 1030	Stantec			
			[signature]	3/13/19 1025	TA-NAS

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: 3.1

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3/25/2019

eurofins | Environment Testing TestAmerica

ANALYTICAL REPORT

Eurofins TestAmerica, Nashville
2960 Foster Creighton Drive
Nashville, TN 37204
Tel: (615)726-0177

Laboratory Job ID: 490-176234-1
Client Project/Site: 2Q19 GWM 25821(WA)

For:
Stantec Consulting Corp.
11130 NE 33rd Place
Suite 200
Bellevue, Washington 98004-1465

Attn: Paul Fairbairn

Authorized for release by:
7/19/2019 3:59:16 PM

Jimmy Huckaba, Project Manager I
(615)301-5746
jimmy.huckaba@testamericainc.com

Table of Contents

Sample Summary

Client: Stantec Consulting Corp.
Project/Site: 2Q19 GWM 25821(WA)

Job ID: 490-176234-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
490-176234-1	MW-3	Water	06/21/19 07:59	06/22/19 09:15	
490-176234-2	MW-6	Water	06/21/19 09:24	06/22/19 09:15	
490-176234-3	MW-7	Water	06/21/19 09:55	06/22/19 09:15	
490-176234-4	MW-8	Water	06/21/19 08:52	06/22/19 09:15	

Job ID: 490-176234-1

Laboratory: Eurofins TestAmerica, Nashville

Narrative

Job Narrative
490-176234-1

Comments
No additional comments.

Receipt
The samples were received on 6/22/2019 9:15 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 5.9º C.

HPLC/IC
Method(s) 300.0: The following samples required reanalysis or dilution due to the nature of the sample matrix: MW-6 (490-176234-2), MW-7 (490-176234-3) and MW-8 (490-176234-4). Elevated reporting limits (RLs) are provided.

Method(s) 300.0: Reanalysis of the following sample(s) was performed outside of the analytical holding time due to the sample matrix. These samples were reanalyzed at dilutions to confirm the results for Nitrate as N : MW-6 (490-176234-2), MW-7 (490-176234-3) and MW-8 (490-176234-4). Both sets of data are presented.

Method(s) 300.0: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 490-603128 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Definitions/Glossary

Client: Stantec Consulting Corp.
Project/Site: 2Q19 GWM 25821(WA)

Job ID: 490-176234-1

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
E	Result exceeded calibration range.
F1	MS and/or MSD Recovery is outside acceptance limits.
H	Sample was prepped or analyzed beyond the specified holding time

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client: Stantec Consulting Corp.
Project/Site: 2Q19 GWM 25821(WA)

Job ID: 490-176234-1

Client Sample ID: MW-3
Date Collected: 06/21/19 07:59
Date Received: 06/22/19 09:15

Lab Sample ID: 490-176234-1
Matrix: Water

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (C10-C24)	ND		100		ug/L		06/25/19 12:15	06/26/19 22:19	1
ORO C24-C40	ND		100		ug/L		06/25/19 12:15	06/26/19 22:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*80*		*50 - 150*	*06/25/19 12:15*	*06/26/19 22:19*	*1*

Client Sample Results

Client: Stantec Consulting Corp.
Project/Site: 2Q19 GWM 25821(WA)

Job ID: 490-176234-1

Client Sample ID: MW-6
Date Collected: 06/21/19 09:24
Date Received: 06/22/19 09:15

Lab Sample ID: 490-176234-2
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	0.924	H	0.100		mg/L			06/25/19 12:46	1
Sulfate	341		10.0		mg/L			06/25/19 15:43	10

Client Sample Results

Client: Stantec Consulting Corp.
Project/Site: 2Q19 GWM 25821(WA)

Job ID: 490-176234-1

Client Sample ID: MW-7
Date Collected: 06/21/19 09:55
Date Received: 06/22/19 09:15

Lab Sample ID: 490-176234-3
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	1.35	H	0.100		mg/L			06/25/19 13:34	1
Sulfate	145		5.00		mg/L			06/25/19 13:50	5

Client Sample Results

Client: Stantec Consulting Corp.
Project/Site: 2Q19 GWM 25821(WA)

Job ID: 490-176234-1

Client Sample ID: MW-8
Date Collected: 06/21/19 08:52
Date Received: 06/22/19 09:15

Lab Sample ID: 490-176234-4
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	4.19	H	0.500		mg/L			06/25/19 14:22	5
Sulfate	44.1		5.00		mg/L			06/25/19 14:22	5

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Lab Sample ID: MB 490-603555/1-A
Matrix: Water
Analysis Batch: 603763

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 603555

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (C10-C24)	ND		100		ug/L		06/25/19 12:15	06/26/19 22:01	1
ORO C24-C40	ND		100		ug/L		06/25/19 12:15	06/26/19 22:01	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*83*		*50 - 150*	*06/25/19 12:15*	*06/26/19 22:01*	*1*

Lab Sample ID: LCS 490-603555/2-A
Matrix: Water
Analysis Batch: 603763

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 603555

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Diesel Range Organics (C10-C24)			1000	1084		ug/L		108	51 - 132		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
o-Terphenyl	*97*		*50 - 150*

Lab Sample ID: LCSD 490-603555/3-A
Matrix: Water
Analysis Batch: 603763

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 603555

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Diesel Range Organics (C10-C24)			1000	965.3		ug/L		97	51 - 132	12	41

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
o-Terphenyl	*87*		*50 - 150*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 490-603128/3
Matrix: Water
Analysis Batch: 603128

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	ND		0.100		mg/L			06/22/19 11:26	1

Lab Sample ID: LCS 490-603128/4
Matrix: Water
Analysis Batch: 603128

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Nitrate as N			1.00	0.9831		mg/L		98	90 - 110		

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 490-176234-2 MS
Matrix: Water
Analysis Batch: 603128

Client Sample ID: MW-6
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Nitrate as N	ND	F1	1.00	2.345	F1	mg/L		235	80 - 120		

Lab Sample ID: 490-176234-2 MSD
Matrix: Water
Analysis Batch: 603128

Client Sample ID: MW-6
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate as N	ND	F1	1.00	1.919	F1	mg/L		192	80 - 120	20	20

Lab Sample ID: MB 490-603412/3
Matrix: Water
Analysis Batch: 603412

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		1.00		mg/L			06/25/19 10:53	1

Lab Sample ID: LCS 490-603412/4
Matrix: Water
Analysis Batch: 603412

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate			10.0	9.736		mg/L		97	90 - 110		

Lab Sample ID: LCSD 490-603412/5
Matrix: Water
Analysis Batch: 603412

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate			10.0	9.761		mg/L		97	90 - 110	0	20

Lab Sample ID: 490-176234-2 MS
Matrix: Water
Analysis Batch: 603412

Client Sample ID: MW-6
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate	436	E	10.0	445.1	E 4	mg/L		91	80 - 120		

Lab Sample ID: 490-176234-2 MS
Matrix: Water
Analysis Batch: 603413

Client Sample ID: MW-6
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Nitrate as N	0.924	H	1.00	1.926		mg/L		100	80 - 120		

GC Semi VOA

Prep Batch: 603555

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-176234-1	MW-3	Total/NA	Water	3510C	
MB 490-603555/1-A	Method Blank	Total/NA	Water	3510C	
LCS 490-603555/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 490-603555/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	

Analysis Batch: 603763

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-176234-1	MW-3	Total/NA	Water	NWTPH-Dx	603555
MB 490-603555/1-A	Method Blank	Total/NA	Water	NWTPH-Dx	603555
LCS 490-603555/2-A	Lab Control Sample	Total/NA	Water	NWTPH-Dx	603555
LCSD 490-603555/3-A	Lab Control Sample Dup	Total/NA	Water	NWTPH-Dx	603555

HPLC/IC

Analysis Batch: 603128

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-176234-2	MW-6	Total/NA	Water	300.0	
490-176234-3	MW-7	Total/NA	Water	300.0	
490-176234-4	MW-8	Total/NA	Water	300.0	
MB 490-603128/3	Method Blank	Total/NA	Water	300.0	
LCS 490-603128/4	Lab Control Sample	Total/NA	Water	300.0	
490-176234-2 MS	MW-6	Total/NA	Water	300.0	
490-176234-2 MSD	MW-6	Total/NA	Water	300.0	

Analysis Batch: 603412

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-176234-2	MW-6	Total/NA	Water	300.0	
490-176234-3	MW-7	Total/NA	Water	300.0	
490-176234-4	MW-8	Total/NA	Water	300.0	
MB 490-603412/3	Method Blank	Total/NA	Water	300.0	
LCS 490-603412/4	Lab Control Sample	Total/NA	Water	300.0	
LCSD 490-603412/5	Lab Control Sample Dup	Total/NA	Water	300.0	
490-176234-2 MS	MW-6	Total/NA	Water	300.0	

Analysis Batch: 603413

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-176234-2	MW-6	Total/NA	Water	300.0	
490-176234-3	MW-7	Total/NA	Water	300.0	
490-176234-4	MW-8	Total/NA	Water	300.0	
490-176234-2 MS	MW-6	Total/NA	Water	300.0	

Analysis Batch: 603413

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 490-603413/3	Method Blank	Total/NA		9056A_ORGFM_48H	
LCS 490-603413/4	Lab Control Sample	Total/NA		9056A_ORGFM_48H	
LCSD 490-603413/5	Lab Control Sample Dup	Total/NA		9056A_ORGFM_48H	
490-176234-2 MS	MW-6	Total/NA	Water	9056A_ORGFM_48H	

Lab Chronicle

Client: Stantec Consulting Corp.
Project/Site: 2Q19 GWM 25821(WA)

Job ID: 490-176234-1

Client Sample ID: MW-3

Lab Sample ID: 490-176234-1

Date Collected: 06/21/19 07:59

Matrix: Water

Date Received: 06/22/19 09:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			995.2 mL	1 mL	603555	06/25/19 12:15	MCO	TAL NSH
Total/NA	Analysis	NWTPH-Dx		1			603763	06/26/19 22:19	LOJ	TAL NSH

Client Sample ID: MW-6

Lab Sample ID: 490-176234-2

Date Collected: 06/21/19 09:24

Matrix: Water

Date Received: 06/22/19 09:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			603128	06/22/19 17:46	SW1	TAL NSH
Total/NA	Analysis	300.0		1			603413	06/25/19 12:46	SW1	TAL NSH
Total/NA	Analysis	300.0		10			603412	06/25/19 15:43	SW1	TAL NSH

Client Sample ID: MW-7

Lab Sample ID: 490-176234-3

Date Collected: 06/21/19 09:55

Matrix: Water

Date Received: 06/22/19 09:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			603128	06/22/19 18:34	SW1	TAL NSH
Total/NA	Analysis	300.0		1			603413	06/25/19 13:34	SW1	TAL NSH
Total/NA	Analysis	300.0		5			603412	06/25/19 13:50	SW1	TAL NSH

Client Sample ID: MW-8

Lab Sample ID: 490-176234-4

Date Collected: 06/21/19 08:52

Matrix: Water

Date Received: 06/22/19 09:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			603128	06/22/19 18:51	SW1	TAL NSH
Total/NA	Analysis	300.0		5			603412	06/25/19 14:22	SW1	TAL NSH
Total/NA	Analysis	300.0		5			603413	06/25/19 14:22	SW1	TAL NSH

Laboratory References:

TAL NSH = Eurofins TestAmerica, Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

Method Summary

Client: Stantec Consulting Corp.
Project/Site: 2Q19 GWM 25821(WA)

Job ID: 490-176234-1

Method	Method Description	Protocol	Laboratory
NWTPH-Dx	Northwest - Semi-Volatile Petroleum Products (GC)	NWTPH	TAL NSH
300.0	Anions, Ion Chromatography	MCAWW	TAL NSH
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	TAL NSH

Protocol References:

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
NWTPH = Northwest Total Petroleum Hydrocarbon
SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL NSH = Eurofins TestAmerica, Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

Accreditation/Certification Summary

Client: Stantec Consulting Corp.
Job ID: 490-176234-1
Project/Site: 2Q19 GWM 25821(WA)

Laboratory: Eurofins TestAmerica, Nashville

The accreditations/certifications listed below are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Washington	State Program	10	C789	07-19-19 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
Nashville, TN

COOLER RECEIPT FORM

490-176234 Chain of Custody

Cooler Received/Opened On 06-22-2019 @ 09:15

Time Samples Removed From Cooler _____ Time Samples Placed In Storage _____ (2 Hour Window)

1. Tracking # 1208 (last 4 digits, FedEx) Courier: FedEx

IR Gun ID 14740456 pH Strip Lot N/A Chlorine Strip Lot 0722318K

2. Temperature of rep. sample or temp blank when opened: 5.9 Degrees Celsius

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO NA

4. Were custody seals on outside of cooler? YES NO NA

If yes, how many and where: 1 (front)

5. Were the seals intact, signed, and dated correctly? YES NO NA

6. Were custody papers inside cooler? YES NO NA

I certify that I opened the cooler and answered questions 1-6 (intial) KH

7. Were custody seals on containers: YES NO and Intact YES NO NA

Were these signed and dated correctly? YES NO NA

8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Other None

10. Did all containers arrive in good condition (unbroken)? YES NO NA

11. Were all container labels complete (#, date, signed, pres., etc)? YES NO NA

12. Did all container labels and tags agree with custody papers? YES NO NA

13a. Were VOA vials received? YES NO NA

b. Was there any observable headspace present in any VOA vial? YES NO NA

● ⬅ Larger than this.

14. Was there a Trip Blank in this cooler? YES NO NA If multiple coolers, sequence # _____

I certify that I unloaded the cooler and answered questions 7-14 (intial) KH

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES NO NA

b. Did the bottle labels indicate that the correct preservatives were used YES NO NA

16. Was residual chlorine present? YES NO NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (intial) KH

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

18. Did you sign the custody papers in the appropriate place? YES NO NA

19. Were correct containers used for the analysis requested? YES NO NA

20. Was sufficient amount of sample sent in each container? YES NO NA

I certify that I entered this project into LIMS and answered questions 17-20 (intial) KH

I certify that I attached a label with the unique LIMS number to each container (intial) KH

21. Were there Non-Conformance issues at login? YES NO Was a NCM generated? YES NO #_____

BIS = Broken in shipment
Cooler Receipt Form.doc

LF-1
End of Form

Revised 8/23/17

TestAmerica Nashville

Nashville, TN 37204
Phone (615) 726-0177 Fax (615) 726-3404

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: Brian Schoenneman	Lab PM: Leah Klingensmith	Carrier Tracking No(s):	COC No:
Client Contact: Paul Fairbairn	Phone: 916-213-3205	E-Mail: Leah.Klingensmith@testamericainc.com		Page: Page 1 of 1
Company: Stantec Consulting Corp.				Job #: Store No. 25821
Address: 11130 NE 33rd Place Suite 200	Due Date Requested:			
City: Bellevue	TAT Requested (days): Standard			
State, Zip: WA, 98004-1465				
Phone: 425-298-1000(Tel)	PO #: Purchase Order Requested			
Email: paul.fairbairn@stantec.com	WO #: 794963			
Project Name: 2Q19 GWM 25821	Project #: 185703911			
Site: 25821 Richland	SSOW#:			

Analysis Requested

Loc: 490
176234

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)
Other:	

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	NWTPH-Dx	Nitrates and Sulfates (300.1)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
MW-3	6/21/19	0759	G	W			X			
MW-6	6/21/19	0824	G	W				X		
MW-7	6/21/19	0955	G	W				X		
MW-8	6/21/19	0852	G	W				X		

1 2 3 4

Possible Hazard Identification

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	Brian Schoenneman	6/21/19 1030	Stantec		06-22-2019 09:15	TAN AS
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: △ Yes △ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks: 5.9

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7/19/2019

eurofins | Environment Testing TestAmerica

ANALYTICAL REPORT

Eurofins TestAmerica, Spokane
11922 East 1st Ave
Spokane, WA 99206
Tel: (509)924-9200

Laboratory Job ID: 590-11981-1
Laboratory Sample Delivery Group: Richland
Client Project/Site: 3Q19 GWM 25821

For:
Stantec Consulting Corp.
11130 NE 33rd Place
Suite 200
Bellevue, Washington 98004-1465

Attn: Paul Fairbairn

Authorized for release by:
10/16/2019 6:35:52 PM

Andy Johnson, Manager of Project Management
(615)301-5045
andy.johnson@testamericainc.com

Table of Contents

Sample Summary

Client: Stantec Consulting Corp.
Project/Site: 3Q19 GWM 25821

Job ID: 590-11981-1
SDG: Richland

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
590-11981-1	MW-3	Water	09/30/19 17:31	10/02/19 11:26	

Case Narrative

Client: Stantec Consulting Corp.
Project/Site: 3Q19 GWM 25821

Job ID: 590-11981-1
SDG: Richland

Job ID: 590-11981-1

Laboratory: Eurofins TestAmerica, Spokane

Narrative

Job Narrative
590-11981-1

Comments
No additional comments.

Receipt
The sample was received on 10/2/2019 11:26 AM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.9º C.

GC Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Definitions/Glossary

Client: Stantec Consulting Corp.
Project/Site: 3Q19 GWM 25821

Job ID: 590-11981-1
SDG: Richland

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client: Stantec Consulting Corp.
Project/Site: 3Q19 GWM 25821

Job ID: 590-11981-1
SDG: Richland

Client Sample ID: MW-3
Date Collected: 09/30/19 17:31
Date Received: 10/02/19 11:26

Lab Sample ID: 590-11981-1
Matrix: Water

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	ND		241	110	ug/L		10/11/19 11:52	10/11/19 13:54	1
Oil Range Organics (C25-C36)	ND		0.402	0.120	mg/L		10/11/19 11:52	10/11/19 13:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*79*		*50 - 150*	*10/11/19 11:52*	*10/11/19 13:54*	*1*
n-Triacontane-d62	*90*		*50 - 150*	*10/11/19 11:52*	*10/11/19 13:54*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Lab Sample ID: MB 590-24649/1-A
Matrix: Water
Analysis Batch: 24646

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 24649

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	ND		240	110	ug/L		10/11/19 11:52	10/11/19 12:48	1
Oil Range Organics (C25-C36)	ND		0.400	0.120	mg/L		10/11/19 11:52	10/11/19 12:48	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*80*		*50 - 150*	*10/11/19 11:52*	*10/11/19 12:48*	*1*
n-Triacontane-d62	*95*		*50 - 150*	*10/11/19 11:52*	*10/11/19 12:48*	*1*

Lab Sample ID: LCS 590-24649/2-A
Matrix: Water
Analysis Batch: 24646

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 24649

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Diesel Range Organics (DRO) (C10-C25)			1600	1306		ug/L		82	50 - 150		
Oil Range Organics (C25-C36)			1.60	1.623		mg/L		101	50 - 150		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
o-Terphenyl	*88*		*50 - 150*
n-Triacontane-d62	*99*		*50 - 150*

Lab Sample ID: LCSD 590-24649/3-A
Matrix: Water
Analysis Batch: 24646

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 24649

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Diesel Range Organics (DRO) (C10-C25)			1600	1295		ug/L		81	50 - 150	1	25
Oil Range Organics (C25-C36)			1.60	1.577		mg/L		99	50 - 150	3	25

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
o-Terphenyl	*86*		*50 - 150*
n-Triacontane-d62	*99*		*50 - 150*

QC Association Summary

Client: Stantec Consulting Corp.
Project/Site: 3Q19 GWM 25821

Job ID: 590-11981-1
SDG: Richland

GC Semi VOA

Analysis Batch: 24646

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-11981-1	MW-3	Total/NA	Water	NWTPH-Dx	24649
MB 590-24649/1-A	Method Blank	Total/NA	Water	NWTPH-Dx	24649
LCS 590-24649/2-A	Lab Control Sample	Total/NA	Water	NWTPH-Dx	24649
LCSD 590-24649/3-A	Lab Control Sample Dup	Total/NA	Water	NWTPH-Dx	24649

Prep Batch: 24649

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-11981-1	MW-3	Total/NA	Water	3510C	
MB 590-24649/1-A	Method Blank	Total/NA	Water	3510C	
LCS 590-24649/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 590-24649/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	

Lab Chronicle

Client: Stantec Consulting Corp.
Project/Site: 3Q19 GWM 25821

Job ID: 590-11981-1
SDG: Richland

Client Sample ID: MW-3
Date Collected: 09/30/19 17:31
Date Received: 10/02/19 11:26

Lab Sample ID: 590-11981-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			249 mL	2 mL	24649	10/11/19 11:52	AMB	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			24646	10/11/19 13:54	NMI	TAL SPK

Laboratory References:

TAL SPK = Eurofins TestAmerica, Spokane, 11922 East 1st Ave, Spokane, WA 99206, TEL (509)924-9200

Method Summary

Client: Stantec Consulting Corp.
Project/Site: 3Q19 GWM 25821

Job ID: 590-11981-1
SDG: Richland

Method	Method Description	Protocol	Laboratory
NWTPH-Dx	Northwest - Semi-Volatile Petroleum Products (GC)	NWTPH	TAL SPK
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	TAL SPK

Protocol References:

NWTPH = Northwest Total Petroleum Hydrocarbon

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL SPK = Eurofins TestAmerica, Spokane, 11922 East 1st Ave, Spokane, WA 99206, TEL (509)924-9200

Accreditation/Certification Summary

Client: Stantec Consulting Corp.
Project/Site: 3Q19 GWM 25821

Job ID: 590-11981-1
SDG: Richland

Laboratory: Eurofins TestAmerica, Spokane

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	17-025	12-07-19
Oregon	NELAP	4137	12-07-19
Washington	State	C569	01-06-20

Laboratory: Eurofins TestAmerica, Nashville

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Washington	State Program	C789	07-19-20

TestAmerica Nashville
Nashville, TN 37204
Phone (615) 726-0177 Fax (615) 726-3404

Chain of Custody Record

TestAmerica

Client Information	Sampler: Brian Schoenneman	Lab PM: Leah Klingensmith	Carrier Tracking No(s):	COC No:
Client Contact: Paul Fairbairn	Phone: 916-213-3205	E-Mail: Leah.Klingensmith@testamericainc.com		Page: Page 1 of 1
Company: Stantec Consulting Corp.				Job #: Store No. 25821
Address: 11130 NE 33rd Place Suite 200	Due Date Requested:			
City: Bellevue	TAT Requested (days): Standard			
State, Zip: WA, 98004-1465				
Phone: 425-298-1000(Tel)	PO #: Purchase Order Requested			
Email: paul.fairbairn@stantec.com	WO #: 794963			
Project Name: 3Q19 GWM 25821	Project #: 18570311			
Site: 25821 Richland	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2SO3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	NWTPH-Dx	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-3	9/30/19	1731	G	W			X		

590-11981 Chain of Custody

Possible Hazard Identification
Non-Hazard, Flammable, Skin Irritant, Poison B, Unknown, Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Return To Client, Disposal By Lab, Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Brian Schoenneman	10/1/19 1500	Stantec	Maria Goode	10/2/19 11:26	VASPO
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks: 1.4°C IR0 2.9°C

Login Sample Receipt Checklist

Client: Stantec Consulting Corp.

Job Number: 590-11981-1
SDG Number: Richland

Login Number: 11981
List Number: 1
Creator: O'Toole, Maria C

List Source: Eurofins TestAmerica, Spokane

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	1083819
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	No analysis requiring residual chlorine check assigned.

eurofins | Environment Testing TestAmerica

ANALYTICAL REPORT

Eurofins TestAmerica, Spokane
11922 East 1st Ave
Spokane, WA 99206
Tel: (509)924-9200

Laboratory Job ID: 590-12327-1
Laboratory Sample Delivery Group: 25821 Richland
Client Project/Site: 4Q19 GWM 25821
Revision: 1

For:
Stantec Consulting Corp.
11130 NE 33rd Place
Suite 200
Bellevue, Washington 98004-1465

Attn: Paul Fairbairn

Authorized for release by:
1/8/2020 5:48:44 PM

Andy Johnson, Manager of Project Management
(615)301-5045
andy.johnson@testamericainc.com

Table of Contents

Sample Summary

Client: Stantec Consulting Corp.
Project/Site: 4Q19 GWM 25821

Job ID: 590-12327-1
SDG: 25821 Richland

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
590-12327-1	MW-3	Water	11/21/19 08:44	11/22/19 12:12	

Job ID: 590-12327-1

Laboratory: Eurofins TestAmerica, Spokane

Narrative

Job Narrative
590-12327-1

Revised Report
Results are being reported to the RL per client request. This report replaces the report generated on 12/04/19 at 19:00.

Comments
No additional comments.

Receipt
The sample was received on 11/22/2019 12:12 PM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.6º C.

GC Semi VOA
Method NWTPH-Dx: The method blank for preparation batch 590-25466 and analytical batch 590-25474 contained Oil Range Organics (C25-C36) above the method detection limit. This target analyte concentration was less than half the reporting limit (1/2RL); therefore, re-extraction and re-analysis of samples was not performed.

Method NWTPH-Dx: Detected hydrocarbons appear to be due to biogenic interference. MW-3 (590-12327-1)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Definitions/Glossary

Client: Stantec Consulting Corp.
Project/Site: 4Q19 GWM 25821

Job ID: 590-12327-1
SDG: 25821 Richland

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client Sample Results

Client: Stantec Consulting Corp.
Project/Site: 4Q19 GWM 25821

Job ID: 590-12327-1
SDG: 25821 Richland

Client Sample ID: MW-3
Date Collected: 11/21/19 08:44
Date Received: 11/22/19 12:12

Lab Sample ID: 590-12327-1
Matrix: Water

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	ND		239		ug/L		12/04/19 08:38	12/04/19 14:57	1
Oil Range Organics (C25-C36)	ND		399		ug/L		12/04/19 08:38	12/04/19 14:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*92*		*50 - 150*	*12/04/19 08:38*	*12/04/19 14:57*	*1*
n-Triacontane-d62	*98*		*50 - 150*	*12/04/19 08:38*	*12/04/19 14:57*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Lab Sample ID: MB 590-25466/1-A
Matrix: Water
Analysis Batch: 25474

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 25466

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	ND		240		ug/L		12/04/19 08:38	12/04/19 14:35	1
Oil Range Organics (C25-C36)	ND		400		ug/L		12/04/19 08:38	12/04/19 14:35	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*91*		*50 - 150*	*12/04/19 08:38*	*12/04/19 14:35*	*1*
n-Triacontane-d62	*96*		*50 - 150*	*12/04/19 08:38*	*12/04/19 14:35*	*1*

Lab Sample ID: LCS 590-25466/2-A
Matrix: Water
Analysis Batch: 25474

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 25466

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Diesel Range Organics (DRO) (C10-C25)			1600	1314		ug/L		82	50 - 150		
Oil Range Organics (C25-C36)			1600	1556		ug/L		97	50 - 150		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
o-Terphenyl	*87*		*50 - 150*
n-Triacontane-d62	*87*		*50 - 150*

Lab Sample ID: LCSD 590-25466/3-A
Matrix: Water
Analysis Batch: 25474

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 25466

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Diesel Range Organics (DRO) (C10-C25)			1600	1227		ug/L		77	50 - 150	7	25
Oil Range Organics (C25-C36)			1600	1564		ug/L		98	50 - 150	0	25

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
o-Terphenyl	*95*		*50 - 150*
n-Triacontane-d62	*105*		*50 - 150*

QC Association Summary

Client: Stantec Consulting Corp.
Project/Site: 4Q19 GWM 25821

Job ID: 590-12327-1
SDG: 25821 Richland

GC Semi VOA

Prep Batch: 25466

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-12327-1	MW-3	Total/NA	Water	3510C	
MB 590-25466/1-A	Method Blank	Total/NA	Water	3510C	
LCS 590-25466/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 590-25466/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	

Analysis Batch: 25474

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
590-12327-1	MW-3	Total/NA	Water	NWTPH-Dx	25466
MB 590-25466/1-A	Method Blank	Total/NA	Water	NWTPH-Dx	25466
LCS 590-25466/2-A	Lab Control Sample	Total/NA	Water	NWTPH-Dx	25466
LCSD 590-25466/3-A	Lab Control Sample Dup	Total/NA	Water	NWTPH-Dx	25466

Lab Chronicle

Client: Stantec Consulting Corp.
Project/Site: 4Q19 GWM 25821

Job ID: 590-12327-1
SDG: 25821 Richland

Client Sample ID: MW-3
Date Collected: 11/21/19 08:44
Date Received: 11/22/19 12:12

Lab Sample ID: 590-12327-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			250.8 mL	2 mL	25466	12/04/19 08:38	AMB	TAL SPK
Total/NA	Analysis	NWTPH-Dx		1			25474	12/04/19 14:57	NMI	TAL SPK

Laboratory References:

TAL SPK = Eurofins TestAmerica, Spokane, 11922 East 1st Ave, Spokane, WA 99206, TEL (509)924-9200

Method Summary

Client: Stantec Consulting Corp.
Project/Site: 4Q19 GWM 25821

Job ID: 590-12327-1
SDG: 25821 Richland

Method	Method Description	Protocol	Laboratory
NWTPH-Dx	Northwest - Semi-Volatile Petroleum Products (GC)	NWTPH	TAL SPK
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	TAL SPK

Protocol References:

NWTPH = Northwest Total Petroleum Hydrocarbon

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL SPK = Eurofins TestAmerica, Spokane, 11922 East 1st Ave, Spokane, WA 99206, TEL (509)924-9200

Accreditation/Certification Summary

Client: Stantec Consulting Corp.
Project/Site: 4Q19 GWM 25821

Job ID: 590-12327-1
SDG: 25821 Richland

Laboratory: Eurofins TestAmerica, Spokane

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	17-025	03-07-20
Oregon	NELAP	4137	12-07-19
Washington	State	C569	01-06-20

Laboratory: Eurofins TestAmerica, Nashville

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	ISO/IEC 17025	0453.07	12-31-19
Arizona	State Program	AZ0473	05-05-14 *
Georgia	State Program	NA: NELAP & A2LA	12-31-19

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

TestAmerica Nashville

Nashville, TN 37204
Phone (615) 726-0177 Fax (615) 726-3404

Chain of Custody Record

TestAmerica

Client Information	Sampler: Brian Schoenneman	Lab PM: Leah Klingensmith	Carrier Tracking No(s):	COC No:
Client Contact: Paul Fairbairn	Phone: 916-213-3205	E-Mail: Leah.Klingensmith@testamericainc.com		Page: Page 1 of 1
Company: Stantec Consulting Corp.				Job #: Store No. 25821
Address: 11130 NE 33rd Place Suite 200	Due Date Requested:			
City: Bellevue	TAT Requested (days): Standard			
State, Zip: WA, 98004-1465				
Phone: 425-298-1000(Tel)	PO #: Purchase Order Requested			
Email: paul.fairbairn@stantec.com	WO #: 794963			
Project Name: 4Q19 GWM 25821	Project #: 185703911			
Site: 25821 Richland	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - Di Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	NWTPH-Dx	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-3	11/21/19	0844	G	W			X		

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Non-Hazard Flammable Skin Irritant Poison B Unknown Radiological	Return To Client Disposal By Lab Archive For ____ Months
Deliverable Requested: I, II, III, IV, Other (specify)	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Brian Schoenneman	11/21/19 1500	Stantec	Mariawade	11/22/19 12:12	TASN
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 2.4-7 2.6°C

Login Sample Receipt Checklist

Client: Stantec Consulting Corp.

Job Number: 590-12327-1
SDG Number: 25821 Richland

Login Number: 12327
List Number: 1
Creator: O'Toole, Maria C

List Source: Eurofins TestAmerica, Spokane

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	1175499
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	No analysis requiring residual chlorine check assigned.

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ANALYTICAL REPORT

Eurofins TestAmerica, Seattle
5755 8th Street East
Tacoma, WA 98424
Tel: (253)922-2310

Laboratory Job ID: 580-93757-1
Client Project/Site: 1Q20 GWM 25821

For:
Stantec Consulting Corp.
11130 NE 33rd Place
Suite 200
Bellevue, Washington 98004-1465

Attn: Paul Fairbairn

Roxanne Cisneros

Authorized for release by:
4/13/2020 12:05:00 PM

Roxanne Cisneros, Senior Project Manager
(615)301-5761
roxanne.cisneros@testamericainc.com

Table of Contents

Job ID: 580-93757-1

Laboratory: Eurofins TestAmerica, Seattle

Narrative

Job Narrative
580-93757-1

Comments
No additional comments.

Receipt
The sample was received on 3/30/2020 3:45 PM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 10.4º C.

GC Semi VOA
Method NWTPH-Dx: (CCV 580-326484/14) and (CCVRT 580-326484/3) recovers outside drift criteria for o-Terphenyl surrogate; all associated QC and client samples recover within control criteria, therefore the data is reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client: Stantec Consulting Corp.
Project/Site: 1Q20 GWM 25821

Job ID: 580-93757-1

Client Sample ID: MW-3
Date Collected: 03/30/20 11:03
Date Received: 03/30/20 15:45

Lab Sample ID: 580-93757-1
Matrix: Water

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (C10-C24)	ND		112		ug/L		04/09/20 16:12	04/10/20 12:16	1
Motor Oil (>C24-C36)	ND		356		ug/L		04/09/20 16:12	04/10/20 12:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*72*		*50 - 150*	*04/09/20 16:12*	*04/10/20 12:16*	*1*

Client: Stantec Consulting Corp.
Project/Site: 1Q20 GWM 25821

Job ID: 580-93757-1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Lab Sample ID: MB 580-326443/1-A
Matrix: Water
Analysis Batch: 326484

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 326443

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (C10-C24)	ND		440		ug/L		04/09/20 16:12	04/10/20 11:15	1
Motor Oil (>C24-C36)	ND		1400		ug/L		04/09/20 16:12	04/10/20 11:15	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*68*		*50 - 150*	*04/09/20 16:12*	*04/10/20 11:15*	*1*

Lab Sample ID: LCS 580-326443/2-A
Matrix: Water
Analysis Batch: 326484

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 326443

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Diesel Range Organics (C10-C24)			2000	1814		ug/L		91	50 - 120		
Motor Oil (>C24-C36)			2000	1977		ug/L		99	64 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
o-Terphenyl	*72*		*50 - 150*

Lab Sample ID: LCSD 580-326443/3-A
Matrix: Water
Analysis Batch: 326484

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 326443

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Diesel Range Organics (C10-C24)			2000	1725		ug/L		86	50 - 120	5	26
Motor Oil (>C24-C36)			2000	1950		ug/L		98	64 - 120	1	24

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
o-Terphenyl	*71*		*50 - 150*

Lab Chronicle

Client: Stantec Consulting Corp.
Project/Site: 1Q20 GWM 25821

Job ID: 580-93757-1

Client Sample ID: MW-3
Date Collected: 03/30/20 11:03
Date Received: 03/30/20 15:45

Lab Sample ID: 580-93757-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			326443	04/09/20 16:12	T1L	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	326484	04/10/20 12:16	JCM	TAL SEA

Laboratory References:

TAL SEA = Eurofins TestAmerica, Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

Accreditation/Certification Summary

Client: Stantec Consulting Corp.
Project/Site: 1Q20 GWM 25821

Job ID: 580-93757-1

Laboratory: Eurofins TestAmerica, Seattle

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Washington	State	C553	02-18-21

Sample Summary

Client: Stantec Consulting Corp.
Project/Site: 1Q20 GWM 25821

Job ID: 580-93757-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
580-93757-1	MW-3	Water	03/30/20 11:03	03/30/20 15:45	

TestAmerica Nashville

Nashville, TN 37204
Phone (615) 726-0177 Fax (615) 726-3404

Chain of Custody Record

937 57 TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: Brian Schoenneman	Lab PM: Andy Johnson	Carrier Tracking No(s):	COC No:
Client Contact: Paul Fairbairn	Phone: 916-213-3205	E-Mail: andy.johnson@testamericainc.com		Page: Page 1 of 1
Company: Stantec Consulting Corp.				Job #: Store No. 25821
Address: 11130 NE 33rd Place Suite 200	Due Date Requested:			
City: Bellevue	TAT Requested (days): Standard			
State, Zip: WA, 98004-1465				
Phone: 425-298-1000(Tel)	PO #: Purchase Order Requested			
Email: paul.fairbairn@stantec.com	WO #: 794963			
Project Name: 1Q20 GWM 25821	Project #: 18570311			
Site: 25821 Richland	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	NWTPH-Dx	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-3	3/30/20	1103	G	W			X		

Therm. ID: IR 7 Cor: 10.4 ° Unc: 10.2 °
Cooler Dsc: Med Green
Packing: bub
Cust. Seal: Yes ___ No ___
Blue Ice, Wet, Dry, None
FedEx: ___
UPS: ___
Lab Cour: ___
Other: Client

Possible Hazard Identification

☐ Non-Hazard ☐ Flammable ☐ Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return To Client ☐ Disposal By Lab ☐ Archive For ___ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:
Relinquished by: [signature]	Date/Time: 3/30/20 1545	Company: Stantec	Received by: Tom Hanks
Relinquished by:	Date/Time:	Company	Received by:
Relinquished by:	Date/Time:	Company	Received by:

Date/Time: 3/30/20 1545 Company: TA-Sea

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Rer

580-93757 Chain of Custody

4/13/2020

Login Sample Receipt Checklist

Client: Stantec Consulting Corp.

Job Number: 580-93757-1

Login Number: 93757
List Number: 1
Creator: Presley, Kim A

List Source: Eurofins TestAmerica, Seattle

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	Received same day of collection; chilling process has begun.
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Stantec

Work Request Form

Project Name: Former 7-Eleven Store No. 25821 **Date:** 3/11/19
Site Address: 1824 George Washington Way, Richland, Washington
Activity: Sampling of Monitoring Wells MW-3, MW-6, MW-7, MW-8
Project No.: 185703911 **Task:** 800.0700
Project Manager: Paul Fairbairn
Business Unit Leader/Regional Manager: John Wainwright
Prepared by: Andrea Schweiter **Reviewed by:** **Submitted to:** BJS

WORK DESCRIPTION:

1. Arrive onsite and check in with Subway Restaurant manager and contact Paul Fairbairn.
2. Review HASP, conduct Health and Safety briefing and perform Site Walk to determine any traffic flow.
3. Open wells shown on attached table and let groundwater levels equilibrate.
4. Inspect well conditions note if any well needs repair.
5. Gauge all site wells following gauging order on Sampling Request Form.
6. Low-flow purge and sample wells following the sampling order provided.
7. Take a drum for purge water. Store purge water in drums onsite, make sure they are labeled properly and secured.
8. Take inventory of all waste drums generated by Stantec at the site, and mark locations on site plan.
9. Fill Out Equipment Billing Sheet for all equipment used on the job and attach with field notes
10. Call or text Paul Fairbairn in the office prior to leaving the site.
11. Turn in field notes to Andrea Schweiter ASAP

ANALYTICAL REQUIREMENTS:	BOTTLES:	EQUIPMENT NEEDED:
• NWTPH-Dx • Sulfate and Nitrate (300.1)	• 2-1L Ambers unpreserved or preserved • 1-250ml poly unpreserved	H&S plan Safety Equipment Delineators Test America Cooler with bottles Low-Flow Purging/Sampling Equipment Oil/Water Interface Probe Disposable bailers/ Rope Peristaltic Pump & Tubing Drum and labels

ESTIMATED HOURS TO COMPLETE:

Billing Title	Billing Category	Authorized Hours to Complete	Task No.
Field Tech	Regular - Direct Labor	6 hours + 7 hours Travel	800.0700
Equipment Form	Regular - Direct Labor		800.0700
Bottle Order	Regular - Direct Labor	0.5	800.0115
	Total Hours	**13.5**	

AUTHORIZATION: **COMPLETED:** 3/12/19

Site Visitation Report

Project Name: Former 7-Eleven Store No. 25821

Name(s): Brian Schoenneman Date: 3/11/19 / 3/12/19 Time of Arrival Call-In: 1320 / 0625

Arrival Time: 1312 / 0625 Departure Time: 1440 / 0930 Time of Departure Call-In: 1440 / 0930

Weather Conditions: SUN (CLOUDY) RAIN (SNOW) Temperature: 30 F

DRUM INVENTORY:

1	WATER		CARBON	TOTAL OPEN TOP	
	SOIL		EMPTY	TOTAL BUNG TOP	1

Please take a picture of anything not clearly labeled

HEALTH AND SAFETY ASSESSMENT:

Traffic and delineation	HASP and hospital directions
PPE	First aid kit
Weather/Cold stress	Fire extinguisher
Slips, trips, falls	Proper lifting of heavy items
Proper tools for each task	Bottle handling/glassware

DESCRIPTION OF ACTIVITIES ONSITE AND NOTES:

3/11 Did Site HASS assessment, Checked in with Sandwich Shop, Inspected RMS-2, Opened up 12 wells to Gauged 12 wells Departed for The Day To Spend The night in Richland

3/12 Purged & Sampled MW-3, MW-6, MW-7, & MW-8.

Added Purge Water to existing Drum onsite in Trash Compound.

Stantec

Groundwater Gauging Form

3/11/19

Project Name: Former 7-Eleven Store No. 25821 **Project No.:** 185703911 **Task:** 800.0700
Project Manager: Paul Fairbairn **Lab:** TestAmerica
Field Technician: Brian Schoenneman

Well Number	Gauge Order	Sample Order	Analyses	Time	DTW (ft.)	DTB (ft.)	Sample? (Y/N)	Comments (Please Note Condition of Well)
MW-1	1			13:58	17.66	19.75		
MW-2	2			14:01	17.27	18.34		
MW-3	3	1	NWTPH-Dx	14:04	17.49	19.51		
MW-4	4			14:07	17.10	18.45		
MW-5	5			14:10	05.4	16.50		
MW-6	6	2	Nitrates and Sulfates (300.1)	14:13	16.64	19.27		
MW-7	7	3	Nitrates and Sulfates (300.1)	14:16	16.74	18.13		
MW-8	8	4	Nitrates and Sulfates (300.1)	14:19	16.56	26.82		
MW-9	9			14:22	16.90	21.90		
MW-10	10			14:25	17.31	23.15		
MW-11	11			14:28	17.11	32.68		
MW-12	12			14:31	15.86	24.73		

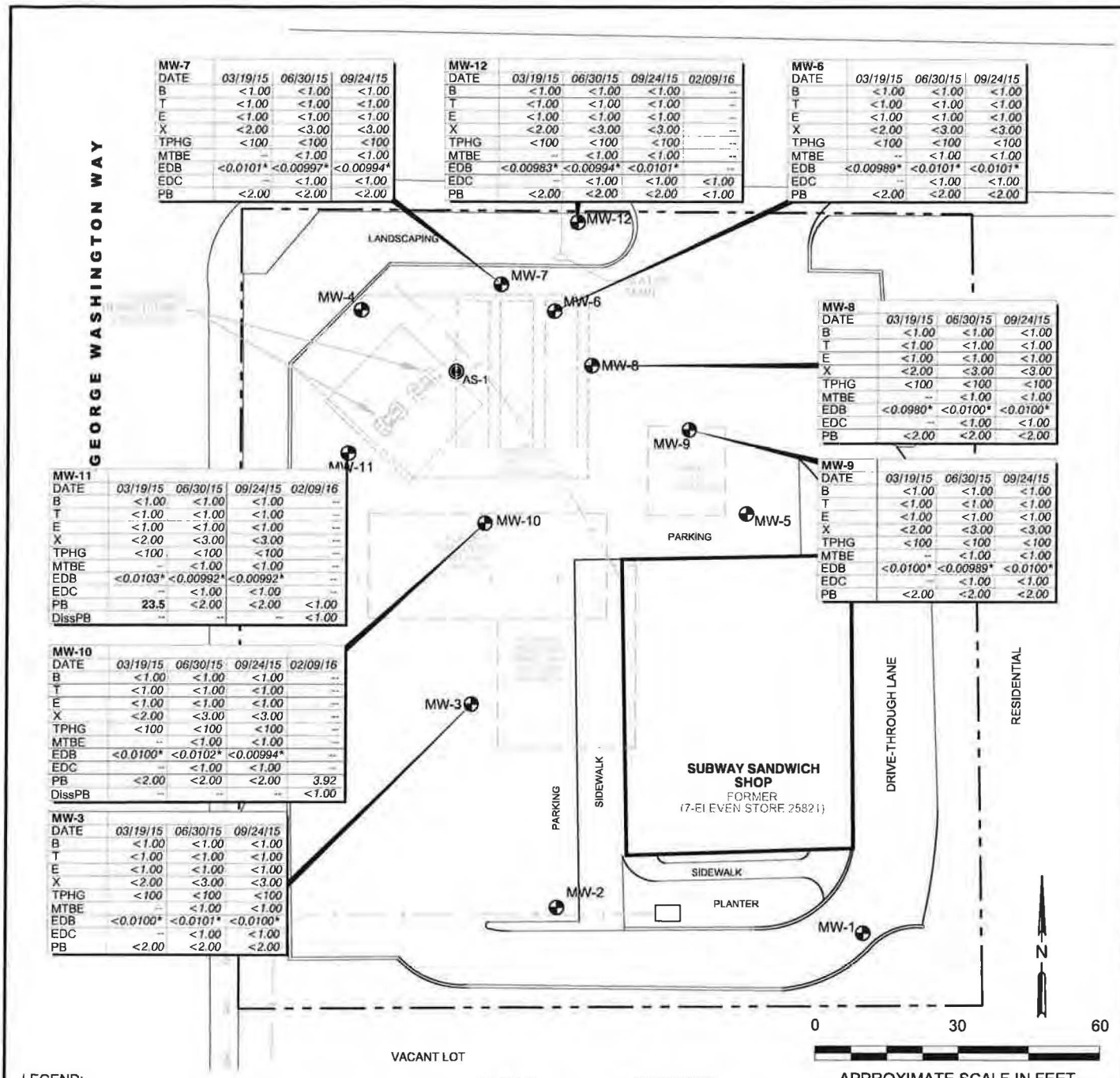
Estimated Gallons Purged:

NOTES:

3/12/19

YSI 556 Calibration pH 4.00 buffer 3.97/4.00
pH 7.00 buffer 6.95/7.00
conductivity 1413 µS buffer 1245/1413 µS
ORP @ 5.00/234 mV buffer 241.3/234.0
DO @ 755.95 mmHg 13.52/14.35 mg/L

DTP: Depth to Free Product (FP or NAPH) Below TOC
DTW: Depth to Groundwater Below TOC
DTB: Depth to Bottom of Well Casing Below TOC



MW-7

DATE	03/19/15	06/30/15	09/24/15
B	<1.00	<1.00	<1.00
T	<1.00	<1.00	<1.00
E	<1.00	<1.00	<1.00
X	<2.00	<3.00	<3.00
TPHG	<100	<100	<100
MTBE	--	<1.00	<1.00
EDB	<0.0101*	<0.00997*	<0.00994*
EDC	--	<1.00	<1.00
PB	<2.00	<2.00	<2.00

MW-12

DATE	03/19/15	06/30/15	09/24/15	02/09/16
B	<1.00	<1.00	<1.00	--
T	<1.00	<1.00	<1.00	--
E	<1.00	<1.00	<1.00	--
X	<2.00	<3.00	<3.00	--
TPHG	<100	<100	<100	--
MTBE	--	<1.00	<1.00	--
EDB	<0.00983*	<0.00994*	<0.0101*	--
EDC	--	<1.00	<1.00	<1.00
PB	<2.00	<2.00	<2.00	<1.00

MW-6

DATE	03/19/15	06/30/15	09/24/15
B	<1.00	<1.00	<1.00
T	<1.00	<1.00	<1.00
E	<1.00	<1.00	<1.00
X	<2.00	<3.00	<3.00
TPHG	<100	<100	<100
MTBE	--	<1.00	<1.00
EDB	<0.00989*	<0.0101*	<0.0101*
EDC	--	<1.00	<1.00
PB	<2.00	<2.00	<2.00

MW-8

DATE	03/19/15	06/30/15	09/24/15
B	<1.00	<1.00	<1.00
T	<1.00	<1.00	<1.00
E	<1.00	<1.00	<1.00
X	<2.00	<3.00	<3.00
TPHG	<100	<100	<100
MTBE	--	<1.00	<1.00
EDB	<0.0980*	<0.0100*	<0.0100*
EDC	--	<1.00	<1.00
PB	<2.00	<2.00	<2.00

MW-9

DATE	03/19/15	06/30/15	09/24/15
B	<1.00	<1.00	<1.00
T	<1.00	<1.00	<1.00
E	<1.00	<1.00	<1.00
X	<2.00	<3.00	<3.00
TPHG	<100	<100	<100
MTBE	--	<1.00	<1.00
EDB	<0.0100*	<0.00989*	<0.0100*
EDC	--	<1.00	<1.00
PB	<2.00	<2.00	<2.00

MW-11

DATE	03/19/15	06/30/15	09/24/15	02/09/16
B	<1.00	<1.00	<1.00	--
T	<1.00	<1.00	<1.00	--
E	<1.00	<1.00	<1.00	--
X	<2.00	<3.00	<3.00	--
TPHG	<100	<100	<100	--
MTBE	--	<1.00	<1.00	--
EDB	<0.0103*	<0.00992*	<0.00992*	--
EDC	--	<1.00	<1.00	--
PB	**23.5**	<2.00	<2.00	<1.00
DissPB	--	--	--	<1.00

MW-10

DATE	03/19/15	06/30/15	09/24/15	02/09/16
B	<1.00	<1.00	<1.00	--
T	<1.00	<1.00	<1.00	--
E	<1.00	<1.00	<1.00	--
X	<2.00	<3.00	<3.00	--
TPHG	<100	<100	<100	--
MTBE	--	<1.00	<1.00	--
EDB	<0.0100*	<0.0102*	<0.00994*	--
EDC	--	<1.00	<1.00	--
PB	<2.00	<2.00	<2.00	3.92
DissPB	--	--	--	<1.00

MW-3

DATE	03/19/15	06/30/15	09/24/15
B	<1.00	<1.00	<1.00
T	<1.00	<1.00	<1.00
E	<1.00	<1.00	<1.00
X	<2.00	<3.00	<3.00
TPHG	<100	<100	<100
MTBE	--	<1.00	<1.00
EDB	<0.0100*	<0.0101*	<0.0100*
EDC	--	<1.00	<1.00
PB	<2.00	<2.00	<2.00

LEGEND:

- SUBJECT PROPERTY LINE BOUNDARY
- MW-1 MONITORING WELL LOCATION
- AS-1 AIR SPARGE WELL LOCATION
- FORMER FEATURES
- < NOT DETECTED AT OR ABOVE THE LABORATORY REPORTING LIMIT
- -- NOT SAMPLED
- µg/L MICROGRAMS PER LITER
- **BOLD** VALUES EXCEED MTCA METHOD A CLEANUP LEVELS

SAMPLE ID / SAMPLE DATE

MW-9

ANALYTES	03/19/15	06/30/15	09/24/15	µg/L
B	<1.00	<1.00	<1.00	
T	<1.00	<1.00	<1.00	
E	<1.00	<1.00	<1.00	
X	<2.00	<3.00	<3.00	
TPHG	<100	<100	<100	
MTBE	--	<1.00	<1.00	
EDB	<0.0100*	<0.00989*	<0.0100*	
EDC	--	<1.00	<1.00	
PB	<2.00	<2.00	<2.00	

* THE LABORATORY REPORTING LIMIT (RL) EXCEEDED THE MTCA METHOD A CUL. THEREFORE, THE METHOD DETECTION LIMIT (MDL) WAS REPORTED FOR THIS ANALYTE.

ANALYTES:

B	BENZENE
T	TOLUENE
E	ETHYLBENZENE
X	TOTAL XYLENES
TPH-G	TOTAL PETROLEUM HYDROCARBONS AS GASOLINE
MTBE	METHYL TERTIARY BUTYL ETHER
EDB	1,2-DIBROMOETHANE
EDC	1,2-DICHLOROETHANE
Pb	TOTAL LEAD
DissPb	DISSOLVED LEAD

APPROXIMATE SCALE IN FEET

Stantec
11130 NE 33RD PLACE, SUITE 200
BELLEVUE, WASHINGTON
PHONE: (425) 869-9448 FAX: (425) 869-1190

FOR: 7-ELEVEN
FACILITY NO. 25821
1824 GEORGE WASHINGTON WAY
RICHLAND, WASHINGTON

GROUNDWATER ANALYTICAL RESULTS MARCH 19, 2015; JUNE 30, 2015; SEPTEMBER 24, 2015; FEBRUARY 9, 2016

FIGURE: 8

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
185750037	MDR	DH	PF	FEB 2016

FILEPATH:M:_00 OTHER OFFICES\01-REDMOND\7-11\25821\2017\FIG-7a-7d 25821_2015.dwg | Layout Tab: FIG-8 GWA | Drafter: miramirez | Mar 21, 2017 at 11:51

Project Name: Former 7-Eleven Store No. 25821 | **Project No.:** 185703911
Project Manager: Paul Fairbairn | **Lab:** TestAmerica
Field Technician: Brian Schoenneman | **Well ID:** MW-3

Date Purged: 3/12/19 Start (2400hr): 0841 End (2400hr): 0902
Date Sampled: 3/12/19 Sample Time (2400hr): 0912
Sample Type: Groundwater Low-Flow Used? X

Casing Diameter: 2" ✓ (0.17) 3" _____ (0.38) 4" _____ 0.67
Casing Volume (Gallons per foot):

Depth to Bottom (ft): 19.51
Depth to Water (ft): 17.49
Water Column Height (ft): 2.02 Actual Purge (gal): 1.3

Field Measurements

Date	Time	Volume	Temp °C	Conductivity µS	pH	Color	O.R.P.	DO mg/L
3/12/19	0842	0.0	14.61	1534	7.80	Clear	173.8	3.39
	0847	0.3	14.85	1562	7.82	Clear	174.2	2.79
	0850	0.5	14.87	1549	7.83	Clear	174.5	2.39
	0853	0.7	14.91	1519	7.83	Clear	175.10	2.06
	0856	0.9	14.90	1495	7.83	Clear	174.9	1.85
	0859	1.1	14.94	1477	7.85	Clear	175.3	1.75
	0902	1.3	14.90	1467	7.83	Clear	175.8	1.68

Calculated Variance of Final Three Samples:
Temp: _____ Conductivity: _____ pH: _____ Color: _____ O.R.P.: _____

Acceptable Variance Limits:
Temp: _____ Conductivity: _____ pH: _____ Color: _____ O.R.P.: _____

Depth to Purge Intake During Purge: 19.00 **Sample DTW:** 17.52

Quantity of Sample Vessel & Preservative:	Analyses:
NWTPH-Dx	

Purging Equipment:	Sampling Equipment:
Geotech Peristaltic Pump	YSI Meter

Flow Through Cell Disconnected Prior to Sample Collection?: Yes ✓ No _____

Well Pad Condition: OK Well Casing Condition: OK
Well Vault Condition: OK Seal Present?: Y Bolts Present?: N
Well Integrity: OK Well Tag: Y

Signature: B Schoenneman Page _____ of _____

Project Name: Former 7-Eleven Store No. 25821
Project Manager: Paul Fairbairn
Field Technician: Brian Schoenneman

Project No.: 185703911
Lab: TestAmerica
Well ID: MW-8

Date Purged: 3/12/19 Start (2400hr): 0814 End (2400hr): 0835
Date Sampled: 3/12/19 Sample Time (2400hr): 0845
Sample Type: Groundwater Low-Flow Used? Y

Casing Diameter: 2" ✓ 3" _____ 4" _____
Casing Volume (Gallons per foot): (0.17) (0.38) 0.67

Depth to Bottom (ft): 26.82
Depth to Water (ft): 16.56
Water Column Height (ft): 10.26
Actual Purge (gal): 1.3

Field Measurements

Date	Time	Volume	Temp °C	Conductivity mS	pH	Color	O.R.P.	DO mg/L
3/12/19	0815	0.0	14.52	1288	7.77	Grey	101.4	2.22
	0820	0.3	15.64	1253	7.85	Clear	145.0	1.67
	0823	0.5	15.84	1256	7.82	Clear	155.6	1.62
	0826	0.7	15.97	1258	7.82	Clear	162.3	1.63
	0829	0.9	15.85	1253	7.82	Clear	165.8	1.60
	0832	1.1	15.91	1254	7.83	Clear	166.9	1.68
	0835	1.3	15.86	1256	7.83	Clear	168.9	1.73

Calculated Variance of Final Three Samples:
Temp: _____ Conductivity: _____ pH: _____ Color: _____ O.R.P.: _____

Acceptable Variance Limits:
Temp: _____ Conductivity: _____ pH: _____ Color: _____ O.R.P.: _____

Depth to Purge Intake During Purge: 26.00 **Sample DTW:** 16.58

Quantity of Sample Vessel & Preservative:	Analyses:
Nitrates and Sulfate (300.1)	

Purging Equipment:	Sampling Equipment:
Geotech Peristaltic Pump	YSI Meter

Flow Through Cell Disconnected Prior to Sample Collection?: Yes ✓ No _____

Well Pad Condition: OK Well Casing Condition: OK
Well Vault Condition: OK Seal Present?: Y Bolts Present?: N
Well Integrity: OK Well Tag: Y

Signature: B Schoenneman

Page _____ of _____

Project Name: Former 7-Eleven Store No. 25821 | **Project No.:** 185703911
Project Manager: Paul Fairbairn | **Lab:** TestAmerica
Field Technician: Brian Schoenneman | **Well ID:** MW-6

Date Purged: 3/12/19 Start (2400hr): 0744 End (2400hr): 0805
Date Sampled: 3/12/19 Sample Time (2400hr): 0815
Sample Type: Groundwater Low-Flow Used? Y

Casing Diameter: 2" ✓ 3" _____ 4" _____
Casing Volume (Gallons per foot): (0.17) (0.38) 0.67

Depth to Bottom (ft): 19.27
Depth to Water (ft): 16.64
Water Column Height (ft): 2.63 Actual Purge (gal): 1.3

Field Measurements

Date	Time	Volume	Temp	Conductivity	pH	Color	O.R.P.	DO mg/L
3/12/19	0745	0.0	12.98	3494	7.16	Clear	162.0	2.25
	0750	0.3	14.09	3418	7.20	Clear	167.0	1.13
	0753	0.5	14.26	3456	7.25	Clear	144.6	0.86
	0756	0.7	14.50	3513	7.29	Clear	120.3	0.68
	0759	0.9	14.29	3515	7.32	Clear	100.8	0.57
	0802	1.1	14.40	3534	7.34	Clear	85.1	0.52
	0805	1.3	14.27	3517	7.54	Clear	77.1	0.48

Calculated Variance of Final Three Samples:
Temp: _____ Conductivity: _____ pH: _____ Color: _____ O.R.P.: _____

Acceptable Variance Limits:
Temp: _____ Conductivity: _____ pH: _____ Color: _____ O.R.P.: _____

Depth to Purge Intake During Purge: 19.00 **Sample DTW:** 17.41

Quantity of Sample Vessel & Preservative:	Analyses:
Nitrates and Sulfate (300.1)	

Purging Equipment:	Sampling Equipment:
Geotech Peristaltic Pump	YSI Meter

Flow Through Cell Disconnected Prior to Sample Collection?: Yes ✓ No _____

Well Pad Condition: OK Well Casing Condition: OK
Well Vault Condition: OK Seal Present?: Y Bolts Present?: N
Well Integrity: OK Well Tag: Y

Signature: BS Schoenneman

Page _____ of _____

Project Name: Former 7-Eleven Store No. 25821 | **Project No.:** 185703911
Project Manager: Paul Fairbairn | **Lab:** TestAmerica
Field Technician: Brian Schoenneman | **Well ID:** MW-7

Date Purged: 3/12/19 Start (2400hr): 0712 End (2400hr): 0733
Date Sampled: 3/12/19 Sample Time (2400hr): 0743
Sample Type: Groundwater Low-Flow Used? Y

Casing Diameter: 2" ____ 3" ____ 4" ✓
Casing Volume (Gallons per foot): (0.17) (0.38) 0.67

Depth to Bottom (ft): 18.15
Depth to Water (ft): 16.44
Water Column Height (ft): 1.69 Actual Purge (gal): 1.3

Field Measurements

Date	Time	Volume	Temp °C	Conductivity µS	pH	Color	O.R.P.	DO mg/L
3/12/19	0713	0.0	10.05	3180	6.94	Clear	92.1	1.50
	0718	0.3	10.78	3151	7.29	Clear	102.4	1.50
	0721	0.5	11.66	3127	7.31	Clear	118.3	1.14
	0724	0.7	11.88	2977	7.50	Clear	146.9	1.62
	0727	0.9	11.67	2951	7.26	Clear	162.0	1.64
	0730	1.1	11.85	2992	7.24	Clear	162.4	1.56
	0733	1.3	11.97	3054	7.23	Clear	154.0	1.57

Calculated Variance of Final Three Samples:
Temp: ____ Conductivity: ____ pH: ____ Color: ____ O.R.P.: ____
Acceptable Variance Limits:
Temp: ____ Conductivity: ____ pH: ____ Color: ____ O.R.P.: ____

Depth to Purge Intake During Purge: 18.00 **Sample DTW:** 16.58

Quantity of Sample Vessel & Preservative:	Analyses:
Nitrates and Sulfate (300.1)	

Purging Equipment:	Sampling Equipment:
Geotech Peristaltic Pump	YSI Meter

Flow Through Cell Disconnected Prior to Sample Collection?: Yes ✓ **No** ____
Well Pad Condition: OK Well Casing Condition: OK
Well Vault Condition: OK Seal Present?: Y Bolts Present?: Y
Well Integrity: OK Well Tag: Y

Signature: B. Schoenneman

Stantec

Work Request Form

Project Name: Former 7-Eleven Store No. 25821 **Date:** 6/20/19
Site Address: 1824 George Washington Way, Richland, Washington
Activity: Sampling of Monitoring Wells MW-3, MW-6, MW-7, MW-8
Project No.: 185703911 **Task:** 800.0700
Project Manager: Paul Fairbairn
Business Unit Leader/Regional Manager: John Wainwright
Prepared by: Andrea Schweiter **Reviewed by:** **Submitted to:** RJS

WORK DESCRIPTION:

1. Arrive onsite and check in with Subway Restaurant manager and contact Paul Fairbairn.
2. Review HASP, conduct Health and Safety briefing and perform Site Walk to determine any traffic flow.
3. Open wells shown on attached table and let groundwater levels equilibrate.
4. Inspect well conditions note if any well needs repair.
5. Gauge all site wells following gauging order on Sampling Request Form.
6. Low-flow purge and sample wells following the sampling order provided.
7. Take a drum for purge water. Store purge water in drums onsite, make sure they are labeled properly and secured.
8. Take inventory of all waste drums generated by Stantec at the site, and mark locations on site plan.
9. Fill Out Equipment Billing Sheet for all equipment used on the job and attach with field notes
10. Call or text Paul Fairbairn in the office prior to leaving the site.
11. Turn in field notes to Andrea Schweiter ASAP

ANALYTICAL REQUIREMENTS:	BOTTLES:	EQUIPMENT NEEDED:
• NWTPH-Dx • Sulfate and Nitrate (300.1)	• 2-1L Ambers unpreserved or preserved • 1-250ml poly unpreserved	H&S plan Safety Equipment Delineators Test America Cooler with bottles Low-Flow Purging/Sampling Equipment Oil/Water Interface Probe Disposable bailers/ Rope Peristaltic Pump & Tubing Drum and labels

ESTIMATED HOURS TO COMPLETE:

Billing Title	Billing Category	Authorized Hours to Complete	Task No.
Field Tech	Regular - Direct Labor	6 hours + 7 hours Travel	800.0700
Equipment Form	Regular - Direct Labor		800.0700
Bottle Order	Regular - Direct Labor	0.5	800.0115
	Total Hours	**13.5**	

AUTHORIZATION: **COMPLETED:**

Site Visitation Report

Project Name: Former 7-Eleven Store No. 25821

Name(s): Brian Schoenneman Date: 6/20 & 6/21/19 Time of Arrival Call-In: 1206

Arrival Time: 1206 Departure Time: 1440 Time of Departure Call-In:

Weather Conditions: (SUN) (CLOUDY) RAIN SNOW Temperature: 75 F

DRUM INVENTORY:

	WATER		CARBON	TOTAL OPEN TOP	
	SOIL		EMPTY	TOTAL BUNG TOP	

Please take a picture of anything not clearly labeled

HEALTH AND SAFETY ASSESSMENT:

Traffic and delineation	HASP and hospital directions
PPE	First aid kit
Weather/Cold stress	Fire extinguisher
Slips, trips, falls	Proper lifting of heavy items
Proper tools for each task	Bottle handling/glassware

DESCRIPTION OF ACTIVITIES ONSITE AND NOTES:

6/20 Did Site HES evaluation. Checked in with Subway store, initiated RMS-2. Opened up all 12 wells onsite. Gauged DTW/DTB all 12 wells. (MW-5 Dry). Depart Site @ 1440. Will Purge + Collect Samples Tomorrow morning.

Stantec

Groundwater Gauging Form

6/20/19

Project Name: Former 7-Eleven Store No. 25821 **Project No.:** 185703911 **Task:** 800.0700
Project Manager: Paul Fairbairn **Lab:** TestAmerica
Field Technician: Brian Schoenneman

Well Number	Gauge Order	Sample Order	Analyses	Time	DTW (ft.)	DTB (ft.)	Sample? (Y/N)	Comments (Please Note Condition of Well)
MW-1	1			1317	17.19	19.72	N	
MW-2	2			1320	17.25	19.30	N	
MW-3	3	1	NWTPH-Dx	1323	17.12	19.50	Y	
MW-4	4			1326	16.72	18.45	N	
MW-5	5			1328	DRY	16.50	N	
MW-6	6	2	Nitrates and Sulfates (300.1)	1330	16.26	19.27	Y	
MW-7	7	3	Nitrates and Sulfates (300.1)	1335	16.05	18.16	Y	
MW-8	8	4	Nitrates and Sulfates (300.1)	1336	16.19	26.74	Y	
MW-9	9			1339	16.49	21.90	N	
MW-10	10			1342	16.94	23.15	N	
MW-11	11			1345	16.75	22.66	N	
MW-12	12			1348	15.48	21.70	N	

Estimated Gallons Purged:

6/21/19

NOTES:

YSI 556 Calibration
PH 4.00 buffer 3.96 / 4.00
PH 7.00 buffer 7.02 / 7.00
Conductivity 1413 µS buffer 1439 / 1413 µS
ORP @ 12.9 °C / 224.5 mV buffer 220.0 / 224.5 mV
DO @ 761.87 mmHg 16.58 / 10.66 mg/L

DTP: Depth to Free Product (FP or NAPH) Below TOC
DTW: Depth to Groundwater Below TOC
DTB: Depth to Bottom of Well Casing Below TOC

Project Name: Former 7-Eleven Store No. 25821 | **Project No.:** 185703911
Project Manager: Paul Fairbairn | **Lab:** TestAmerica
Field Technician: Brian Schoenneman | **Well ID:** MW-3

Date Purged: 6/21/19 Start (2400hr): 0728 End (2400hr): 0749
Date Sampled: 6/21/19 Sample Time (2400hr): 0759
Sample Type: Groundwater Low-Flow Used? X

Casing Diameter: 2" ✓ 3" _____ 4" _____
Casing Volume (Gallons per foot): (0.17) (0.38) 0.67

Depth to Bottom (ft): 19.50
Depth to Water (ft): 17.12
Water Column Height (ft): 2.38 Actual Purge (gal): 0.7

Field Measurements

Date	Time	Volume	Temp C	Conductivity mS	pH	Color	O.R.P.	DO mg/L
6/21/19	0729	0.0	18.17	398	6.57	Clear	208.6	6.71
	0734	0.2	17.47	527	7.16	Clear	190.7	4.82
	0737	0.3	17.39	505	7.23	Clear	189.5	4.04
	0740	0.4	17.32	502	7.27	Clear	189.6	3.75
	0743	0.5	17.26	502	7.30	Clear	189.3	3.63
	0746	0.6	17.26	500	7.33	Clear	188.7	3.56
	0749	0.7	17.41	500	7.35	Clear	189.5	3.47

Calculated Variance of Final Three Samples:
Temp: _____ Conductivity: _____ pH: _____ Color: _____ O.R.P.: _____

Acceptable Variance Limits:
Temp: _____ Conductivity: _____ pH: _____ Color: _____ O.R.P.: _____

Depth to Purge Intake During Purge: 19.00 **Sample DTW:** 17.14

Quantity of Sample Vessel & Preservative:	Analyses:
NWTPH-Dx	

Purging Equipment:	Sampling Equipment:
Geotech Peristaltic Pump	YSI Meter
	✓

Flow Through Cell Disconnected Prior to Sample Collection?: Yes ✓ No _____
Well Pad Condition: OK Well Casing Condition: OK
Well Vault Condition: OK Seal Present?: N Bolts Present?: Y
Well Integrity: OK Well Tag: X

Signature: B Schoenneman

Page _____ of _____

Project Name: Former 7-Eleven Store No. 25821 | **Project No.:** 185703911
Project Manager: Paul Fairbairn | **Lab:** TestAmerica
Field Technician: Brian Schoenneman | **Well ID:** MW-6

Date Purged: 6/21/19 | Start (2400hr): 0853 | End (2400hr): 0914
Date Sampled: 6/21/19 | Sample Time (2400hr): 0924
Sample Type: Groundwater | Low-Flow Used? X

Casing Diameter: 2" ✓ (0.17) | 3" _____ (0.38) | 4" _____ 0.67
Casing Volume (Gallons per foot):

Depth to Bottom (ft): 19.27
Depth to Water (ft): 16.26
Water Column Height (ft): 3.01 | Actual Purge (gal): 1.3

Field Measurements

Date	Time	Volume	Temp C	Conductivity mS	pH	Color	O.R.P.	DO mg/L
6/21/19	0854	0.0	17.76	2745	6.94	Clear	35.0	4.20
	0859	0.3	17.15	2433	7.06	Clear	-43.7	1.79
	0902	0.5	17.20	2341	7.08	Clear	-47.4	1.39
	0905	0.7	17.00	2108	7.09	Clear	-49.1	1.09
	0908	0.9	17.02	1973	7.08	Clear	-51.0	1.00
	0911	1.1	17.04	1852	7.08	Clear	-52.3	0.95
	0914	1.3	17.00	1763	7.07	Clear	-51.4	0.91

Calculated Variance of Final Three Samples:
Temp: _____ Conductivity: _____ pH: _____ Color: _____ O.R.P.: _____

Acceptable Variance Limits:
Temp: _____ Conductivity: _____ pH: _____ Color: _____ O.R.P.: _____

Depth to Purge Intake During Purge: 19.00 | **Sample DTW:** 17.07

Quantity of Sample Vessel & Preservative:	Analyses:
Nitrates and Sulfate (300.1)	

Purging Equipment:	Sampling Equipment:
Geotech Peristaltic Pump	YSI Meter
	✓

Flow Through Cell Disconnected Prior to Sample Collection?: Yes ✓ No _____

Well Pad Condition: OK | Well Casing Condition: OK
Well Vault Condition: OK | Seal Present?: N | Bolts Present?: N
Well Integrity: OK | Well Tag: X

Signature: B Schoenneman

Page _____ of _____

Project Name: Former 7-Eleven Store No. 25821 | **Project No.:** 185703911
Project Manager: Paul Fairbairn | **Lab:** TestAmerica
Field Technician: Brian Schoenneman | **Well ID:** MW-7

Date Purged: 6/21/19 Start (2400hr): 0924 End (2400hr): 0945
Date Sampled: 6/21/19 Sample Time (2400hr): 0955
Sample Type: Groundwater Low-Flow Used? Y

Casing Diameter: 2" _____ 3" _____ 4" ✓
Casing Volume (Gallons per foot): (0.17) (0.38) 0.67

Depth to Bottom (ft): 18.16
Depth to Water (ft): 16.05
Water Column Height (ft): 2.11 Actual Purge (gal): 1.3

Field Measurements

Date	Time	Volume	Temp °C	Conductivity mS	pH	Color	O.R.P.	
6/21/19	0925	0.0	18.88	1590	7.12	Clear	-29.0	2.64
	0930	0.3	17.64	1460	7.05	Clear	24.2	1.71
	0933	0.5	17.64	1416	7.02	Clear	41.7	1.80
	0936	0.7	17.66	1387	7.03	Clear	40.6	1.73
	0939	0.9	17.71	1359	7.06	Clear	34.6	1.73
	0942	1.1	17.81	1331	7.09	Clear	29.2	1.71
	0945	1.3	17.66	1295	7.10	Clear	25.3	1.70

Calculated Variance of Final Three Samples:
Temp: _____ **Conductivity:** _____ **pH:** _____ **Color:** _____ **O.R.P.:** _____
Acceptable Variance Limits:
Temp: _____ **Conductivity:** _____ **pH:** _____ **Color:** _____ **O.R.P.:** _____

Depth to Purge Intake During Purge: 17.16 **Sample DTW:** 16.23

Quantity of Sample Vessel & Preservative:	Analyses:
Nitrates and Sulfate (300.1)	

Purging Equipment:	Sampling Equipment:
Geotech Peristaltic Pump	YSI Meter

Flow Through Cell Disconnected Prior to Sample Collection?: Yes ✓ **No** _____

Well Pad Condition: OK Well Casing Condition: OK
Well Vault Condition: Bad Seal Present?: N Bolts Present?: N
Well Integrity: OK Well Tag: Y

Signature: B Schoenneman

Page _____ of _____

Project Name: Former 7-Eleven Store No. 25821 | **Project No.:** 185703911
Project Manager: Paul Fairbairn | **Lab:** TestAmerica
Field Technician: Brian Schoenneman | **Well ID:** MW-8

Date Purged: 6/21/19 | Start (2400hr): 0821 | End (2400hr): 0842
Date Sampled: 6/21/19 | Sample Time (2400hr): 0852
Sample Type: Groundwater | Low-Flow Used? X

Casing Diameter: 2" ✓ | 3" _____ | 4" _____
Casing Volume (Gallons per foot): (0.17) | (0.38) | 0.67

Depth to Bottom (ft): 26.94
Depth to Water (ft): 16.19
Water Column Height (ft): 10.75 | Actual Purge (gal): 1.3

Field Measurements

Date	Time	Volume	Temp °C	Conductivity mS	pH	Color	O.R.P.	DO mg/L
6/21/19	0822	0.0	18.94	1063	7.08	Clear	195.2	7.14
	0827	0.3	17.59	1200	7.26	Clear	186.0	3.68
	0830	0.5	17.56	1207	7.26	Clear	184.5	2.50
	0833	0.7	17.34	1210	7.26	Clear	183.5	1.95
	0836	0.9	17.29	1208	7.28	Clear	182.7	1.62
	0839	1.1	17.33	1205	7.29	Clear	181.7	1.43
	0842	1.3	17.57	1200	7.30	Clear	181.2	1.51

Calculated Variance of Final Three Samples:
Temp: _____ Conductivity: _____ pH: _____ Color: _____ O.R.P.: _____
Acceptable Variance Limits:
Temp: _____ Conductivity: _____ pH: _____ Color: _____ O.R.P.: _____

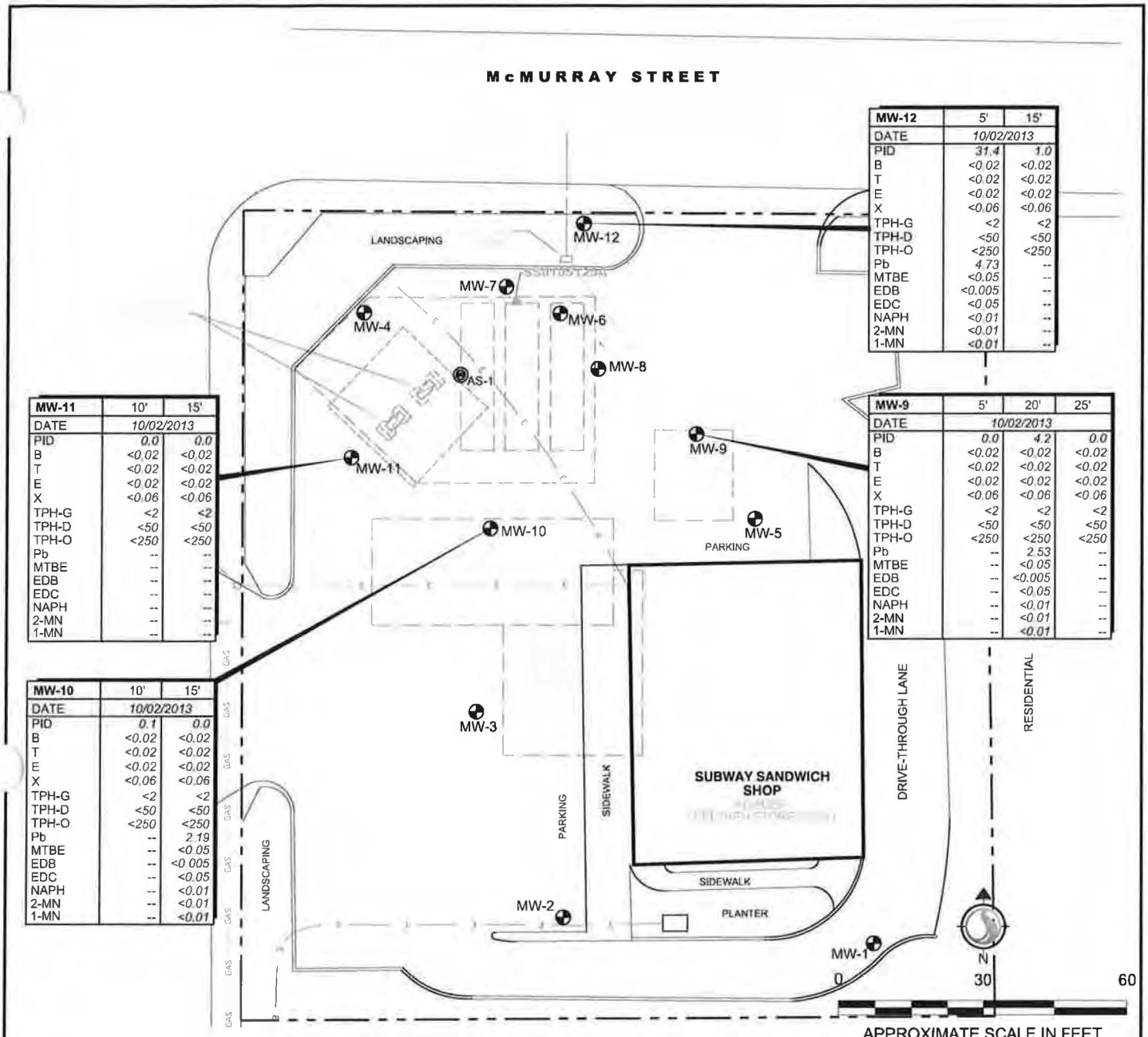
Depth to Purge Intake During Purge: 26.75 | **Sample DTW:** 16.24

Quantity of Sample Vessel & Preservative:	Analyses:
Nitrates and Sulfate (300.1)	

Purging Equipment:	Sampling Equipment:
Geotech Peristaltic Pump	YSI Meter
	✓

Flow Through Cell Disconnected Prior to Sample Collection?: Yes ✓ No _____
Well Pad Condition: OK | Well Casing Condition: OK
Well Vault Condition: OK | Seal Present?: N | Bolts Present?: N
Well Integrity: OK | Well Tag: Y

Signature: B. Schoenneman



MW-12	5'	15'
DATE	10/02/2013	
PID	31.4	1.0
B	<0.02	<0.02
T	<0.02	<0.02
E	<0.02	<0.02
X	<0.06	<0.06
TPH-G	<2	<2
TPH-D	<50	<50
TPH-O	<250	<250
Pb	4.73	--
MTBE	<0.05	--
EDB	<0.005	--
EDC	<0.05	--
NAPH	<0.01	--
2-MN	<0.01	--
1-MN	<0.01	--

MW-11	10'	15'
DATE	10/02/2013	
PID	0.0	0.0
B	<0.02	<0.02
T	<0.02	<0.02
E	<0.02	<0.02
X	<0.06	<0.06
TPH-G	<2	<2
TPH-D	<50	<50
TPH-O	<250	<250
Pb	--	--
MTBE	--	--
EDB	--	--
EDC	--	--
NAPH	--	--
2-MN	--	--
1-MN	--	--

MW-9	5'	20'	25'
DATE	10/02/2013		
PID	0.0	4.2	0.0
B	<0.02	<0.02	<0.02
T	<0.02	<0.02	<0.02
E	<0.02	<0.02	<0.02
X	<0.06	<0.06	<0.06
TPH-G	<2	<2	<2
TPH-D	<50	<50	<50
TPH-O	<250	<250	<250
Pb	--	2.53	--
MTBE	--	<0.05	--
EDB	--	<0.005	--
EDC	--	<0.05	--
NAPH	--	<0.01	--
2-MN	--	<0.01	--
1-MN	--	<0.01	--

MW-10	10'	15'
DATE	10/02/2013	
PID	0.1	0.0
B	<0.02	<0.02
T	<0.02	<0.02
E	<0.02	<0.02
X	<0.06	<0.06
TPH-G	<2	<2
TPH-D	<50	<50
TPH-O	<250	<250
Pb	--	2.19
MTBE	--	<0.05
EDB	--	<0.005
EDC	--	<0.05
NAPH	--	<0.01
2-MN	--	<0.01
1-MN	--	<0.01

LEGEND:

- SUBJECT PROPERTY LINE BOUNDARY
- MW-1 MONITORING WELL LOCATION
- AS-1 AIR SPARGE WELL LOCATION
- FORMER FEATURES
- ELECTRIC LINE
- WATER LINE
- GAS LINE
- < NOT DETECTED AT OR ABOVE THE LABORATORY REPORTING LIMIT
- mg/kg MILLIGRAM PER KILOGRAM
- ppm PARTS PER MILLION
- bgs BELOW GROUND SURFACE

SAMPLE ID / SAMPLE DEPTH (bgs)

MW-9	5'	20'	25'	
DATE	10/02/2013			
PID	0.0	4.2	0.0	ppm
B	<0.02	<0.02	<0.02	mg/kg
T	<0.02	<0.02	<0.02	
E	<0.02	<0.02	<0.02	
X	<0.06	<0.06	<0.06	
TPH-G	<2	<2	<2	
TPH-D	<50	<50	<50	
TPH-O	<250	<250	<250	
Pb	--	2.53	--	
MTBE	--	<0.005	--	
EDB	--	<0.05	--	
EDC	--	<0.05	--	
NAPH	--	<0.01	--	
2-MN	--	<0.01	--	
1-MN	--	<0.01	--	

ANALYTES

ANALYTES:

B	BENZENE
T	TOLUENE
E	ETHYLBENZENE
X	TOTAL XYLENES
TPH-G	TOTAL PETROLEUM HYDROCARBONS AS GASOLINE
TPH-D	TOTAL PETROLEUM HYDROCARBONS AS DIESEL
TPH-O	TOTAL PETROLEUM HYDROCARBONS AS MOTOR OIL
Pb	DISSOLVED LEAD
MTBE	METHYL TERTIARY BUTYL ETHER
EDC	1,2-DICHLOROETHANE
EDB	1,2-DIBROMOETHANE
NAPH	NAPHTHALENE
1-MN	2-METHYLNAPHTHALENE
2-MN	1-METHYLNAPHTHALENE

Stantec
11130 NE 33RD PLACE, SUITE 200
BELLEVUE, WASHINGTON
PHONE: (425) 869-9448 FAX: (425) 869-1190

FOR: 7-ELEVEN
FACILITY NO. 25821
1824 GEORGE WASHINGTON WAY
RICHLAND, WASHINGTON

SITE PLAN WITH SOIL ANALYTICAL RESULTS OCTOBER 2, 2013

FIGURE: **5**

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
185750037	MDR	DH	PF	JAN 2016

FILEPATH:M:_00 OTHER OFFICES\01-REDMOND\7-11\25821\2017\REVISED EDITS\FIG-9 SOIL 2013.dwg | Layout Tab: FIG-5 SOIL | Drafter: miramirez | Mar 21, 2017 at 11:37

Work Request Form

Project Name: Former 7-Eleven Store No. 25821 **Date:** 9/30/19
Site Address: 1824 George Washington Way, Richland, Washington
Activity: Sampling of Monitoring Well MW-3
Project No.: 185703911 **Task:** 800.0700
Project Manager: Paul Fairbairn
Business Unit Leader/Regional Manager: John Wainwright
Prepared by: Andrea Schweiter **Reviewed by:** **Submitted to:** RK

WORK DESCRIPTION:

1. Arrive onsite and check in with Subway Restaurant manager and contact Paul Fairbairn.
2. Review HASP, conduct Health and Safety briefing and perform Site Walk to determine any traffic flow.
3. Open wells shown on attached table and let groundwater levels equilibrate.
4. Inspect well conditions note if any well needs repair.
5. Gauge all site wells following gauging order on Sampling Request Form.
6. Low-flow purge and sample wells following the sampling order provided.
7. Take a drum for purge water. Store purge water in drums onsite, make sure they are labeled properly and secured.
8. Take inventory of all waste drums generated by Stantec at the site, and mark locations on site plan.
9. Fill Out Equipment Billing Sheet for all equipment used on the job and attach with field notes
10. Call or text Paul Fairbairn in the office prior to leaving the site.
11. Turn in field notes to Andrea Schweiter ASAP

* Please note, well condition & take photos

ANALYTICAL REQUIREMENTS:	BOTTLES:	EQUIPMENT NEEDED:
• NWTPH-Dx	• 2-1L Ambers unpreserved or preserved	H&S plan
		Safety Equipment
		Delineators
		Test America Cooler with bottles
		Low-Flow Purging/Sampling Equipment
		Oil/Water Interface Probe
		Disposable bailers/ Rope
		Peristaltic Pump & Tubing
		Drum and labels

ESTIMATED HOURS TO COMPLETE:

Billing Title	Billing Category	Authorized Hours to Complete	Task No.
Field Tech	Regular - Direct Labor	3 hours + 7 hours Travel	800.0700
Equipment Form	Regular - Direct Labor		800.0700
Bottle Order	Regular - Direct Labor	0.5	800.0115
	Total Hours	**10.5**	

AUTHORIZATION: **COMPLETED:**

Stantec

SAFE DRIVING – VEHICLE PRE-USE CHECKLIST

SWP 124A

Employee Name: Brian Schoenmeman

Region/Business Unit: 1857

Date: 10/1/19

Time: 0610

Vehicle Color: White

Vehicle Make/Model: Ford Transit Connect

Vehicle License Plate Number:

Job: 7Eleven 25821

Job #: 185703911

# of Km or Mi Driven

Job:

Job #:

# of Km or Mi Driven

Odometer Start: 37455

Odometer Stop: 37729

Total Km or Mi Driven: 274

Stantec Vehicle ☑

Rental ☐

Personal Vehicle ☐

Perimeter Walk Around:	Item is OK	Item is NOT OK
Check for signs of vandalism, negligence, damage or unusual conditions	✓	
Check all tires for excessive and unusual wear and proper inflation – include the spare tire if accessible	✓	
Check under vehicle for signs of leaking fluids	✓	
Check wiper blades (Do they work? Do they need replacement?)	✓	
Check all light systems – brake, head, back-up, running, turn signals, emergency flashers	✓	
Check to make sure doors, truck/toolbox lids, tailgates all open and close properly	✓	
(Make sure you have keys to any toolboxes that you may need to access)	✓	

Check Gauges on Dashboard:	Item is OK	Item is NOT OK
Fuel Level	✓	
Oil light	✓	
Engine Coolant Temperature Gauge	✓	
Service Indicator Lights	✓	
Battery Charge Indicator	✓	

Stantec

SAFE DRIVING – VEHICLE PRE-USE CHECKLIST

SWP 124A

Inside Vehicle:	Item is OK	Item is NOT OK
Make sure seatbelts are present for all who will be riding in the vehicle	✓	
Secure all cargo in the vehicle so that items will not become projectiles in the event of sudden stops or collisions	✓	
Adjust the seat position, rearview and side mirrors	✓	
Adjust temperature controls, vents, radio, etc.	✓	

If Pulling a Trailer:	Item is OK	Item is NOT OK
Is trailer properly hitched to the vehicle (including safety chains)		
All lights are working properly		
Proper trailer for the load (check weight specifications) and load is balanced. If you anticipate the load is near the trailer weight limit, weigh the trailer at a weigh station		
Are tires in good condition and properly inflated?		

Notify the vehicle manager or rental company if you feel that any deficiencies are unsafe and DO NOT drive the vehicle

Signature: Brian Ackerman

Stantec

SAFE DRIVING – VEHICLE PRE-USE CHECKLIST

SWP 124A

Employee Name: BSchoenmann

Region/Business Unit: 1857

Date: 9/30/19

Time: 0530

Vehicle Color: White

Vehicle Make/Model: Ford Transit Connect

Vehicle License Plate Number:

Job: 7Eleven 25821

Job #: 185705911

# of Km or Mi Driven 306

Job:

Job #:

# of Km or Mi Driven

Odometer Start: 37149

Odometer Stop: 37455

Total Km or Mi Driven: 306

Stantec Vehicle ☑

Rental ☐

Personal Vehicle ☐

Perimeter Walk Around:	Item is OK	Item is NOT OK
Check for signs of vandalism, negligence, damage or unusual conditions	✓	
Check all tires for excessive and unusual wear and proper inflation – include the spare tire if accessible	✓	
Check under vehicle for signs of leaking fluids	✓	
Check wiper blades (Do they work? Do they need replacement?)	✓	
Check all light systems – brake, head, back-up, running, turn signals, emergency flashers	✓	
Check to make sure doors, truck/toolbox lids, tailgates all open and close properly	✓	
(Make sure you have keys to any toolboxes that you may need to access)	✓	

Check Gauges on Dashboard:	Item is OK	Item is NOT OK
Fuel Level	✓	
Oil light	✓	
Engine Coolant Temperature Gauge	✓	
Service Indicator Lights	✓	
Battery Charge Indicator	✓	

Stantec

SAFE DRIVING – VEHICLE PRE-USE CHECKLIST

SWP 124A

Inside Vehicle:	Item is OK	Item is NOT OK
Make sure seatbelts are present for all who will be riding in the vehicle	✓	
Secure all cargo in the vehicle so that items will not become projectiles in the event of sudden stops or collisions	✓	
Adjust the seat position, rearview and side mirrors	✓	
Adjust temperature controls, vents, radio, etc.	✓	

If Pulling a Trailer:	Item is OK	Item is NOT OK
Is trailer properly hitched to the vehicle (including safety chains)		
All lights are working properly		
Proper trailer for the load (check weight specifications) and load is balanced. If you anticipate the load is near the trailer weight limit, weigh the trailer at a weigh station		
Are tires in good condition and properly inflated?		

Notify the vehicle manager or rental company if you feel that any deficiencies are unsafe and DO NOT drive the vehicle

Signature:

Site Visitation Report

Project Name: Former 7-Eleven Store No. 25821

Name(s): Brian Schoenneman Date: 9/30/19 / 10/1/19 Time of Arrival Call-In: 1541 / 0612

Arrival Time: 1541 / 0612 Departure Time: 1745 / 0719 Time of Departure Call-In: 1745 / 0719

Weather Conditions: (SUN) CLOUDY RAIN SNOW Temperature: F

DRUM INVENTORY:

	WATER		CARBON	TOTAL OPEN TOP	
	SOIL		EMPTY	TOTAL BUNG TOP	

Please take a picture of anything not clearly labeled

HEALTH AND SAFETY ASSESSMENT:

Traffic and delineation	HASP and hospital directions
PPE	First aid kit
Weather/Cold stress	Fire extinguisher
Slips, trips, falls	Proper lifting of heavy items
Proper tools for each task	Bottle handling/glassware

DESCRIPTION OF ACTIVITIES ONSITE AND NOTES:

Did site H&S assessment. Checked in with Subway Shop, initiated RMS-2.
Opened 12 wells onsite. Gauged all 12 wells
Calibrated YSI 556 meter.
Purged & Sampled MW-3.
Took Photos of all 12 wells. Labled the Photos & made a one drive folder called 25821 Wells.

Groundwater Gauging Form

9/30/19

Project Name: Former 7-Eleven Store No. 25821 **Project No.:** 185703911 **Task:** 800.0700
Project Manager: Paul Fairbairn **Lab:** TestAmerica
Field Technician: Brian Schoenneman

Well Number	Gauge Order	Sample Order	Analyses	Time	DTW (ft.)	DTB (ft.)	Sample? (Y/N)	Comments (Please Note Condition of Well)
MW-1	1			1603	17.10	19.75		
MW-2	2			1605	17.03	18.37		
MW-3	3	1	NWTPH-Dx	1607	17.00	19.56		
MW-4	4			1612	16.57	18.45		
MW-5	5			1615	0.51	16.49		
MW-6	6			1620	16.12	19.26		
MW-7	7			1623	15.92	18.12		
MW-8	8			1624	16.05	26.95		
MW-9	9			1630	16.51	19.91		
MW-10	10			1632	16.83	23.11		
MW-11	11			1634	16.61	22.67		
MW-12	12			1637	15.33	21.71		

Estimated Gallons Purged:

NOTES:

YSI 556 Calibration
pH 4.00 buffer 4.05/11.00 pH 7.00 buffer 6.75/9.00
Conductivity 1413 us buffer 1385 / 1413
ORP @ 16.3 °C / 225.8 mv buffer 205.1 / 225.8 mv
Dtw @ 764.15 mm Hg 12.50 / 11.74 MSL

DTP: Depth to Free Product (FP or NAPH) Below TOC
DTW: Depth to Groundwater Below TOC
DTB: Depth to Bottom of Well Casing Below TOC

Project Name: Former 7-Eleven Store No. 25821 **Project No.:** 185703911
Project Manager: Paul Fairbairn **Lab:** TestAmerica
Field Technician: Brian Schoenneman **Well ID:** MW-3

Date Purged: 9/30/19 Start (2400hr): 1701 End (2400hr): 1721
Date Sampled: 9/30/19 Sample Time (2400hr): 1731
Sample Type: Groundwater Low-Flow Used? Y

Casing Diameter: 2" ✓ 3" _____ 4" _____
Casing Volume (Gallons per foot): (0.17) (0.38) 0.67

Depth to Bottom (ft): 19.00
Depth to Water (ft): 17.00
Water Column Height (ft): 2.56 Actual Purge (gal): 1.5

Field Measurements

Date	Time	Volume	Temp C	Conductivity uS	pH	Color	O.R.P.	DO mg/L
9/30/19	1702	0.0	19.62	712	6.75	Clear	159.6	3.37
	1707	0.3	19.64	724	7.33	Clear	157.4	3.81
	1710	0.5	19.63	731	7.35	Clear	164.7	3.95
	1713	0.7	19.57	736	7.36	Clear	169.2	4.00
	1716	0.9	19.55	734	7.37	Clear	171.5	3.92
	1719	1.1	19.63	739	7.37	Clear	172.7	3.95
	1721	1.5	19.57	747	7.39	Clear	173.2	3.96

Calculated Variance of Final Three Samples:
Temp: _____ Conductivity: _____ pH: _____ Color: _____ O.R.P.: _____

Acceptable Variance Limits:
Temp: _____ Conductivity: _____ pH: _____ Color: _____ O.R.P.: _____

Depth to Purge Intake During Purge: 19.00 **Sample DTW:** 17.04

Quantity of Sample Vessel & Preservative:	Analyses:
NWTPH-Dx	

Purging Equipment:	Sampling Equipment:
Geotech Peristaltic Pump	YSI Meter

Flow Through Cell Disconnected Prior to Sample Collection?: Yes ✓ No _____

Well Pad Condition: OK Well Casing Condition: OK
Well Vault Condition: OK Seal Present?: Y Bolts Present?: N
Well Integrity: OK Well Tag: Y

Signature: BS Schoenneman

Well is in OK Condition. Road monument is worn, but intact. Bolt holes for its lid are broke off.

Page _____ of _____

HEALTH, SAFETY AND ENVIRONMENT

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SAFE DRIVING – VEHICLE PRE-USE CHECKLIST

SWP 124A

Employee Name: Brian Schoenneman

Region/Business Unit: 1857

Date: 11/21/19

Time: 0610

Vehicle Color: white

Vehicle Make/Model: Ford/ Transit Connect

Vehicle License Plate Number:

Job: 7Eleven 25821 MHS

Job #: 185703911 # of Km or Mi Driven 277

Job:

Job #:

# of Km or Mi Driven

Odometer Start: 41939

Odometer Stop: 41716

Total Km or Mi Driven: 277

Stantec Vehicle ☑

Rental ☐

Personal Vehicle ☐

Perimeter Walk Around:	Item is OK	Item is NOT OK
Check for signs of vandalism, negligence, damage or unusual conditions	✓	
Check all tires for excessive and unusual wear and proper inflation – include the spare tire if accessible	✓	
Check under vehicle for signs of leaking fluids	✓	
Check wiper blades (Do they work? Do they need replacement?)	✓	
Check all light systems – brake, head, back-up, running, turn signals, emergency flashers	✓	
Check to make sure doors, truck/toolbox lids, tailgates all open and close properly	✓	
(Make sure you have keys to any toolboxes that you may need to access)	✓	

Check Gauges on Dashboard:	Item is OK	Item is NOT OK
Fuel Level	✓	
Oil light	✓	
Engine Coolant Temperature Gauge	✓	
Service Indicator Lights	✓	
Battery Charge Indicator	✓	

Stantec

SAFE DRIVING – VEHICLE PRE-USE CHECKLIST

SWP 124A

Inside Vehicle:	Item is OK	Item is NOT OK
Make sure seatbelts are present for all who will be riding in the vehicle	✓	
Secure all cargo in the vehicle so that items will not become projectiles in the event of sudden stops or collisions	✓	
Adjust the seat position, rearview and side mirrors	✓	
Adjust temperature controls, vents, radio, etc.	✓	

If Pulling a Trailer:	Item is OK	Item is NOT OK
Is trailer properly hitched to the vehicle (including safety chains)		
All lights are working properly		
Proper trailer for the load (check weight specifications) and load is balanced. If you anticipate the load is near the trailer weight limit, weigh the trailer at a weigh station		
Are tires in good condition and properly inflated?		

Notify the vehicle manager or rental company if you feel that any deficiencies are unsafe and DO NOT drive the vehicle

Signature: Brian Adamson

Stantec

Work Request Form

Project Name: Former 7-Eleven Store No. 25821 **Date:** 11/21/19
Site Address: 1824 George Washington Way, Richland, Washington
Activity: Sampling of Monitoring Well MW-3
Project No.: 185703911 **Task:** 800.0700
Project Manager: Paul Fairbairn
Business Unit Leader/Regional Manager: John Wainwright
Prepared by: Andrea Schweiter **Reviewed by:** **Submitted to:** RJC

WORK DESCRIPTION:

1. Arrive onsite and check in with Subway Restaurant manager and contact Paul Fairbairn.
2. Review HASP, conduct Health and Safety briefing and perform Site Walk to determine any traffic flow.
3. Open wells shown on attached table and let groundwater levels equilibrate.
4. Inspect well conditions note if any well needs repair.
5. Gauge all site wells following gauging order on Sampling Request Form.
6. Low-flow purge and sample wells following the sampling order provided.
7. Take a drum for purge water. Store purge water in drums onsite, make sure they are labeled properly and secured.
8. Take inventory of all waste drums generated by Stantec at the site, and mark locations on site plan.
9. Fill Out Equipment Billing Sheet for all equipment used on the job and attach with field notes
10. Call or text Paul Fairbairn in the office prior to leaving the site.
11. Turn in field notes to Andrea Schweiter ASAP

ANALYTICAL REQUIREMENTS:	BOTTLES:	EQUIPMENT NEEDED:
• NWTPH-Dx	• 2-1L Ambers unpreserved or preserved	H&S plan
		Safety Equipment
		Delineators
		Test America Cooler with bottles
		Low-Flow Purging/Sampling Equipment
		Oil/Water Interface Probe
		Disposable bailers/ Rope
		Peristaltic Pump & Tubing
		Drum and labels

ESTIMATED HOURS TO COMPLETE:

Billing Title	Billing Category	Authorized Hours to Complete	Task No.
Field Tech	Regular - Direct Labor	2 hours + 7 hours Travel	800.0700
Equipment Form	Regular - Direct Labor		800.0700
Bottle Order	Regular - Direct Labor	0.5	800.0115
	Total Hours	**9.5**	

AUTHORIZATION: **COMPLETED:** 11/21/19

Site Visitation Report

Project Name: Former 7-Eleven Store No. 25821

Name(s): Brian Schoenneman Date: 11/21/19 Time of Arrival Call-In: 0615

Arrival Time: 0614 Departure Time: 0900 Time of Departure Call-In: 0900

Weather Conditions: (SUN) CLOUDY RAIN SNOW Temperature: 30 F

DRUM INVENTORY:

____	WATER	____	CARBON	TOTAL OPEN TOP	____
____	SOIL	____	EMPTY	TOTAL BUNG TOP	____

Please take a picture of anything not clearly labeled

HEALTH AND SAFETY ASSESSMENT:

Traffic and delineation	HASP and hospital directions
PPE	First aid kit
Weather/Cold stress	Fire extinguisher
Slips, trips, falls	Proper lifting of heavy items
Proper tools for each task	Bottle handling/glassware

DESCRIPTION OF ACTIVITIES ONSITE AND NOTES:

Did Site HAS evaluation. Initiated RMS-2, Marked in With Subway Shop. Opened 12 wells onsite. Gauged 12 wells. Purged & Sampled MW-3. Took Purge Water (1.3 gal) To 7Eleven 17053 Ellensburg & deposited it into Drum there. Took Samples to Fed Ex Sea Tac Airport for ship

Groundwater Gauging Form

11/21/19

Project Name: Former 7-Eleven Store No. 25821 **Project No.:** 185703911 **Task:** 800.0700
Project Manager: Paul Fairbairn **Lab:** TestAmerica
Field Technician: Brian Schoenneman

Well Number	Gauge Order	Sample Order	Analyses	Time	DTW (ft.)	DTB (ft.)	Sample? (Y/N)	Comments (Please Note Condition of Well)
MW-1	1			0705	17.53	19.77		
MW-2	2			0708	17.54	18.31		
MW-3	3	1	NWTPH-Dx	0711	17.36	19.50		
MW-4	4			0714	16.93	18.45		
MW-5	5			0717	05.4	16.52		
MW-6	6			0720	17.50	19.26		
MW-7	7			0723	16.32	18.12		
MW-8	8			0728	16.42	21.04		
MW-9	9			0731	16.73	21.93		
MW-10	10			0734	17.17	23.17		
MW-11	11			0737	16.97	22.15		
MW-12	12			0740	15.72	21.68		

Estimated Gallons Purged:

NOTES:

YSI 556 Calibration
pH 4.00 buffer 4.32 / 4.00 pH 7.00 buffer 6.85 / 7.00
Conductivity 1413 µS buffer 1183 / 1413 µS
ORP @ 4.3 °C / 233.0 mV buffer 240.0 / 232.6 mV ✓
DO @ 764.59 mmHg 14.21 / 10.70 mg/L

DTP: Depth to Free Product (FP or NAPH) Below TOC
DTW: Depth to Groundwater Below TOC
DTB: Depth to Bottom of Well Casing Below TOC

Project Name: Former 7-Eleven Store No. 25821 | **Project No.:** 185703911
Project Manager: Paul Fairbairn | **Lab:** TestAmerica
Field Technician: Brian Schoenneman | **Well ID:** MW-3

Date Purged: 11/21/19 | Start (2400hr): 0813 | End (2400hr): 0834
Date Sampled: 11/21/19 | Sample Time (2400hr): 0844
Sample Type: Groundwater | Low-Flow Used? Y

Casing Diameter: 2" ✓ | 3" _____ | 4" _____
Casing Volume (Gallons per foot): (0.17) | (0.38) | 0.67

Depth to Bottom (ft): 19.50
Depth to Water (ft): 17.36
Water Column Height (ft): 2.14
Actual Purge (gal): 1.3

Field Measurements

Date	Time	Volume	Temp °C	Conductivity uS	pH	Color	O.R.P.	
11/21/19	0814	0.0	15.98	860	6.80	Clear	189.0	Dorm 4.02
	0819	0.3	17.18	882	7.29	Clear	198.8	3.76
	0822	0.5	17.17	886	6.99	Clear	226.2	3.69
	0825	0.7	17.30	894	6.98	Clear	236.6	3.53
	0828	0.9	17.20	903	6.96	Clear	240.5	3.46
	0831	1.1	17.36	914	6.74	Clear	241.9	3.35
	0834	1.3	17.17	913	6.73	Clear	242.4	3.11

Calculated Variance of Final Three Samples:
Temp: _____ Conductivity: _____ pH: _____ Color: _____ O.R.P.: _____
Acceptable Variance Limits:
Temp: _____ Conductivity: _____ pH: _____ Color: _____ O.R.P.: _____

Depth to Purge Intake During Purge: 19.00 **Sample DTW:** 17.41

Quantity of Sample Vessel & Preservative:	Analyses:
NWTPH-Dx	

Purging Equipment:	Sampling Equipment:
Geotech Peristaltic Pump	YSI Meter

Flow Through Cell Disconnected Prior to Sample Collection?: Yes ✓ No _____
Well Pad Condition: OK | Well Casing Condition: OK
Well Vault Condition: OK | Seal Present?: Y | Bolts Present?: Y
Well Integrity: OK | Well Tag: Y

Signature:

Page _____ of _____

Stantec

Work Request Form

Project Name: Former 7-Eleven Store No. 25821 **Date:** 3/30/20
Site Address: 1824 George Washington Way, Richland, Washington
Activity: Sampling of Monitoring Well MW-3
Project No.: 185703911 **Task:** 1000.0700
Project Manager: Paul Fairbairn
Business Unit Leader/Regional Manager: John Wainwright
Prepared by: Andrea Schweiter **Reviewed by:** **Submitted to:** AS

WORK DESCRIPTION:

1. Arrive onsite and check in with Subway Restaurant manager and contact Paul Fairbairn.
2. Review HASP, conduct Health and Safety briefing and perform Site Walk to determine any traffic flow.
3. Open wells shown on attached table and let groundwater levels equilibrate.
4. Inspect well conditions note if any well needs repair.
5. Gauge all site wells following gauging order on Sampling Request Form.
6. Low-flow purge and sample wells following the sampling order provided.
7. Take a drum for purge water. Store purge water in drums onsite, make sure they are labeled properly and secured.
8. Take inventory of all waste drums generated by Stantec at the site, and mark locations on site plan.
9. Fill Out Equipment Billing Sheet for all equipment used on the job and attach with field notes
10. Call or text Paul Fairbairn in the office prior to leaving the site.
11. Turn in field notes to Andrea Schweiter ASAP

ANALYTICAL REQUIREMENTS:	BOTTLES:	EQUIPMENT NEEDED:
• NWTPH-Dx	• 2-1L Ambers unpreserved or preserved	H&S plan
		Safety Equipment
		Delineators
		Test America Cooler with bottles
		Low-Flow Purging/Sampling Equipment
		Oil/Water Interface Probe
		Disposable bailers/ Rope
		Peristaltic Pump & Tubing
		Drum and labels

ESTIMATED HOURS TO COMPLETE:

Billing Title	Billing Category	Authorized Hours to Complete	Task No.
Field Tech	Regular - Direct Labor	2 hours + 7 hours Travel	1000.0700
Equipment Form	Regular - Direct Labor		1000.0700
Bottle Order	Regular - Direct Labor	0.5	1000.0115
	Total Hours	**9.5**	

AUTHORIZATION: **COMPLETED:**

Stantec

SAFE DRIVING – VEHICLE PRE-USE CHECKLIST

SWP 124A

Employee Name: B Schoenemann

Region/Business Unit: 1857

Date: 3/30/20

Time: 0420

Vehicle Color: wht

Vehicle Make/Model: Ford Transit Connect

Vehicle License Plate Number: CJ01431

Job: TEKren 25821

Job #: 185703911 # of Km or Mi Driven 469

Job:

Job #: # of Km or Mi Driven

Odometer Start: 48299

Odometer Stop: 48768

Total Km or Mi Driven: 469

Stantec Vehicle ☑

Rental ☐

Personal Vehicle ☐

Perimeter Walk Around:	Item is OK	Item is NOT OK
Check for signs of vandalism, negligence, damage or unusual conditions	✓	
Check all tires for excessive and unusual wear and proper inflation – include the spare tire if accessible	✓	
Check under vehicle for signs of leaking fluids	✓	
Check wiper blades (Do they work? Do they need replacement?)	✓	
Check all light systems – brake, head, back-up, running, turn signals, emergency flashers	✓	
Check to make sure doors, truck/toolbox lids, tailgates all open and close properly	✓	
(Make sure you have keys to any toolboxes that you may need to access)	✓	

Check Gauges on Dashboard:	Item is OK	Item is NOT OK
Fuel Level	✓	
Oil light	✓	
Engine Coolant Temperature Gauge	✓	
Service Indicator Lights	✓	
Battery Charge Indicator	✓	

Groundwater Gauging Form

3/30/20

Project Name: Former 7-Eleven Store No. 25821
Project Manager: Paul Fairbairn
Field Technician: Brian Schoenneman

Project No.: 185703911 **Task:** 800.0700
Lab: TestAmerica

Well Number	Gauge Order	Sample Order	Analyses	Time	DTW (ft.)	DTB (ft.)	Sample? (Y/N)	Comments (Please Note Condition of Well)
MW-1	1			0913	17.99	19.27		
MW-2	2			0916	18.00	18.29		
MW-3	3	1	NWTPH-Dx	0923	17.81	19.85		
MW-4	4			0926	17.40	18.46		
MW-5	5			0930	0.54	16.50		
MW-6	6			0933	16.48	19.27		
MW-7	7			0936	16.73	18.40		
MW-8	8			0943	16.89	26.91		
MW-9	9			0939	17.21	21.93		
MW-10	10			0992	17.63	23.16		
MW-11	11			0945	17.41	22.61		
MW-12	12			0948	16.20	21.70		

Estimated Gallons Purged:

NOTES:

YSI 556 Calibration
PH 4.00 buffer 2.62 / 4.00
PH 7.00 buffer 7.54 / 7.60
Conductivity 1415 us buffer 1115 / 1415 us
ORP @ 14.2 °C / 227.5 mV buffer
D.O. @ 753.30 mm Hg 227.0 227.5 mV
11.90 / 11.13 mg/L

DTP: Depth to Free Product (FP or NAPH) Below TOC
DTW: Depth to Groundwater Below TOC
DTB: Depth to Bottom of Well Casing Below TOC

TestAmerica Nashville

Nashville, TN 37204
Phone (615) 726-0177 Fax (615) 726-3404

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: Brian Schoenneman	Lab PM: Andy Johnson	Carrier Tracking No(s):	COC No:
Client Contact: Paul Fairbairn	Phone: 916-213-3205	E-Mail: andy.johnson@testamericainc.com		Page: Page 1 of 1
Company: Stantec Consulting Corp.				Job #: Store No. 25821
Address: 11130 NE 33rd Place Suite 200	Due Date Requested:			
City: Bellevue	TAT Requested (days): Standard			
State, Zip: WA, 98004-1465				
Phone: 425-298-1000(Tel)	PO #: Purchase Order Requested			
Email: paul.fairbairn@stantec.com	WO #: 794963			
Project Name: 1Q20 GWM 25821	Project #: 185703911			
Site: 25821 Richland	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	NWTPH-Dx	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-3	3/30/20	1103	G	W			X		

Possible Hazard Identification

☐ Non-Hazard ☐ Flammable ☐ Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Brian Schoenneman	3/30/20 1545	Stantec	Tom Hanley	3/30/20 1545	TA-Sea
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Site Visitation Report

Project Name: Former 7-Eleven Store No. 25821

Name(s): Brian Schoenneman Date: 3/30/20 Time of Arrival Call-In: 0820

Arrival Time: 0820 Departure Time: 1130 Time of Departure Call-In: 1130

Weather Conditions: (SUN) CLOUDY RAIN SNOW Temperature: 59 F

DRUM INVENTORY:

____	WATER	____	CARBON	TOTAL OPEN TOP	____
____	SOIL	____	EMPTY	TOTAL BUNG TOP	____

Please take a picture of anything not clearly labeled

HEALTH AND SAFETY ASSESSMENT:

Traffic and delineation	HASP and hospital directions
PPE	First aid kit
Weather/Cold stress	Fire extinguisher
Slips, trips, falls	Proper lifting of heavy items
Proper tools for each task	Bottle handling/glassware

DESCRIPTION OF ACTIVITIES ONSITE AND NOTES:

Did Site H&S Orientation. Initiated RMS-2. Opened + Gauged 12 Wells. Purged + Collected Sample from MW-3. Took Sample To Eurofins Lab in Folsom. Purge Water Went To Drum @ 27390

STANTEC MONITORING WELL PURGING AND SAMPLING PROCEDURES

Monitoring well purging and sampling was conducted using U.S. Environmental Protection Agency (EPA) approved low-flow sampling techniques.

Purging Procedures

A. Using a decontaminated instrument (i.e., tape measure, continuity meter, or interface probe) measure the depth to groundwater in reference to the measuring point at the top of the casing. Measure the total depth of the well to calculate the height and volume of water in the borehole.

B. Based on previously obtained data, if a monitoring well is suspected of containing liquid-phase hydrocarbon (LPH) concentrations, lower a transparent bailer into the well to evaluate the presence of a LPH sheen on the water table.

C. Decontaminate the purge pump and/or PVC bailers by scrubbing in Alconox detergent solution, followed by a tap water rinse and then a deionized water rinse.

D. Purge, by low-flow pumping (less than 0.5 liters per minute) for approximately five minutes. If low-flow purging is not possible and bailing is used to purge the well, then a minimum of three well volumes will be removed. If the well goes dry, the procedure listed in step E2 (below) should be followed. Parameters should be measured after each ½-casing volume is removed.

E. Conduct field measurements (i.e., pH, specific conductivity, temperature, and oxidation-reduction potential) note clarity, color, turbidity, and odor of purge water, and measure depth to groundwater.

1. If the well has not been purged dry, continue to pump and conduct field measurements (including depth to water) again every five minutes during purging.

    a) If the first through third series of measurements vary by less than 10 percent, the well has been adequately purged. Allow the well to recover to 80 percent of its static condition and begin the sampling procedure.

    b) If the measurements vary by 10 percent or greater, repeat Step E1 above.

    c) If a minimum of three parameters cannot be measured during purging, remove three well volumes prior to sampling.

2. If the well has been purged dry, measure the water level and allow the well to recharge to 80 percent, or for two hours, whichever occurs first. Calculate the percent recovery, and begin the sampling procedure.

Sampling Procedures

- Use the pump to collect the groundwater sample.
- Transfer the groundwater sample into the appropriate container(s). Where applicable, some containers are completely filled to achieve zero headspace. Label the samples according to location and date of collection.
- Enter the samples into Chain-of-Custody and preserve on ice until delivery to the analytical laboratory. Complete the Well Development or Purging/Sampling Log to be stored in the project file.

When requested by the client, collect a bailer rinsate blank of deionized water to check decontamination procedure. In addition, trip blanks prepared by the laboratory and kept with the samples may be included to check for cross contamination of samples within the cooler. Additional and/or alternate QA/QC samples can be collected and analyzed upon client request.