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ENVIRONMENT

Libby Goldstein
Washington State Department of Ecology
NW Regional Office
3190 160th Avenue Southeast
Bellevue, WA 98008-5452

Subject:
Annual Site Status Report 2014
Former ARCO Facility # 00217
VCP No. NW2434
13131 Bothell Everett Hwy
Everett, WA 98208

Date:
February 11, 2015

Contact:
Richard Rodriguez

Phone:
206-726-4762

Email:
Richard.Rodriguez@arcadis-us.com

Our ref:
GP09BPNA.WA01

Dear Ms. Goldstein:

On behalf of BP West Coast Products, LLC. (BP), ARCADIS U.S., Inc. (ARCADIS) is pleased to submit this *Annual Site Status Report 2014* for the above referenced facility (the Site). The Site currently operates as an active retail gasoline station located at 13131 Bothell Everett Highway in Bothell, Washington. This report discusses activities performed at the site during 2014, including a confirmation soil sampling event, the installation of one monitoring well, and two groundwater monitoring events. The Site Location Map is presented as **Figure 1**.

Confirmation Soil Sampling

On April 23, 2014, ARCADIS advanced three soil borings: HA-1, HA-2, and HA-4. The soil borings were advanced to confirm historical impacts previously identified in 2003 during the replacement and upgrading of the dispensers and product lines. Total petroleum hydrocarbons (TPH) as gasoline range organics (GRO) and benzene, toluene, ethylbenzene and total xylenes (BTEX collectively) were detected at concentrations exceeding Washington State Department of Ecology (Ecology) Model Toxics Control Act (MTCA) Method A Cleanup Levels (Method A CULs).

The soil borings were advanced using a hand auger due to the proximity of subsurface utilities and product piping. Soil samples for laboratory analysis were collected via hand auger from soil borings HA-1 and HA-2. No soil samples were collected from soil boring HA-4 during this confirmation soil sampling event. All of the borings were abandoned immediately after advancement. Soil boring locations are

presented in **Figure 2**. Soil borings HA-1, HA-2, and HA-4 were advanced to total depths of 8.0 feet below ground surface (bgs), 7.5 feet bgs, and 6.5 feet bgs, respectively. Soil samples were collected for lithological description and field screen of volatile organic compounds (VOCs) using a Photoionization Detector (PID) and other visual signs of impacts at intervals determined by ARCADIS personnel. After reaching total depths, the borings were abandoned. The borings were filled with bentonite chips to 1.5 feet bgs, and concrete from 1.5 feet bgs to ground surface. Soil types and other pertinent data were recorded in the boring logs included in **Appendix A**.

Soil samples were selected for analysis based on field observations (PID readings, staining, and/or odor) (HA-1 at depths of 3-3.5 feet bgs, 4-4.5 feet bgs, and 7.5-8 feet bgs and from HA-2 at depths of 3-3.5 feet bgs, 4-4.5 feet bgs, and 7-7.5 feet bgs. Soil boring HA-4 was advanced within a former excavation containing imported pea gravel and sand backfill. Consequentially, no analytical samples from this boring were submitted to the laboratory. The samples were deposited in laboratory-provided, pre-cleaned sample containers, sealed, labeled, and immediately stored in a cooler with ice for transport to Eurofins Lancaster Laboratories Environmental (Lancaster), in Lancaster, Pennsylvania, under standard chain-of-custody protocol. Soil samples were analyzed for the following constituents of concern (COCs):

- TPH as GRO by Ecology Northwest Method NWTPH-Gx;
- TPH as Diesel Range Organics (DRO) and Heavy Oil Range Organics (HO) by Ecology Northwest Method NWTPH-Dx;
- Extractable Petroleum Hydrocarbons by Ecology Method WA-EPH;
- Volatile Petroleum Hydrocarbons by Ecology Method WA-VPH;
- BTEX by United States Environmental Protection Agency (EPA) Method 8260B;
- Carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs) and Naphthalenes by EPA Method 8270C SIM; and
- Total Lead by EPA Method 6010B.

Analytical results for groundwater samples collected during this event indicate concentrations of the following COCs were present at concentrations exceeding MTCA Method A CULs for soils:

- GRO was detected in exceedance of the 30 milligram per kilogram (mg/kg) Method A CUL, at concentrations of 38 mg/kg and 49 mg/kg in the soil samples collected from boring HA-1 at depths of 3-3.5 feet bgs and 4-4.5 feet bgs, respectively.
- Benzene was detected in exceedance of the 0.03 mg/kg Method A CUL, at concentrations of 0.16 mg/kg and 0.22 mg/kg in the soil samples collected from boring HA-1 at depths of 3-3.5 feet bgs and 4-4.5 feet bgs, respectively.

Soil analytical results are presented in **Figure 2** and **Table 1**. The laboratory analytical report and chain-of-custody documentation are included in **Appendix B**.

Monitoring Well Installation

On July 11, 2014, a single soil boring that was completed as monitoring well MW-11 was advanced by Cascade. Soil samples were collected drilling activities. The purpose of these borings and wells is to delineate and characterize soil and groundwater conditions downgradient from the historical impacts observed at the Site.

The boring was cleared to a depth of 6.5 feet below ground surface (bgs) using an air knife and vacuum truck to reduce the potential for damage to subsurface utilities. The boring was then advanced, via hollow-stem auger rig, from 6.5 feet bgs to a total depth of 14 feet. Field screening of soil samples was performed using a PID and visual inspection methods.

After reaching total depth, Cascade installed a 2-inch diameter well casing with a 10-foot section of 0.010-inch slotted, Schedule 40 polyvinyl chloride (PVC) screen extending from 4 feet to 14 feet bgs, and a 3.5-foot section of blank Schedule 40 PVC casing extending from 0.5 to 4 feet bgs. The annular space was filled with 2/12 silica sand from total depth to 3 feet bgs, bentonite chips from 3 to 2 feet bgs, and concrete from 2 to 1 foot bgs. An 8-inch well box was set in concrete to match the existing grade. A boring log is attached as a part of **Appendix A**.

Four soil samples were collected during the installation of MW-11 and submitted for laboratory analysis to Lancaster, under standard chain-of-custody protocols. Soil from soil boring MW-11 was sampled at depths of 4-4.5 feet bgs, 8-9.5 feet bgs, 9.5-11 feet bgs and 12.5-14 feet bgs. Soil samples were analyzed for the following COCs:

- GRO by Ecology Northwest Method NWTPH-Gx;
- DRO and HO by Ecology Northwest Method NWTPH-Dx; and
- BTEX and MTBE by EPA Method 8260B.

Benzene was detected at the MTCA Method A CUL of 0.030 mg/kg in the sample collected from MW-11 at a depth of 8-9.5 feet bgs. Analytical results from the other soil samples collected from MW-11 did not contain COC concentrations greater than MTCA Method A CULs. Soil analytical results are summarized in **Table 1** and **Figure 2**. The full analytical report is included in **Appendix B**.

Groundwater Monitoring

On March 5 and July 31, 2014, ARCADIS contracted Blaine Technical Services, Inc. (Blaine Tech) to conduct semi-annual groundwater monitoring activities at the Site. During both events, all existing monitoring wells were gauged and select wells were sampled for laboratory analysis. Field data sheets are included as **Appendix C**. Groundwater gauging data and select analytical results are summarized in **Table 2**.

Groundwater samples were analyzed for the following COCs:

- GRO by Ecology Northwest Method NWTPH-Gx;
- BTEX by EPA Method 8260B; and
- Total Lead by EPA Method 6010B.

Groundwater samples were collected in laboratory-provided bottles and placed in a cooler with ice. Samples were submitted for laboratory analysis to Eurofins Lancaster Laboratories Environmental (Lancaster) in Lancaster, Pennsylvania, under standard chain-of-custody protocols. The laboratory analytical report and chain-of-custody documentation are included as **Appendix D**.

First Semi-Annual Monitoring Event

On March 5 2014, Blaine Tech conducted the first semi-annual groundwater monitoring event at the Site. During this event all monitoring wells were gauged and monitoring wells IW-1, IW-3, MW-2, and MW-6 were sampled via low-flow purge methods. A duplicate sample was collected from monitoring well IW-3.

Depth to groundwater during the March 5 gauging ranged between 4.25 feet below top of casing (btoc) in monitoring well IW-1 and 7.29 feet btoc in monitoring well MW-9. Groundwater elevations during this sampling event ranged from 452.11 feet above mean sea level (msl) in monitoring well MW-9 to 460.62 feet above msl in monitoring well MW-4. The inferred groundwater flow was to the west.

Analytical results for groundwater samples collected during this event indicate that COCs detected at concentrations greater than laboratory RLs did not exceed MTCA Method A CULs. A groundwater contour map with analytical results from the first semi-annual event is presented as **Figure 3.**

Second Semi-Annual Monitoring Event

On July 31, 2014, Blaine Tech conducted the second semi-annual groundwater monitoring event at the Site. During this event, all monitoring wells were gauged and monitoring wells IW-1, IW-3, MW-2, MW-6, and MW-11 were sampled via low-flow purge methods. A duplicate sample was collected from IW-1.

Depth to groundwater during the July 31 gauging ranged between 6.55 feet btoc in monitoring well IW-1 and 9.13 feet btoc in monitoring well MW-9. Groundwater elevations during this sampling event ranged from 449.89 feet above msl in monitoring well MW-8 to 458.33 feet above msl in monitoring well MW-4. The inferred groundwater flow is to the west-southwest.

Analytical results for the groundwater samples indicate concentrations of the following COCs are present greater than MTCA Method A CULs:

- GRO was detected in exceedance of the Method A CUL of 800 micrograms per liter (µg/L) at concentrations of 2,200 µg/L and 2,100 µg/L in the parent and duplicate sample from IW-1, 2,300 µg/L in the IW-3 sample, and 4,200 µg/L in the MW-11 sample.
- Benzene was detected in exceedance of the Method A CUL of 5 µg/L at concentrations of 460 µg/L in the sample collected from MW-11.

Remaining COCs detected greater than laboratory RLs did not exceed Method A CULs. A groundwater contour map with analytical results from the second semi-

annual event is presented on **Figure 4** and a historical groundwater flow direction rose diagram is presented as **Figure 5**.

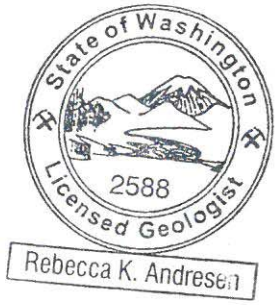
The next groundwater monitoring event at the Site is scheduled for the first half of 2015. Should you have any questions or if ARCADIS can be of further assistance, please contact Richard Rodriguez at (206) 726-4762.

Sincerely,

ARCADIS U.S., Inc.

Richard Rodriguez
Project Geologist

Rebecca Andresen, L.G.
Associate Vice President



CC: David Malik; Ambika, Inc.

Attachments:

Table 1	Soil Sample Analytical Results
Table 2	Groundwater Gauging Data and Selected Analytical Results
Figure 1	Site Location Map
Figure 2	Site Map with Soil Sample Locations and Analytical Results
Figure 3	Groundwater Contour Map with Analytical Results March 5, 2014
Figure 4	Groundwater Contour Map with Analytical Results July 31, 2014
Figure 5	Historical Groundwater Flow Direction Rose Diagram
Appendix A	Boring Logs
Appendix B	Soil Laboratory Report and Chain-of-Custody Documentation
Appendix C	Groundwater Monitoring Field Data Sheets
Appendix D	Groundwater Laboratory Report and Chain-of-Custody Documentation

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Tables

Table 1
Soil Sample Analytical Results
WA-00217 (05377)
13131 Bothell Everett Hwy, Everett, WA 98208

All analytical results are presented in milligrams per kilograms (mg/kg)

Sample ID	Depth[1]	Date	GRO	DRO	HO	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Naphthalenes[2]	cPAHs[3]	Total Lead
Model Toxics Control Act (MTCA) Method A Cleanup Levels			**30/100[4]**	**2,000**	**2,000**	**0.03**	**7**	**6**	**9**	**0.1**	**5**	**0.1**	**250**
HA-1 3-3.5	3-3.5'	4/23/2014	**38**	64	210	**0.16**	0.0035 J	0.35	7.2	0.0030 J	0.059	0.0085	27.9
HA-1 4-4.5	4-4.5'	4/23/2014	**49**	37	150	**0.22**	0.0060 J	1.2	5.5	0.0043 J	0.098	0.0047	23.7
HA-1 7.5-8	7.5-8'	4/23/2014	3.1 J	ND<3.9	ND<13	0.0087	ND<0.00094	0.014	0.071	0.0027 J	0.0011	ND<0.00065	1.34 J
HA-2 3-3.5	3-3.5'	4/23/2014	ND<0.92	ND<3.2	ND<11	ND<0.00043	ND<0.00086	ND<0.00086	ND<0.00086	ND<0.00043	ND<0.0011	ND<0.00054	ND<0.536
HA-2 4-4.5	4-4.5'	4/23/2014	2.3 J	140	1,600	0.017	ND<0.00095	ND<0.00095	0.0012 J	ND<0.00048	0.022	0.0047	23.3
HA-2 7-7.5	7-7.5'	4/23/2014	3.4 J	10	ND<12	0.0065	ND<0.0011	ND<0.0011	0.016	0.00082 J	0.079	ND<0.00063	2.41
MW-11-4-S-071114	4-4.5'	7/11/2014	29 J	59	540	0.0047 J	ND<0.0011	ND<0.0011	0.0016 J	ND<0.00057	--	--	--
MW-11-8-9.5-S-071114	8-9.5'	7/11/2014	ND<0.97	ND<3.4	ND<11	0.030	ND<0.00099	0.0020 J	0.0036 J	ND<0.00049	--	--	--
MW-11-9.5-11-S-071114	9.5-11'	7/11/2014	ND<1.1	ND<3.3	ND<11	0.013	ND<0.0010	ND<0.0010	0.0010 J	ND<0.00050	--	--	--
MW-11-12.5-14-S-071114	12.5-14'	7/11/2014	ND<1.1	ND<3.4	ND<11	0.00050 J	ND<0.00095	ND<0.00095	ND<0.00095	ND<0.00048	--	--	--

GRO = Total petroleum hydrocarbons - gasoline range organics
DRO = Total petroleum hydrocarbons - diesel range organics
HO = Total petroleum hydrocarbons - heavy oil range organics
BTEX = Benzene, Toluene, Ethylbenzene and Total Xylenes
MTBE = Methyl Tertiary Butyl Ether
cPAHs = Carcinogenic Polycyclic Aromatic Hydrocarbons
ND = Not Detected greater than laboratory method detection limits. Detection limit listed.
J = Estimated concentration above the method detection limit and below the limit of quantitation
GRO by Washington State Department of Ecology Northwest Method NWTPH-Gx
DRO and HO by Washington State Department of Ecology Northwest Method NWTPH-Dx
BTEX and MTBE by Environmental Protection Agengy Method 8260B
Total Naphphalenes and cPAHs by Environmental Protection Agency Method 8270C SIM
Lead by Environmental Protection Agency Method 6010B
(1): Depth in feet below ground surface
(2): Naphthalenes = Sum total of Naphthalene, 1-methylnaphthalene, and 2-methylnaphthalene
(3): Concentrations of benzo[a]pyrene, benzo[a]anthracene, benzo[b]flroranthene, chrysene, dibenz[a,h]anthracene, and ideno[1,2,3-c,d]pyrene adjusted by their respective toxicity equvalency factors from MTCA Cleanup Regulation Table 708-2 and summed.
(4): GRO MTCA cleanup levels with benzene present (30) and without (100)

BOLD Constituent detected at concentration exceeding MTCA Method A CLs

Table 2
Groundwater Gauging Data and Select Analytical Results
WA-00217 (05377)
13131 Bothell Everett Hwy, Everett, WA 98208

All analytical results are presented in micrograms per liter (µg/L)

Well	Date	Notes	TOC	DTW	NAPL	GWE	GRO	DRO	HO	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	EDB	EDC	Total Lead	Dissolved Lead
Model Toxics Control Act (MTCA) Method A Cleanup Levels (CLs) in µg/L							**800/1,000**	**500**	**500**	**5**	**1,000**	**700**	**1,000**	**20**	**0.01**	**5**	**15**	**15**
IW-1	12/12/2012		--	--	--	--	885	--	--	<1.0	<1.0	<1.0	<3.0	<1.0	--	--	<3.0	<3.0
IW-1	3/26/2013	(NS)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
IW-1	6/13/2013	(LF)	462.52	5.11	0.0	457.41	**1,840**	--	--	<1.0	<1.0	30.6	18.2	<1.0	--	--	<10.0	--
IW-1	9/25/2013	(LF)	462.52	7.71	0.0	454.81	<100	--	--	<1.0	<1.0	<1.0	<3.0	<1.0	--	--	0.12	--
IW-1	12/17/2013	(LF)	462.52	6.71	0.0	455.81	990	--	--	<0.50	<0.70	5.4	25	<0.50	--	--	<4.70	<4.70
IW-1	12/17/2013	(Dup)(LF)	462.52	6.71	0.0	455.81	990	--	--	<0.50	<0.70	5.8	25	<0.50	--	--	<4.70	<4.70
IW-1	3/5/2014	(LF)	462.52	4.25	0.0	458.27	75(J)	--	--	<0.50	<0.70	<0.80	0.81(J)	--	--	--	<4.7	<4.7
IW-1	7/31/2014	(LF)	462.52	6.55	0.0	455.97	**2,200**	--	--	0.74(J)	0.52(J)	63	54	--	--	--	<4.7	<4.7
IW-1	7/31/2014	(Dup)(LF)	462.52	6.55	0.0	455.97	**2,100**	--	--	0.63(J)	<0.50	63	52	--	--	--	<4.7	<4.7
IW-3	12/12/2012		--	--	--	--	<100	--	--	<1.0	<1.0	<1.0	<3.0	<1.0	--	--	<3.0	<3.0
IW-3	3/26/2013	(NS)	462.53	3.29	0.0	--	--	--	--	--	--	--	--	--	--	--	--	--
IW-3	3/27/2013	(LF)	462.53	--	--	--	<100	--	--	<1.0	<1.0	<1.0	<3.0	<1.0	--	--	<3.0	<10.0
IW-3	6/13/2013	(LF)	462.53	5.60	0.0	456.93	998	--	--	<1.0	<1.0	3.1	<3.0	<1.0	--	--	<10.0	--
IW-3	9/25/2013	(LF)	462.53	8.21	0.0	454.32	595	--	--	<1.0	<1.0	128	<3.0	<1.0	--	--	0.65	--
IW-3	12/17/2013	(LF)	462.53	7.12	0.0	455.41	930	--	--	<0.50	<0.70	130	35	<0.50	--	--	<4.70	<4.70
IW-3	3/5/2014	(LF)	462.53	4.55	0.0	457.98	<50	--	--	<0.50	<0.70	<0.80	<0.80	--	--	--	<4.7	<4.7
IW-3	3/5/2014	(Dup)(LF)	462.53	4.55	0.0	457.98	63(J)	--	--	<0.50	<0.70	<0.80	<0.80	--	--	--	<4.7	<4.7
IW-3	7/31/2014	(LF)	462.53	6.81	0.0	455.72	**2,300**	--	--	0.58(J)	0.62(J)	150	110	--	--	--	<4.7	<4.7
MW-1	7/2/2004	(P)	101.93	6.50	--	95.43	<50.0	--	--	<0.500	<0.500	<0.500	<1.00	<2.00	<0.010	<1.00	**22.3**	<1.00
MW-1	9/27/2004	(P)	101.93	6.60	--	95.33	<50.0	--	--	<0.500	<0.500	<0.500	<1.00	<1.00	--	--	<1.00	<1.00
MW-1	11/10/2004	(P)	101.93	6.11	--	95.82	<80.0	--	--	<0.200	<0.500	<0.500	<1.00	<2.00	--	--	11.9	<1.00
MW-1	2/22/2005	(P)	101.93	5.15	--	96.78	<80.0	--	--	<0.500	<0.500	<0.500	<1.00	--	--	--	--	--
MW-1	5/18/2005	(P)	101.93	4.76	--	97.17	<80.0	--	--	<0.200	<0.500	<0.500	<1.00	<2.00	--	--	<1.00	<1.00
MW-1	8/16/2005	(P)	101.93	6.36	--	95.57	<80.0	--	--	<0.200	<0.500	<0.500	<1.00	<2.00	--	--	<1.00	--
MW-1	11/10/2005	(P)	101.93	5.98	--	95.95	<50.0	--	--	<0.500	<0.500	<0.500	<1.00	<1.00	--	--	<1.00	<1.00
MW-1	1/12/2006	(NP)	101.93	4.06	--	97.87	<50.0	--	--	<0.500	<0.500	<0.500	<1.00	<1.00	<0.010	<1.00	<1.00	--
MW-1	4/13/2006	(NS)	101.93	5.32	--	96.61	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	7/7/2006	(NS)	101.93	6.79	--	95.14	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	7/2/2007	(NS)	101.93	6.52	--	95.41	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	7/9/2008	(NP)	101.93	5.49	--	96.44	<50.0	--	--	<0.500	<0.500	<0.500	<3.00	--	--	--	--	--
MW-1	8/13/2009	(NP)	101.93	9.15	--	92.78	<50.0	--	--	<1.00	<1.00	<1.00	<2.00	--	--	--	2.1	<2.00
MW-1	6/23/2010	(P)	464.68	4.35	--	460.33	<50	--	--	<1.0	<1.0	<1.0	<3	--	--	--	--	--
MW-1	6/23/2010	(Dup)(P)	464.68	4.35	--	460.33	<50	--	--	<1.0	<1.0	<1.0	<3	--	--	--	--	--
MW-1	8/24/2010		--	--	--	--	<50.0	--	--	<1.0	<1.0	<1.0	<3.0	<1.0	--	--	<10.0	<10.0
MW-1	12/7/2010	(LF)	464.68	5.31	--	459.37	<50	--	--	<1.0	<1.0	<1.0	<2.0	<1.0	--	--	3.9	--
MW-1	12/7/2010	(Dup)(LF)	464.68	5.31	--	459.37	<50	--	--	<1.0	<1.0	<1.0	<2.0	<1.0	--	--	<2.0	--
MW-1	3/29/2011	(LF)	464.68	4.25	0.0	460.43	<50	--	--	<1.0	<1.0	<1.0	<2.0	<1.0	--	--	<2.0	--
MW-1	5/10/2011	(LF)	464.68	3.90	0.0	460.78	<100	--	--	<0.200	<1.00	<1.00	<3	<1.00	--	--	1.70	--
MW-1	12/2/2011	(LF)	464.68	7.23	0.0	457.45	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	12/5/2011		--	--	--	--	<50.0	--	--	<0.20	<1.0	<1.0	<3.0	<1.0	--	--	--	--
MW-1	3/9/2012	(LF)	464.68	4.31	0.0	460.37	<50.0	--	--	<0.20	<1.0	<1.0	<3.0	<1.0	--	--	<10.0	--
MW-1	11/26/2012	(LF)	464.68	5.84	0.0	458.84	<100	--	--	<1.0	<1.0	<1.0	<3.0	<1.0	--	--	<3.0	<3.0
MW-1	3/26/2013	(NS)	464.68	3.97	0.0	460.71	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	3/27/2013	(LF)	464.68	--	--	--	<100	--	--	<1.0	<1.0	<1.0	<3.0	<1.0	--	--	<3.0	<10.0
MW-1	6/13/2013	(LF)	464.68	5.70	0.0	458.98	<100	--	--	<1.0	<1.0	<1.0	<3.0	<1.0	--	--	<10.0	--

Table 2
Groundwater Gauging Data and Select Analytical Results
WA-00217 (05377)
13131 Bothell Everett Hwy, Everett, WA 98208

All analytical results are presented in micrograms per liter (µg/L)

Well	Date	Notes	TOC	DTW	NAPL	GWE	GRO	DRO	HO	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	EDB	EDC	Total Lead	Dissolved Lead
Model Toxics Control Act (MTCA) Method A Cleanup Levels (CLs) in µg/L							**800/1,000**	**500**	**500**	**5**	**1,000**	**700**	**1,000**	**20**	**0.01**	**5**	**15**	**15**
MW-1	9/25/2013	(LF)	464.68	8.51	0.0	456.17	<100	--	--	<1.0	<1.0	<1.0	<3.0	<1.0	--	--	0.58	--
MW-1	12/17/2013	(NS)	464.68	7.32	0.0	457.36	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	3/5/2014	(NS)	464.68	5.55	0.0	459.13	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	7/31/2014	(NS)	464.68	7.21	0.0	457.47	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	7/2/2004	(P)	99.57	7.57	--	92.00	**20,300**	--	--	**70.2**	15.9	**1,900**	**4,060**	<2.00	<0.010	<1.00	2.18	<1.00
MW-2	9/27/2004	(P)	99.57	7.35	--	92.22	**3,310**	--	--	**32.3**	2.79	412	309	<5.00	--	--	<1.00	<1.00
MW-2	11/10/2004	(P)	99.57	6.68	--	92.89	**10,700**	--	--	**96.5**	11.9	**1,430**	**3,370**	<20.0	--	--	<1.00	<1.00
MW-2	2/22/2005	(P)	99.57	5.60	--	93.97	**16,400**	--	--	**55.4**	42.8	**1,630**	**3,580**	--	--	--	--	--
MW-2	5/18/2005	(NS)	99.57	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	8/16/2005	(P)	99.57	7.08	--	92.49	**9,100**	--	--	**16.4**	13.3	**1,200**	**2,490**	<20.0	--	--	<1.00	--
MW-2	11/10/2005	(P)	99.57	5.45	--	94.12	**14,400**	--	--	**15.7**	466	**1,020**	**3,370**	<10.0	--	--	<1.00	<1.00
MW-2	1/12/2006	(NP)	99.57	4.10	--	95.47	**10,200**	--	--	**17.9**	134	**1,140**	**2,530**	2.35	<0.010	<1.00	<1.00	--
MW-2	4/13/2006	(P)	99.57	5.01	--	94.56	**1,330**	--	--	0.6	0.93	128	124	<1.00	<0.010	<1.00	<1.00	<1.00
MW-2	7/7/2006	(P)	99.57	6.85	--	92.72	**8,330**	--	--	<5.00	9.1	**946**	**1,080**	<10.0	<0.010	<10.0	<1.00	--
MW-2	7/2/2007	(P)	99.57	7.35	--	92.22	**3,430**	--	--	2.77	7.41	**952**	638	--	--	--	--	--
MW-2	7/9/2008	(NP)	99.57	6.60	--	92.97	**2,730**	--	--	**5.8**	1.44	612	572	--	--	--	--	--
MW-2	8/13/2009	(NP)	99.57	9.54	--	90.03	**6,000**	--	--	2.1	3.4	**1,600**	320	--	--	--	<2.00	<2.00
MW-2	6/23/2010	(P)	462.74	5.01	--	457.73	**4,100**	--	--	2.4	1.3	560	98.5	--	--	--	--	--
MW-2	8/24/2010		--	--	--	--	**2,720**	--	--	2.7	1.5	567	67.5	<1.0	--	--	<10.0	<10.0
MW-2	12/7/2010	(LF)	462.74	5.96	--	456.78	**1,500**	--	--	1.7	<1.0	95	2.9	<1.0	--	--	<2.0	--
MW-2	3/29/2011	(LF)	462.35	4.54	0.0	457.81	**1,400**	--	--	2.3	<1.0	140	21	<1.0	--	--	<2.0	--
MW-2	5/10/2011	(LF)	462.35	4.41	0.0	457.94	**938**	--	--	1.66	<1.00	74.6	97.9	<1.00	--	--	<0.40	--
MW-2	5/10/2011	(Dup)(LF)	462.35	4.41	0.0	457.94	**835**	--	--	2.02	<1.00	89.3	116.5	<1.00	--	--	--	--
MW-2	12/2/2011	(LF)	462.35	6.38	0.0	455.97	**4,120**	--	--	0.82	1.9	348	412	<1.0	--	--	--	--
MW-2	3/9/2012	(LF)	462.35	4.94	0.0	457.41	195	--	--	<0.20	<1.0	23.8	10.7	<1.0	--	--	<10.0	--
MW-2	11/26/2012	(LF)	462.35	5.28	0.0	457.07	330	--	--	<1.0	<1.0	33.4	9.6	<1.0	--	--	<3.0	<3.0
MW-2	3/26/2013	(NS)	462.35	4.37	0.0	457.98	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	3/27/2013	(LF)	462.35	--	--	--	**838**	--	--	1.1	<1.0	118	5.3	<1.0	--	--	<3.0	<10.0
MW-2	3/27/2013	(Dup)(LF)	462.35	--	--	--	**855**	--	--	<1.0	<1.0	88.3	4.0	<1.0	--	--	--	--
MW-2	6/13/2013	(LF)	462.35	6.11	0.0	456.24	136	--	--	<1.0	<1.0	<1.0	<3.0	<1.0	--	--	<10.0	--
MW-2	6/13/2013	(Dup)(LF)	462.35	6.11	0.0	456.24	147	--	--	<1.0	<1.0	<1.0	<3.0	<1.0	--	--	<10.0	--
MW-2	9/25/2013	(LF)	462.35	8.76	0.0	453.59	522	--	--	1.5	<1.0	3.3	<3.0	<1.0	--	--	0.24	--
MW-2	12/17/2013	(LF)	462.35	7.70	0.0	454.65	**1,200**	--	--	1.8(J)	0.87(J)	13	72	<0.50	--	--	<4.70	<4.70
MW-2	3/5/2014	(LF)	462.35	4.51	0.0	457.84	360	--	--	<0.50	<0.70	16	19	--	--	--	<4.7	<4.7
MW-2	7/31/2014	(LF)	462.35	7.48	0.0	454.87	400	--	--	1.1	<0.50	<0.50	<0.50	--	--	--	5.3(J)	<4.7
MW-3	7/2/2004	(P)	101.18	8.88	--	92.30	**2,100**	--	--	<0.500	<0.500	<0.500	7.71	**24.2**	<0.010	<1.00	<1.00	<1.00
MW-3	9/27/2004	(P)	101.18	8.08	--	93.10	593	--	--	<0.500	<0.500	0.892	1.92	<1.00	--	--	<1.00	<1.00
MW-3	11/10/2004	(P)	101.18	11.11	--	90.07	<80.0	--	--	<0.200	<0.500	<0.500	<1.00	<2.00	--	--	<1.00	<1.00
MW-3	1/7/2005	(ABANDONED)	101.18	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	7/2/2004	(P)	103.99	8.41	--	95.58	<50.0	--	--	<0.500	<0.500	1.17	2.36	<2.00	<0.010	<1.00	1.93	<1.00
MW-4	9/27/2004	(P)	103.99	8.60	--	95.39	<50.0	--	--	<0.500	<0.500	<0.500	<1.00	<1.00	--	--	<1.00	--
MW-4	11/10/2004	(P)	103.99	7.62	--	96.37	<80.0	--	--	<0.200	<0.500	<0.500	<1.00	<2.00	--	--	<1.00	<1.00
MW-4	2/22/2005	(P)	103.99	7.02	--	96.97	<80.0	--	--	<0.500	<0.500	<0.500	<1.00	--	--	--	--	--
MW-4	5/18/2005	(P)	103.99	6.04	--	97.95	<80.0	--	--	<0.200	<0.500	<0.500	<1.00	<2.00	--	--	<1.00	<1.00
MW-4	8/16/2005	(P)	103.99	7.66	--	96.33	<80.0	--	--	<0.200	<0.500	<0.500	<1.00	<2.00	--	--	<1.00	--

Table 2
Groundwater Gauging Data and Select Analytical Results
WA-00217 (05377)
13131 Bothell Everett Hwy, Everett, WA 98208

All analytical results are presented in micrograms per liter (µg/L)

Well	Date	Notes	TOC	DTW	NAPL	GWE	GRO	DRO	HO	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	EDB	EDC	Total Lead	Dissolved Lead
Model Toxics Control Act (MTCA) Method A Cleanup Levels (CLs) in µg/L							**800/1,000**	**500**	**500**	**5**	**1,000**	**700**	**1,000**	**20**	**0.01**	**5**	**15**	**15**
MW-4	11/10/2005	(P)	103.99	7.42	--	96.57	<50.0	--	--	<0.500	<0.500	<0.500	<1.00	<1.00	--	--	<1.00	<1.00
MW-4	1/12/2006	(NP)	103.99	5.28	--	98.71	<50.0	--	--	<0.500	<0.500	<0.500	<1.00	<1.00	<0.010	<1.00	1.29	--
MW-4	4/13/2006	(NS)	103.99	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	7/7/2006	(NS)	103.99	7.59	--	96.40	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	7/2/2007	(NS)	103.99	8.50	--	95.49	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	7/9/2008	(NP)	103.99	7.59	--	96.40	<50.0	--	--	<0.500	<0.500	<0.500	<3.00	--	--	--	--	--
MW-4	8/13/2009	(NP)	103.99	10.15	--	93.84	<50.0	--	--	<1.00	<1.00	<1.00	<2.00	--	--	--	4.4	<2.00
MW-4	6/23/2010	(P)	466.74	6.86	--	459.88	<50	--	--	<1.0	<1.0	<1.0	<3	--	--	--	--	--
MW-4	12/7/2010	(LF)	466.74	7.53	--	459.21	<50	--	--	<1.0	<1.0	<1.0	<2.0	<1.0	--	--	<2.0	--
MW-4	3/29/2011	(LF)	466.74	5.71	0.0	461.03	<50	--	--	<1.0	<1.0	<1.0	<2.0	<1.0	--	--	<2.0	--
MW-4	5/10/2011	(LF)	466.74	5.23	0.0	461.51	<100	--	--	<0.200	<1.00	<1.00	<3	<1.00	--	--	<0.40	--
MW-4	12/2/2011	(NS)	466.74	8.79	0.0	457.95	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	3/9/2012	(LF)	466.74	6.53	0.0	460.21	<50.0	--	--	<0.20	<1.0	<1.0	<3.0	<1.0	--	--	<10.0	--
MW-4	11/26/2012	(LF)	466.74	7.52	0.0	459.22	<100	--	--	<1.0	<1.0	<1.0	<3.0	<1.0	--	--	<3.0	<3.0
MW-4	3/26/2013	(NS)	466.74	5.25	0.0	461.46	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	3/27/2013	(LF)	466.74	--	--	--	<100	--	--	<1.0	<1.0	<1.0	<3.0	<1.0	--	--	<3.0	<10.0
MW-4	6/13/2013	(LF)	466.74	7.21	0.0	459.53	<100	--	--	<1.0	<1.0	<1.0	<3.0	<1.0	--	--	<10.0	--
MW-4	9/25/2013	(LF)	466.74	9.76	0.0	456.98	<100	--	--	<1.0	<1.0	<1.0	<3.0	<1.0	--	--	0.20	--
MW-4	12/17/2013	(NS)	466.74	9.41	0.0	457.33	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	3/5/2014	(NS)	466.74	6.12	0.0	460.62	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	7/31/2014	(NS)	466.74	8.41	0.0	458.33	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	12/7/2010	(LF)	--	4.88	--	--	**25,000**	--	--	1.9	3.7	**900**	**3,200**	<1.0	--	--	<2.0	--
MW-5	3/29/2011	(LF)	462.55	3.17	0.0	459.38	**1,900**	--	--	<1.0	<1.0	62	140	<1.0	--	--	<2.0	--
MW-5	5/10/2011	(LF)	462.55	3.23	0.0	459.32	**8,170**	--	--	<2.00	<10.0	281	**1,194**	<10.0	--	--	2.40	--
MW-5	12/2/2011	(LF)	462.55	6.47	0.0	456.08	**11,000**	--	--	0.87	1.3	448	845	<1.0	--	--	--	--
MW-5	3/9/2012	(LF)	462.55	3.79	0.0	458.76	**14,000**	--	--	0.62	2.9	514	**1,610**	<1.0	--	--	<10.0	--
MW-5	11/26/2012	(LF, a)	462.55	4.89	0.0	457.66	**4,720**	--	--	<10.0	<10.0	**1,040**	940	<10.0	--	--	<3.0	<3.0
MW-5	3/26/2013	(NS)	462.55	3.90	0.0	458.65	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	3/27/2013	(LF)	462.55	--	--	--	**2,660**	--	--	<1.0	<1.0	278	480	<1.0	--	--	<3.0	<10.0
MW-5	6/13/2013	(ABANDONED)	462.55	5.15	0.0	457.40	--	--	--	--	--	--	--	--	--	--	--	--
MW-6	12/7/2010	(LF)	--	6.01	--	--	<50	--	--	<1.0	<1.0	<1.0	<2.0	<1.0	--	--	<2.0	--
MW-6	3/29/2011	(LF)	462.29	4.70	0.0	457.59	<50	--	--	<1.0	<1.0	<1.0	<2.0	<1.0	--	--	<2.0	--
MW-6	3/29/2011	(Dup)(LF)	462.29	4.70	0.0	457.59	<50	--	--	<1.0	<1.0	<1.0	<2.0	<1.0	--	--	<2.0	--
MW-6	5/10/2011	(LF)	462.29	4.51	0.0	457.78	<100	--	--	<0.200	<1.00	<1.00	<3	<1.00	--	--	5.60	--
MW-6	12/2/2011	(LF)	462.29	6.53	0.0	455.76	--	--	--	--	--	--	--	--	--	--	--	--
MW-6	12/5/2011		--	--	--	--	<50.0	--	--	<0.20	<1.0	<1.0	<3.0	<1.0	--	--	--	--
MW-6	3/9/2012	(LF)	462.29	4.98	0.0	457.31	<50.0	--	--	<0.20	<1.0	<1.0	<3.0	<1.0	--	--	<10.0	--
MW-6	11/26/2012	(LF)	462.29	5.27	0.0	457.02	814	--	--	<1.0	<1.0	79.3	66.4	<1.0	--	--	<3.0	<3.0
MW-6	3/26/2013	(NS)	462.29	4.49	0.0	457.80	--	--	--	--	--	--	--	--	--	--	--	--
MW-6	3/27/2013	(LF)	462.29	--	--	--	<100	--	--	<1.0	<1.0	<1.0	<3.0	<1.0	--	--	<3.0	<10.0
MW-6	6/13/2013	(LF)	462.29	6.18	0.0	456.11	<100	--	--	<1.0	<1.0	<1.0	<3.0	<1.0	--	--	<10.0	--
MW-6	9/25/2013	(LF)	462.29	8.67	0.0	453.62	<100	--	--	<1.0	<1.0	6.2	<3.0	<1.0	--	--	0.24	--
MW-6	12/17/2013	(LF)	462.29	7.73	0.0	454.56	<50	--	--	<0.50	<0.70	<0.80	<0.80	<0.50	--	--	12.60(J)	<4.70
MW-6	3/5/2014	(LF)	462.29	4.68	0.0	457.61	<50	--	--	<0.50	<0.70	<0.80	<0.80	--	--	--	<4.7	<4.7
MW-6	7/31/2014	(LF)	462.29	7.45	0.0	454.84	<50	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	<4.7	<4.7

Table 2
Groundwater Gauging Data and Select Analytical Results
WA-00217 (05377)
13131 Bothell Everett Hwy, Everett, WA 98208

All analytical results are presented in micrograms per liter (µg/L)

Well	Date	Notes	TOC	DTW	NAPL	GWE	GRO	DRO	HO	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	EDB	EDC	Total Lead	Dissolved Lead
Model Toxics Control Act (MTCA) Method A Cleanup Levels (CLs) in µg/L							**800/1,000**	**500**	**500**	**5**	**1,000**	**700**	**1,000**	**20**	**0.01**	**5**	**15**	**15**
MW-7	12/7/2010	(LF)	--	7.01	--	--	67	--	--	<1.0	<1.0	<1.0	<2.0	5.1	--	--	<2.0	--
MW-7	3/29/2011	(LF)	463.37	4.62	0.0	458.75	<50	--	--	<1.0	<1.0	<1.0	<2.0	1.1	--	--	<2.0	--
MW-7	5/10/2011	(LF)	463.37	5.10	0.0	458.27	<100	--	--	<0.200	<1.00	<1.00	<3	1.36	--	--	5.20	--
MW-7	12/2/2011	(NS)	463.37	7.37	0.0	456.00	--	--	--	--	--	--	--	--	--	--	--	--
MW-7	3/9/2012	(LF)	463.37	5.88	0.0	457.49	<50.0	--	--	<0.20	<1.0	<1.0	<3.0	<1.0	--	--	<10.0	--
MW-7	11/26/2012	(LF)	463.37	6.19	0.0	457.18	<100	--	--	<1.0	<1.0	<1.0	<3.0	3.1	--	--	7.4	<3.0
MW-7	3/26/2013	(NS)	463.37	4.92	0.0	458.45	--	--	--	--	--	--	--	--	--	--	--	--
MW-7	3/27/2013	(LF)	463.37	--	--	--	<100	--	--	<1.0	<1.0	<1.0	<3.0	1.1	--	--	3.5	<10.0
MW-7	6/13/2013	(NS)	463.37	6.99	0.0	456.38	--	--	--	--	--	--	--	--	--	--	--	--
MW-7	6/14/2013	(LF)	463.37	--	--	--	<100	--	--	<1.0	<1.0	<1.0	<3.0	1.4	--	--	<10.0	--
MW-7	9/25/2013	(LF)	463.37	9.41	0.0	453.96	<100	--	--	<1.0	<1.0	3.1	<3.0	<1.0	--	--	**21.4**	--
MW-7	12/17/2013	(NS)	463.37	8.41	0.0	454.96	--	--	--	--	--	--	--	--	--	--	--	--
MW-7	3/5/2014	(NS)	463.37	4.81	0.0	458.56	--	--	--	--	--	--	--	--	--	--	--	--
MW-7	7/31/2014	(NS)	463.37	8.34	0.0	455.03	--	--	--	--	--	--	--	--	--	--	--	--
MW-8	12/7/2010	(LF)	--	6.79	--	--	<50	--	--	<1.0	<1.0	<1.0	<2.0	<1.0	--	--	13	--
MW-8	3/29/2011	(LF)	457.91	5.38	0.0	452.53	<50	--	--	<1.0	<1.0	<1.0	<2.0	<1.0	--	--	9.5	--
MW-8	5/10/2011	(LF)	457.91	5.12	0.0	452.79	<100	--	--	<0.200	<1.00	<1.00	<3	<1.00	--	--	14	--
MW-8	12/2/2011	(NS)	457.91	6.49	0.0	451.42	--	--	--	--	--	--	--	--	--	--	--	--
MW-8	3/9/2012	(LF)	457.91	5.15	0.0	452.76	<50.0	--	--	<0.20	<1.0	<1.0	<3.0	<1.0	--	--	<10.0	--
MW-8	11/26/2012	(LF)	457.91	4.96	0.0	452.95	<100	--	--	<1.0	<1.0	<1.0	<3.0	<1.0	--	--	<3.0	<3.0
MW-8	3/26/2013	(NS)	457.91	4.93	0.0	452.98	--	--	--	--	--	--	--	--	--	--	--	--
MW-8	3/27/2013	(LF)	457.91	--	--	--	<100	--	--	<1.0	<1.0	<1.0	<3.0	<1.0	--	--	<3.0	<10.0
MW-8	6/13/2013	(NS)	457.91	6.08	0.0	451.83	--	--	--	--	--	--	--	--	--	--	--	--
MW-8	6/14/2013	(LF)	457.91	--	--	--	<100	--	--	<1.0	<1.0	<1.0	<3.0	<1.0	--	--	<10.0	--
MW-8	9/25/2013	(LF)	457.91	7.98	0.0	449.93	<100	--	--	<1.0	<1.0	2.1	<3.0	<1.0	--	--	10	--
MW-8	12/17/2013	(NS)	457.91	6.83	0.0	451.08	--	--	--	--	--	--	--	--	--	--	--	--
MW-8	3/5/2014	(NS)	457.91	5.12	0.0	452.79	--	--	--	--	--	--	--	--	--	--	--	--
MW-8	7/31/2014	(NS)	457.91	8.02	0.0	449.89	--	--	--	--	--	--	--	--	--	--	--	--
MW-9	12/7/2010	(LF)	--	7.67	--	--	<50	--	--	<1.0	<1.0	<1.0	<2.0	<1.0	--	--	8.3	--
MW-9	3/29/2011	(LF)	459.40	6.60	0.0	452.80	<50	--	--	<1.0	<1.0	<1.0	<2.0	<1.0	--	--	2.6	--
MW-9	5/10/2011	(LF)	459.40	6.67	0.0	452.73	<100	--	--	<0.200	<1.00	<1.00	<3	<1.00	--	--	1.30	--
MW-9	12/2/2011	(LF)	459.40	7.38	0.0	452.02	--	--	--	--	--	--	--	--	--	--	--	--
MW-9	12/5/2011		--	--	--	--	<50.0	--	--	<0.20	<1.0	<1.0	<3.0	<1.0	--	--	--	--
MW-9	3/9/2012	(LF)	459.40	6.84	0.0	452.56	<50.0	--	--	<0.20	<1.0	<1.0	<3.0	<1.0	--	--	<10.0	--
MW-9	11/26/2012	(LF)	459.40	6.85	0.0	452.55	<100	--	--	<1.0	<1.0	<1.0	<3.0	<1.0	--	--	3.4	<3.0
MW-9	3/26/2013	(NS)	459.40	6.58	0.0	452.82	--	--	--	--	--	--	--	--	--	--	--	--
MW-9	3/27/2013	(LF)	459.40	--	--	--	<100	--	--	<1.0	<1.0	<1.0	<3.0	<1.0	--	--	<3.0	<10.0
MW-9	6/13/2013	(NS)	459.40	8.25	0.0	451.15	--	--	--	--	--	--	--	--	--	--	--	--
MW-9	6/14/2013	(LF)	459.40	--	--	--	<100	--	--	<1.0	<1.0	<1.0	<3.0	<1.0	--	--	<10.0	--
MW-9	9/25/2013	(LF)	459.40	8.81	0.0	450.59	<100	--	--	<1.0	<1.0	1.8	<3.0	<1.0	--	--	**27.4**	--
MW-9	12/17/2013	(NS)	459.40	7.74	0.0	451.66	--	--	--	--	--	--	--	--	--	--	--	--
MW-9	3/5/2014	(NS)	459.40	7.29	0.0	452.11	--	--	--	--	--	--	--	--	--	--	--	--
MW-9	7/31/2014	(NS)	459.40	9.13	0.0	450.27	--	--	--	--	--	--	--	--	--	--	--	--
MW-10	12/7/2010	(LF)	--	7.42	--	--	<50	--	--	<1.0	<1.0	<1.0	<2.0	<1.0	--	--	8.6	--
MW-10	3/29/2011	(LF)	459.28	6.28	0.0	453.00	<50	--	--	<1.0	<1.0	<1.0	<2.0	<1.0	--	--	3.1	--

Table 2
Groundwater Gauging Data and Select Analytical Results
WA-00217 (05377)
13131 Bothell Everett Hwy, Everett, WA 98208

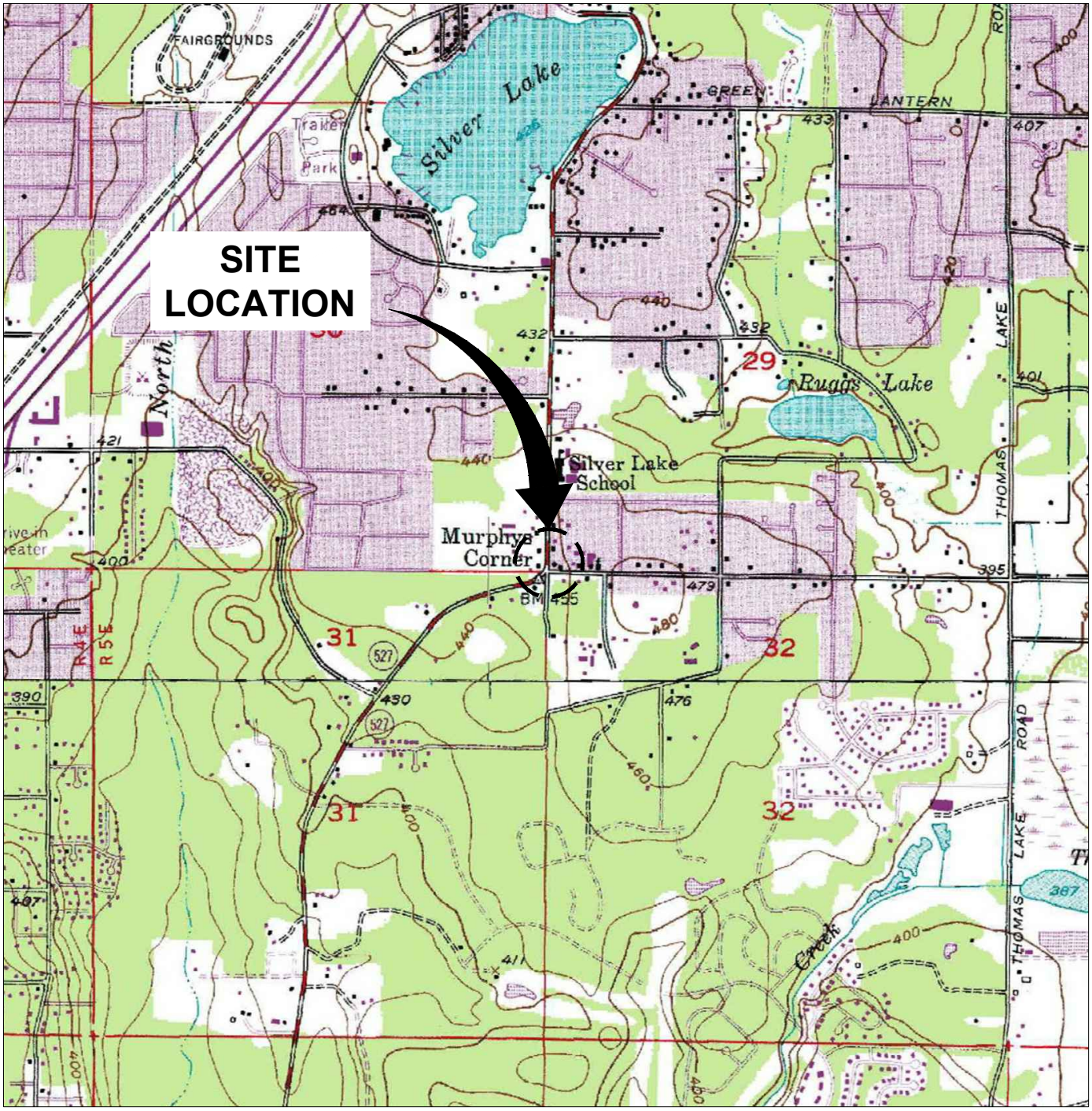
All analytical results are presented in micrograms per liter (µg/L)

Well	Date	Notes	TOC	DTW	NAPL	GWE	GRO	DRO	HO	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	EDB	EDC	Total Lead	Dissolved Lead
Model Toxics Control Act (MTCA) Method A Cleanup Levels (CLs) in µg/L							**800/1,000**	**500**	**500**	**5**	**1,000**	**700**	**1,000**	**20**	**0.01**	**5**	**15**	**15**
MW-10	5/10/2011	(LF)	459.28	6.44	0.0	452.84	<100	--	--	<0.200	<1.00	<1.00	<3	<1.00	--	--	14	--
MW-10	12/2/2011	(LF)	459.28	7.00	0.0	452.28	--	--	--	--	--	--	--	--	--	--	--	--
MW-10	12/5/2011		--	--	--	--	<50.0	--	--	<0.20	<1.0	<1.0	<3.0	<1.0	--	--	--	--
MW-10	3/9/2012	(LF)	459.28	6.54	0.0	452.74	<50.0	--	--	<0.20	<1.0	<1.0	<3.0	<1.0	--	--	<10.0	--
MW-10	11/26/2012	(LF)	459.28	6.45	0.0	452.83	<100	--	--	<1.0	<1.0	<1.0	<3.0	<1.0	--	--	<3.0	<3.0
MW-10	3/26/2013	(NS)	459.28	6.31	0.0	452.97	--	--	--	--	--	--	--	--	--	--	--	--
MW-10	3/27/2013	(LF)	459.28	--	--	--	<100	--	--	<1.0	<1.0	<1.0	<3.0	<1.0	--	--	<3.0	<10.0
MW-10	6/13/2013	(NS)	459.28	8.01	0.0	451.27	--	--	--	--	--	--	--	--	--	--	--	--
MW-10	6/14/2013	(LF)	459.28	--	--	--	<100	--	--	<1.0	<1.0	<1.0	<3.0	<1.0	--	--	<10.0	--
MW-10	9/25/2013	(LF)	459.28	8.40	0.0	450.88	<100	--	--	<1.0	<1.0	1.8	<3.0	<1.0	--	--	**26.6**	--
MW-10	12/17/2013	(NS)	459.28	7.48	0.0	451.80	--	--	--	--	--	--	--	--	--	--	--	--
MW-10	3/5/2014	(NS)	459.28	5.42	0.0	453.86	--	--	--	--	--	--	--	--	--	--	--	--
MW-10	7/31/2014	(NS)	459.28	8.78	0.0	450.50	--	--	--	--	--	--	--	--	--	--	--	--
MW-11	7/31/2014	(LF)	463.80	8.71	0.0	455.09	**4,200**	--	--	**460**	5.6	100	21	--	--	--	<4.7	<4.7

TOC = Top of casing in feet above msl
DTW = Depth to Water below TOC
NAPL = Non-aqueous phase liquid
GWE = Groundwater elevation in feet above msl
GRO = Total petroleum hydrocarbons - gasoline range organics
DRO = Total petroleum hydrocarbons - diesel range organics,
HO = Total petroleum hydrocarbons - heavy oil range organics, analysis by Northwest Method NWTPH-Dx
BTEX = Benzene, toluene, ethylbenzene, and total xylenes
MTBE = Methyl tertiary butyl ether
EDB = Ethylene dibromide
EDC = 1,2-Dichloroethane
800/1,000 = GRO MTCA Method A Cleanup Level with benzene present is 800 µg/L and without is 1,000 µg/L
- = Not analyzed/not applicable
< = Laboratory analytical result was less than reporting limit and/or method detection limit.
NS = Not sampled
LF = Low flow purge and sample
Dup = Duplicate sample location
J = Estimated concentration above the method detection limit and below the limit of quantitation
P = Bailer purge and sample
NP = No purge sample
(a) = Drawdown greater than 3 feet observed during sampling.
msl = Mean sea level
GRO by Washington State Department of Ecology Northwest Method NWTPH-Gx
DRO and HO by Washington State Department of Ecology Northwest Method NWTPH-Dx
BTEX, MTBE and EDC by Environmental Protection Agengy Method 8260B or 8021B
EDB by Environmental Protection Agengy Method 8011
Lead by Environmental Protection Agengy Method 200.8 or Environmental Protection Agengy Method 6000/7000 Series
Data collected prior to 2010 have been provided by previous consultants and are included as historical reference only
Groundwater elevation - if NAPL is present, the elevation is corrected according to the following formula, (TOC elevation - depth to water) + (0.75 x NAPL thickness).
Wells were surveyed by Otak inc. during the first quarter 2010 and first and fourth quarter 2014 and are referenced to mean sea level NAVD 88

BOLD Constituent detected at concentration exceeding MTCA Method A CLs

Figures



REFERENCE: BASE MAP USGS 7.5. MIN. TOPO. QUAD.,EVERETT AND BOTHELL, WA, 1991.

0 2000' 4000'

Approximate Scale: 1 in. = 2000 ft.

BP WEST COAST PRODUCTS, LLC.
ARCO STATION NO. 00217 (5377)
13131 BOTHELL EVERETT HIGHWAY, EVERETT, WASHINGTON
ANNUAL SITE STATUS REPORT 2014

SITE LOCATION MAP

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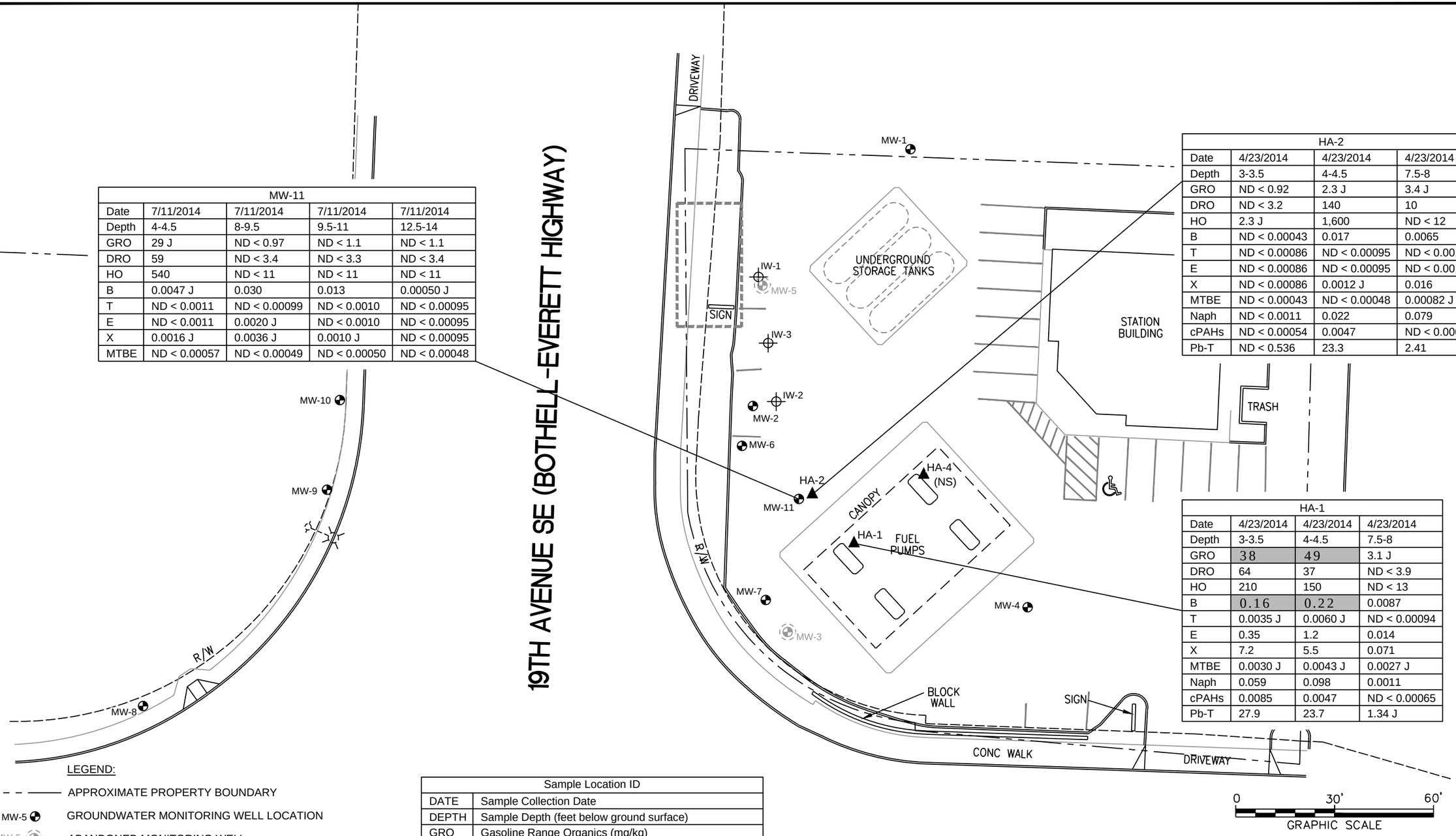
FIGURE
1

MW-11				
Date	7/11/2014	7/11/2014	7/11/2014	7/11/2014
Depth	4-4.5	8-9.5	9.5-11	12.5-14
GRO	29 J	ND < 0.97	ND < 1.1	ND < 1.1
DRO	59	ND < 3.4	ND < 3.3	ND < 3.4
HO	540	ND < 11	ND < 11	ND < 11
B	0.0047 J	0.030	0.013	0.00050 J
T	ND < 0.0011	ND < 0.00099	ND < 0.0010	ND < 0.00095
E	ND < 0.0011	0.0020 J	ND < 0.0010	ND < 0.00095
X	0.0016 J	0.0036 J	0.0010 J	ND < 0.00095
MTBE	ND < 0.00057	ND < 0.00049	ND < 0.00050	ND < 0.00048

HA-2			
Date	4/23/2014	4/23/2014	4/23/2014
Depth	3-3.5	4-4.5	7.5-8
GRO	ND < 0.92	2.3 J	3.4 J
DRO	ND < 3.2	140	10
HO	2.3 J	1,600	ND < 12
B	ND < 0.00043	0.017	0.0065
T	ND < 0.00086	ND < 0.00095	ND < 0.0011
E	ND < 0.00086	ND < 0.00095	ND < 0.0011
X	ND < 0.00086	0.0012 J	0.016
MTBE	ND < 0.00043	ND < 0.00048	0.00082 J
Naph	ND < 0.0011	0.022	0.079
cPAHs	ND < 0.00054	0.0047	ND < 0.00063
Pb-T	ND < 0.536	23.3	2.41

HA-1			
Date	4/23/2014	4/23/2014	4/23/2014
Depth	3-3.5	4-4.5	7.5-8
GRO	38	49	3.1 J
DRO	64	37	ND < 3.9
HO	210	150	ND < 13
B	0.16	0.22	0.0087
T	0.0035 J	0.0060 J	ND < 0.00094
E	0.35	1.2	0.014
X	7.2	5.5	0.071
MTBE	0.0030 J	0.0043 J	0.0027 J
Naph	0.059	0.098	0.0011
cPAHs	0.0085	0.0047	ND < 0.00065
Pb-T	27.9	23.7	1.34 J



LEGEND:

——— - - ———	APPROXIMATE PROPERTY BOUNDARY
MW-5	GROUNDWATER MONITORING WELL LOCATION
MW-5	ABANDONED MONITORING WELL
IW-1	INJECTION WELL LOCATION
HA-1	SOIL BORING LOCATION
NS	NO SOIL SAMPLES SELECTED FOR ANALYTICAL
J	FLAGGED BY THE LABORATORY AS AN ESTIMATED VALUE
ND	NOT DETECTED AT OR ABOVE LABORATORY METHOD DETECTION LIMITS
BOLD	ANALYTE DETECTED ABOVE MODEL TOXICS CONTROL ACT METHOD A CLEANUP LEVELS

Sample Location ID	
DATE	Sample Collection Date
DEPTH	Sample Depth (feet below ground surface)
GRO	Gasoline Range Organics (mg/kg)
DRO	Diesel Range Organics (mg/kg)
HO	Heavy Oil Range Organics (mg/kg)
B	Benzene (mg/kg)
T	Toluene (mg/kg)
E	Ethylbenzene (mg/kg)
X	Total Xylenes (mg/kg)
Naph	Napthalene (mg/kg)
CPAHs	Carcinogenic Polycyclic Aromatic Hydrocarbons (mg/kg)
MTBE	Methyl Tertiary Butyl Ether (mg/kg)
Pb-T	Total Lead (mg/kg)

NOTES:

THIS MAP PREPARED FROM A FIELD SURVEY PERFORMED BY OTAK IN 2010 AND UPDATED IN 2014.

BP WEST COAST PRODUCTS, LLC.
ARCO STATION NO. 00217 (5377)
13131 BOTHELL EVERETT HIGHWAY, EVERETT, WASHINGTON
ANNUAL SITE STATUS REPORT 2014

SITE MAP WITH SOIL SAMPLE LOCATIONS AND ANALYTICAL RESULTS

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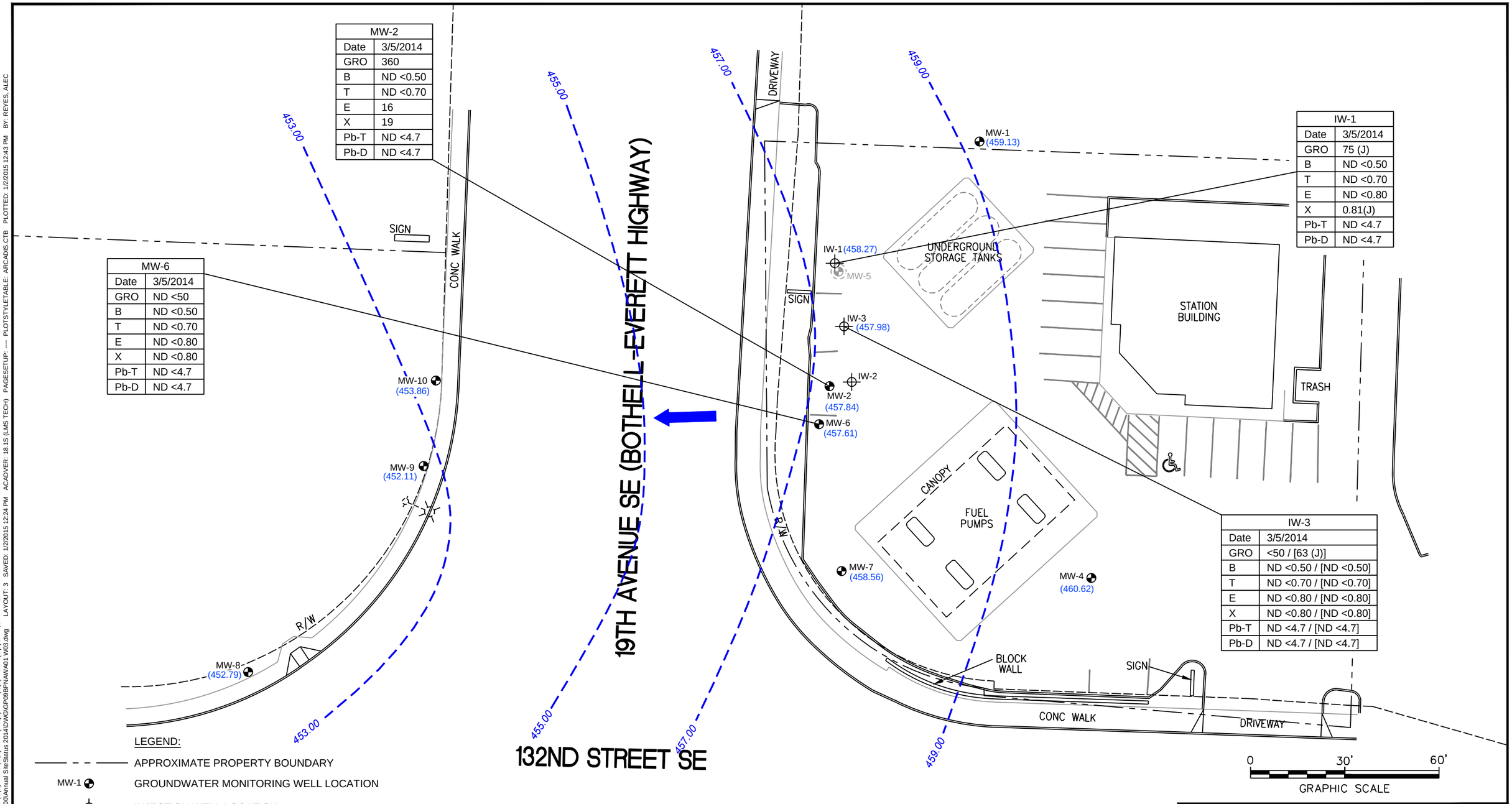
FIGURE 2



LEGEND:

- APPROXIMATE PROPERTY BOUNDARY
- MW-1 — GROUNDWATER MONITORING WELL LOCATION
- IW-1 — INJECTION WELL LOCATION
- MW-5 — ABANDONED MONITORING WELL
- APPROXIMATE GROUNDWATER FLOW DIRECTION
- 453 — GROUNDWATER ELEVATION CONTOUR (FEET ABOVE MEAN SEA LEVEL) (DASHED WHERE INFERRED)
- (452.79) — GROUNDWATER ELEVATION (FEET ABOVE MEAN SEA LEVEL)
- ND — NOT DETECTED AT OR ABOVE LABORATORY METHOD DETECTION LIMITS
- (J) — FLAGGED BY THE LABORATORY AS AN ESTIMATED VALUE

Sample ID	
Date	Sample Collection Date
GRO	Gasoline Range Organics (µg/L) / [Duplicate (µg/L)]
B	Benzene (µg/L) / [Duplicate (µg/L)]
T	Toluene (µg/L)/ [Duplicate (µg/L)]
E	Ethylbenzene (µg/L) / [Duplicate (µg/L)]
X	Total Xylenes (µg/L) / [Duplicate (µg/L)]
Pb-T	Total Lead (µg/L) / [Duplicate (µg/L)]
Pb-D	Dissolved Lead (µg/L) / [Duplicate (µg/L)]

NOTES:
ALL ANALYTICAL DATA ARE REPORTED IN MICROGRAMS PER LITER (µg/L)

THIS MAP WAS PREPARED FROM A FIELD SURVEY PERFORMED BY OTAK IN 2010 AND UPDATED IN 2014.

BP WEST COAST PRODUCTS, LLC.
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GROUNDWATER ELEVATION CONTOUR AND ANALYTICAL SUMMARY MAP MARCH 5, 2014

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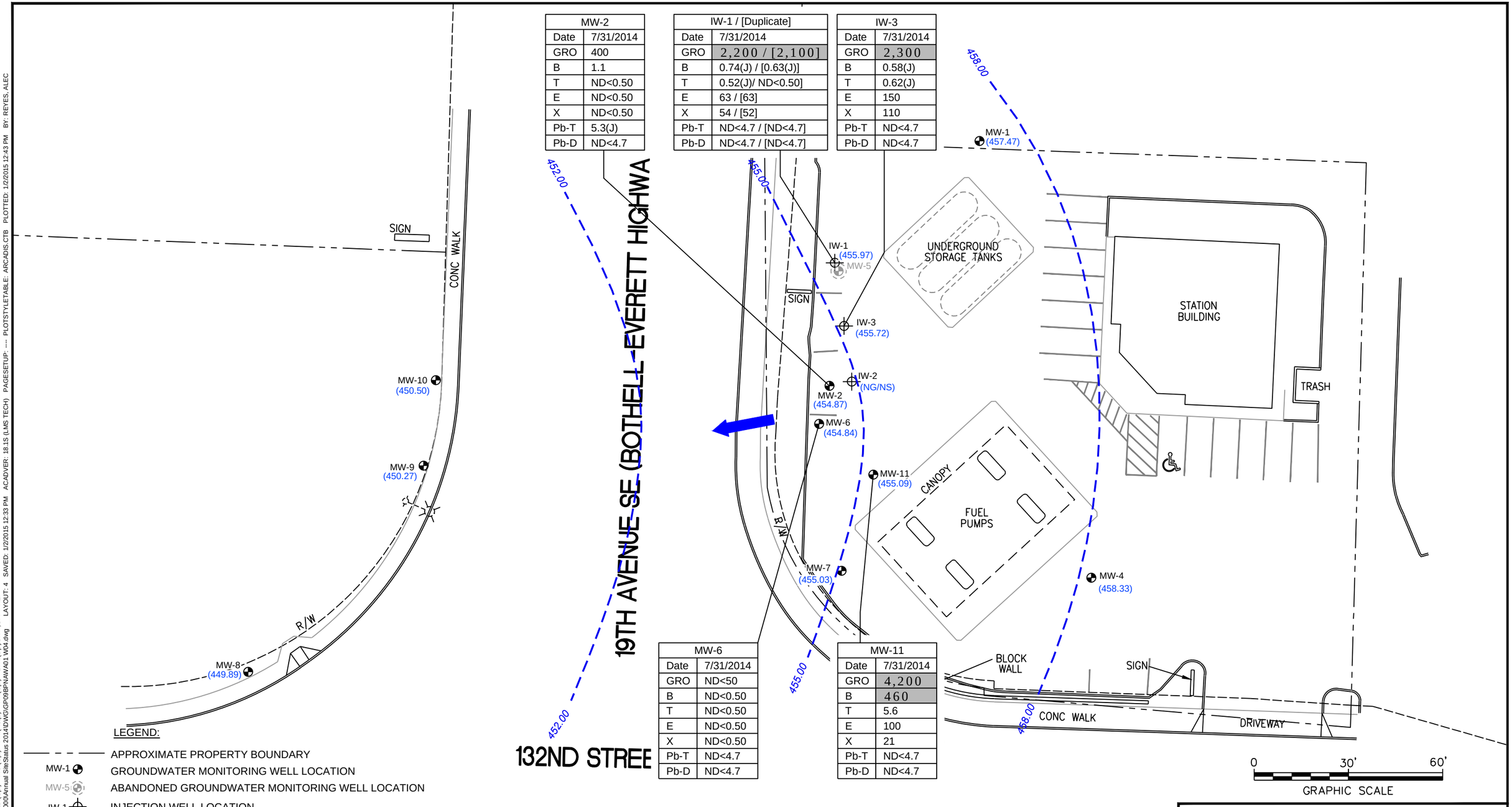
FIGURE 3



LEGEND:

- APPROXIMATE PROPERTY BOUNDARY
- MW-1 — GROUNDWATER MONITORING WELL LOCATION
- MW-5 — ABANDONED GROUNDWATER MONITORING WELL LOCATION
- IW-1 — INJECTION WELL LOCATION
- APPROXIMATE GROUNDWATER FLOW DIRECTION
- 452 — GROUNDWATER ELEVATION CONTOUR (FEET ABOVE MEAN SEA LEVEL) (DASHED WHERE INFERRED)
- (454.87) — GROUNDWATER ELEVATION (FEET ABOVE MEAN SEA LEVEL)
- (J) — FLAGGED BY THE LABORATORY AS AN ESTIMATED VALUE
- ND — NOT DETECTED AT OR ABOVE LABORATORY METHOD DETECTION LIMITS
- BOLD — CONSTITUENT DETECTED AT CONCENTRATIONS EXCEEDING MODEL TOXICS CONTROL ACT METHOD A CLEANUP LEVELS (MTCA METHOD A CLs)

Sample ID	
Date	Sample Collection Date
GRO	Gasoline Range Organics (µg/L) / [Duplicate (µg/L)]
B	Benzene (µg/L) / [Duplicate (µg/L)]
T	Toluene (µg/L)/ [Duplicate (µg/L)]
E	Ethylbenzene (µg/L) / [Duplicate (µg/L)]
X	Total Xylenes (µg/L) / [Duplicate (µg/L)]
Pb-T	Total Lead (µg/L) / [Duplicate (µg/L)]
Pb-D	Dissolved Lead (µg/L) / [Duplicate (µg/L)]

NOTES:

ALL ANALYTICAL DATA ARE REPORTED IN MICROGRAMS PER LITER (µg/L)

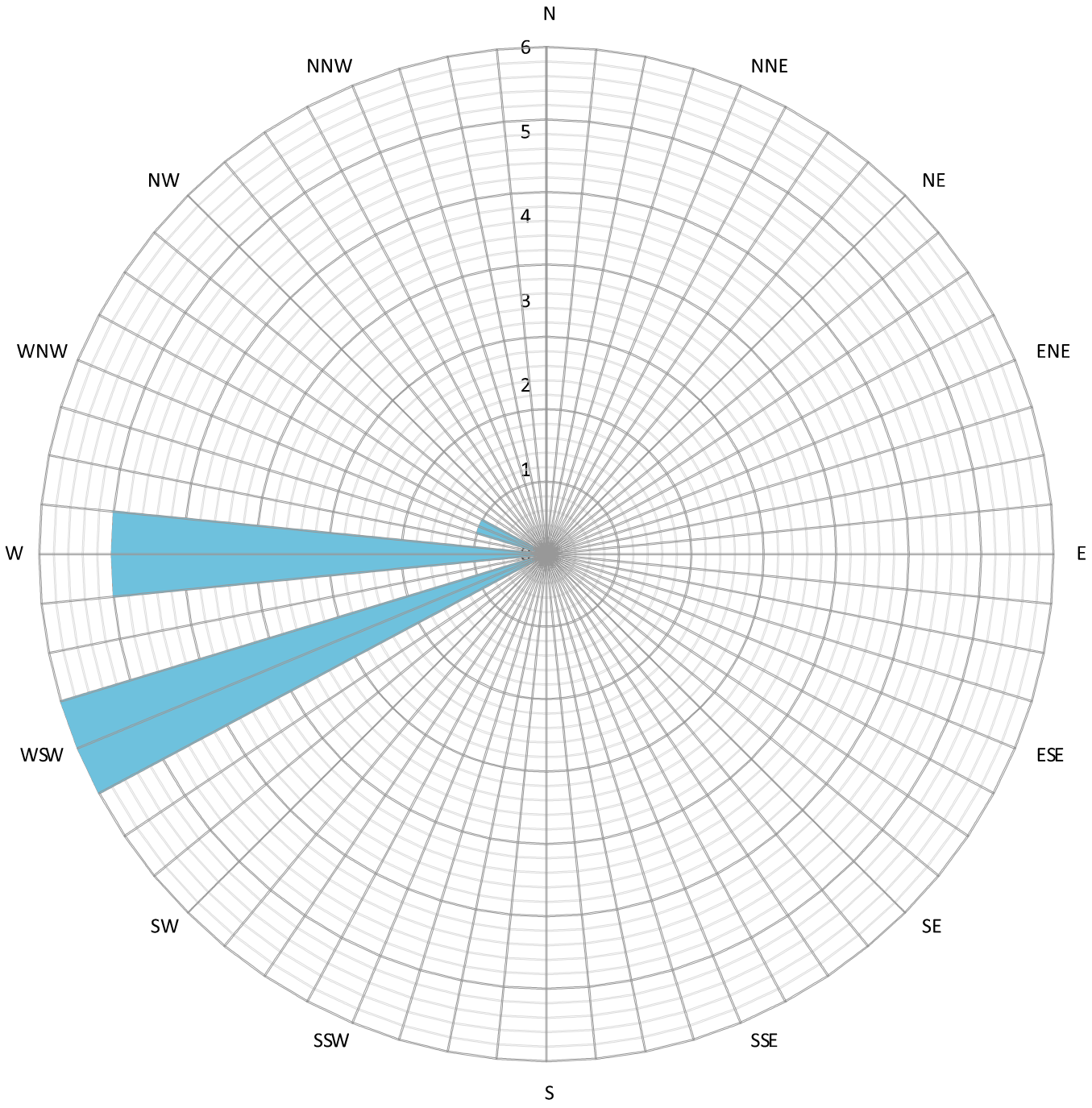
THIS MAP WAS PREPARED FROM A FIELD SURVEY PERFORMED BY OTAK IN 2010 AND UPDATED IN 2014.

BP WEST COAST PRODUCTS, LLC.
ARCO FACILITY NO. 00217 (5377)
13131 BOTHELL EVERETT HIGHWAY, EVERETT, WASHINGTON
ANNUAL SITE STATUS REPORT 2014

GROUNDWATER ELEVATION CONTOUR AND ANALYTICAL SUMMARY MAP JULY 31, 2014

ARCADIS

FIGURE 4



GROUNDWATER GRADIENT DIRECTION

LEGEND:

N=North
NNE= North Northeast
NE= Northeast
ENE= East Northeast
E= East
ESE= East Southeast
SE=Southeast
SSE= South Southeast
S= South
SW= Southwest
SSW= South Southwest
WSW= West South West
W= West
WNW= West Northwest
NW=Northwest
NNW= North Northwest
5 = Number of Events observed

NOTE:
ROSE DIAGRAM BASED ON GRADIENT DIRECTION FROM GROUNDWATER MONITORING EVENTS CONDUCTED BY ARCADIS SINCE TOP OF CASING SURVEY IN JUNE 2010.

BP WEST COAST PRODUCTS, LLC.
ARCO FACILITY NO. 00217 (5377)
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ANNUAL SITE STATUS REPORT 2014

HISTORICAL GROUNDWATER FLOW DIRECTION ROSE DIAGRAM

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FIGURE
5

ARCADIS

Appendix A

Boring Logs

Date Start/Finish: 4/23/2014
Drilling Company: Cascade Drilling LLC
Driller's Name: Elijah Floyd
Drilling Method: Air Knife/Vacuum Truck
Auger Size: NA
Rig Type: Vacuum Truck
Sampling Method: Hand Auger

Northing: 323457.72
Easting: 1303478.38
Casing Elevation: NA

Borehole Depth: 8' bgs
Surface Elevation: 465.09

Descriptions By: Ross LaGrandeur

Well/Boring ID: **HA-1**

Client: BP West Coast Products LLC

Location: ARCO WA-217
13131 Bothell Everett Highway,
Everett, WA 98208

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blow Counts	N-Value	PID Headspace (ppm)	Analytical Sample	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0										Concrete ~6"-8" with about 2" of pea gravel under it	Concrete
		1	HA	0.5	NM	NM	150		SM		Silty Sand with trace gravel and organic material, loose, dark brown, sand is subangular, gravel is medium to large pebbles	
		2	HA	0.5	NM	NM	134				Same as above	
5	-5											Bentonite Chips
		3	HA	0.5	NM	NM	180		SW		Silty Sand with gravel - gravel is small to large pebbles, sand is medium grained, dark brown	
		4	HA	0.5	NM	NM	>350				Silty Sand with trace gravel - small pebbles to very large cobbles, sand is fine to medium, brown (refusal at 8' bgs - large cobbles)	

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Remarks: bgs = below ground surface
ppm = parts per million
HA = Hand Auger
HCLO = Hydrocarbon-like Odor
NA = Not Applicable
NM = Not Measured
PID = Photoionization Detector

Date Start/Finish: 4/23/2014
Drilling Company: Cascade Drilling LLC
Driller's Name: Elijah Floyd
Drilling Method: Air Knife/Vacuum Truck
Auger Size: NA
Rig Type: Vacuum Truck
Sampling Method: Hand Auger

Northing: 323472.59
Easting: 1303465.74
Casing Elevation: NA

Borehole Depth: 7.5' bgs
Surface Elevation: 464.44

Descriptions By: Ross LaGrandeur

Well/Boring ID: **HA-2**

Client: BP West Coast Products LLC

Location: ARCO WA-217
13131 Bothell Everett Highway,
Everett, WA 98208

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blow Counts	N-Value	PID Headspace (ppm)	Analytical Sample	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0										Asphalt about 3" thick	Concrete
		1	HA	0.5	NM	NM	163		SW		Sand with trace gravel - sand is coarse and gravel is medium sized pebbles, brown with grey streaks	
		2	HA	0.5	NM	NM	284				Same as above	Bentonite Chips
5	-5										A large concrete block is enountered at edge of boring - boring angles to the east	
		3	HA	0.5	NM	NM	135		SG		Same as above with increased amount of gravel	
		4	HA	0.5	NM	NM	107				Same as above	

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Remarks: bgs = below ground surface
ppm = parts per million
HA = Hand Auger
HCLO = Hydrocarbon-like Odor
NA = Not Applicable
NM = Not Measured
PID = Photoionization Detector

Date Start/Finish: 4/23/2014
Drilling Company: Cascade Drilling LLC
Driller's Name: Elijah Floyd
Drilling Method: Air Knife/Vacuum Truck
Auger Size: NA
Rig Type: Vacuum Truck
Sampling Method: Hand Auger

Northing: 323478.52
Easting: 1303499.53
Casing Elevation: NA

Borehole Depth: 6.5' bgs
Surface Elevation: 465.91

Descriptions By: Ross LaGrandeur

Well/Boring ID: **HA-4**

Client: BP West Coast Products LLC

Location: ARCO WA-217
13131 Bothell Everett Highway,
Everett, WA 98208

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blow Counts	N-Value	PID Headspace (ppm)	Analytical Sample	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0										Concrete about 6"-8" thick with 2" of pea gravel	Concrete
		1	HA	0.5	NM	NM	53.1				Fill - sand and pea gravel, sand is medium to coarse, brown	
		2	HA	0.5	NM	NM	30.8				Same as above	Bentonite Chips
5	-5								SG			
		3	HA	0.5	NM	NM	250				Same as above with HCLO	
		4	HA	0.5	NM	NM	440				Same as above - with increase in size range of gravel to very large pebble, HCLO is very strong	

ARCADIS
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Remarks: bgs = below ground surface
ppm = parts per million
HA = Hand Auger
HCLO = Hydrocarbon-like Odor
NA = Not Applicable
NM = Not Measured
PID = Photoionization Detector

Date Start/Finish: 7/11/2014
Drilling Company: Cascade Drilling
Driller's Name: Frank Scott
Drilling Method: Hollow Stem Auger
Auger Size: 8" Outer Diameter
Rig Type:
Sampling Method: HA/SS

Northing: 323471.16
Easting: 1303461.66
Casing Elevation: 463.80

Borehole Depth: 14 feet bgs
Surface Elevation: 464.25

Descriptions By: Ryan Brauchla

Well/Boring ID: **MW-11**

Client: BP West Coast Products, LLC.

Location: ARCO WA-217
13131 Bothell-Everett Highway
Everett, WA 98208

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blow Counts	N-Value	PID Headspace (ppm)	Analytical Sample	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0										Concrete	Jet Set Cement; 6" Monument; 2" Well Cap; Neat Cement
											Boring cleared to a depth of 6.5 ft bgs with air-knife and vacuum truck	
		1	HA	0.5	NM	NM	0.3		SP		Gravelly SAND (SP): poorly sorted medium to coarse sand with rounded medium gravel, brown, medium density, moist	2" Schedule 40 PVC Riser; Bentonite Chips/Pellets
		2	HA	0.5	NM	NM	43.5	X	SP		Gravelly SAND (SP): poorly sorted medium to coarse sand with rounded medium gravel, dark greyish brown, medium density, moist, slight HCLO	
5	-5											
		3	HA	0.5	NM	NM	10.4				Gravelly SAND with silt (SP-SM): poorly sorted fine sand with rounded medium gravel and low nonplasticity silt, dark brown, very dense, moist to wet	
		4	SS	1.5	19 50/6"	>50	5.7		SP-SM			
									SM		Silty SAND (SM): poorly sorted medium sand with nonplastic silt, light brown, very dense, wet, HCLO	First Encountered Groundwater
		5	SS	1.0	21 12 10	22	63.4					2/12 Silica Sand
											Silty SAND with gravel (SP-SM): poorly sorted fine to coarse sand with nonplastic silt and rounded to subrounded medium gravel, grey, wet, medium to very dense (increasing density with depth), HCLO decreases with depth	0.010" Schedule 40 PVC Screen
10	-10	6	SS	1.5	16 18 18	36	29.0					
		7	SS	1.5	17 17 21	41	5.7		SP-SM			
		8	SS	1.0	40 50/6"	>50	2.6					

ARCADIS
Infrastructure · Water · Environment · Buildings

Remarks:
bgs = below ground surface
ppm = parts per million
HA = Hand Auger
HCLO = Hydrocarbon-like Odor
NM = Not Measured
SS = Split Spoon sampler, 2" x 1.5'
PID = Photoionization Detector
PVC = Polyvinyl Chloride

Project Number:GP09BPNAWA01
Data File:

Date: 12/31/2014 Created/Edited by:RB

ARCADIS

Appendix B

Soil Laboratory Report and
Chain-of-Custody Documentation

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Atlantic Richfield c/o ARCADIS
Suite 600
630 Plaza Drive
Highlands Ranch CO 80129

May 08, 2014

Project: WA-0217

Submittal Date: 04/25/2014
Group Number: 1469907
PO Number: GP09BPNA.WA01
State of Sample Origin: WA

Client Sample Description	Lancaster Labs (LL) #
HA-1 3-3.5 Grab Soil	7442935
HA-1 4-4.5 Grab Soil	7442936
HA-1 7.5-8 Grab Soil	7442937
HA-2 3-3.5 Grab Soil	7442938
HA-2 4-4.5 Grab Soil	7442939
HA-2 7-7.5 Grab Soil	7442940
DUP-1 Grab Soil	7442941
TRIP BLANK Methanol	7442942

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

ELECTRONIC COPY TO	ARCADIS U.S., Inc.	Attn: Sam Miles
ELECTRONIC COPY TO	Atlantic Richfield c/o ARCADIS	Attn: Rory Henneck
ELECTRONIC COPY TO	ARCADIS U.S., Inc.	Attn: Richard Rodriguez

Respectfully Submitted,

Natalie R. Luciano
Senior Specialist

(717) 556-7258

Project Name: WA-0217
LLI Group #: 1469907

General Comments:

Through our technical processes and second person review of data, we have established that our data/deliverables are in compliance with the methods and project requirements unless otherwise noted or previously resolved with the client. The compliance signature is located on the cover page of the Analysis Reports.

See the Laboratory Sample Analysis Record section of the Analysis Report for the method references.

All QC met criteria unless otherwise noted in an Analysis Specific Comment below. Refer to the QC Summary for specific values and acceptance criteria.

Project specific QC samples are not included in this data set

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in an Analysis Specific Comment below.

The samples were received at the appropriate temperature and in accordance with the chain of custody unless otherwise noted.

Analysis Specific Comments:

SW-846 8270C SIM, GC/MS Semivolatiles

Sample #s: 7442939

The surrogate data is outside the QC limits due to unresolvable matrix problems evident in the sample chromatogram.

Batch #: 14119SLB026 (Sample number(s): 7442935-7442940 UNSPK: 7442935)

The recovery(ies) for one or more surrogates were outside of the QC window for sample(s) 7442938, 7442939

ECY 97-602 NWTPH-Dx modified, GC Petroleum Hydrocarbons

Batch #: 141180011A (Sample number(s): 7442935-7442940 BKG: P437840)

The duplicate RPD for the following analyte(s) exceeded the acceptance window: Diesel Range Organics C12-C24

The recovery(ies) for one or more surrogates were outside of the QC window for sample(s) 7442939

ECY 97-602 WA EPH, GC Petroleum Hydrocarbons

Batch #: 141200019A (Sample number(s): 7442935-7442940 UNSPK: 7442935 BKG: 7442935)

The recovery(ies) for the following analyte(s) in the MS was outside the acceptance window: >C12-C16 Aliphatic, >C16-C21 Aliphatic, >C21-C34 Aliphatic

The duplicate RPD for the following analyte(s) exceeded the acceptance window: >C10-C12 Aliphatic, >C12-C16 Aliphatic, >C16-C21 Aliphatic, >C21-C34 Aliphatic, >C10-C12 Aromatic, >C12-C16 Aromatic, >C16-C21 Aromatic, >C21-C34 Aromatic

SW-846 6010B, Metals

Batch #: 141195708002 (Sample number(s): 7442935-7442940 UNSPK: P443547 BKG: P443547)

The duplicate RPD for the following analyte(s) exceeded the acceptance window: Lead

Sample Description: HA-1 3-3.5 Grab Soil
WA-0217 COC: R215566
13131 Bothell Everett Hwy - Everett, WA

LL Sample # SW 7442935
LL Group # 1469907
Account # 13255

Project Name: WA-0217

Collected: 04/23/2014 11:45 by RL

Submitted: 04/25/2014 09:40
Reported: 05/08/2014 10:38

Atlantic Richfield c/o ARCADIS
Suite 600
630 Plaza Drive
Highlands Ranch CO 80129

-1335

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	**mg/kg**	
10237	Benzene	71-43-2	0.16	0.00065	0.0065	1.04
10237	Ethylbenzene	100-41-4	0.35	0.0013	0.0065	1.04
10237	Methyl Tertiary Butyl Ether	1634-04-4	0.0030 J	0.00065	0.0065	1.04
10237	Toluene	108-88-3	0.0035 J	0.0013	0.0065	1.04
10237	Xylene (Total)	1330-20-7	7.2	0.075	0.38	59.52
GC/MS Semivolatiles	**SW-846 8270C SIM**		**mg/kg**	**mg/kg**	**mg/kg**	
10725	Benzo(a)anthracene	56-55-3	0.0054	0.00084	0.0021	1
10725	Benzo(a)pyrene	50-32-8	0.0058	0.00084	0.0021	1
10725	Benzo(b)fluoranthene	205-99-2	0.014	0.00084	0.0021	1
10725	Benzo(k)fluoranthene	207-08-9	0.0060	0.00084	0.0021	1
10725	Chrysene	218-01-9	0.011	0.00042	0.0021	1
10725	Dibenz(a,h)anthracene	53-70-3	0.00094 J	0.00084	0.0021	1
10725	Indeno(1,2,3-cd)pyrene	193-39-5	0.0034	0.00084	0.0021	1
10725	1-Methylnaphthalene	90-12-0	0.0068	0.00084	0.0021	1
10725	2-Methylnaphthalene	91-57-6	0.011	0.00084	0.0021	1
10725	Naphthalene	91-20-3	0.041	0.00084	0.0021	1
GC Volatiles	**ECY 97-602 NWTPH-Gx**		**mg/kg**	**mg/kg**	**mg/kg**	
02005	NWTPH-GX Soil C7-C12	n.a.	38	6.4	32	127.33
GC Petroleum Hydrocarbons	**ECY 97-602 NWTPH-Dx modified**		**mg/kg**	**mg/kg**	**mg/kg**	
08272	Diesel Range Organics C12-C24	n.a.	64	3.8	8.8	1
08272	Heavy Range Organics C24-C40	n.a.	210	13	38	1
GC Petroleum Hydrocarbons	**ECY 97-602 WA EPH**		**mg/kg**	**mg/kg**	**mg/kg**	
05970	>C10-C12 Aliphatic	n.a.	2.0 J	1.2	6.1	1
05970	>C10-C12 Aromatic	n.a.	1.8 J	1.2	6.1	1
05970	>C12-C16 Aliphatic	n.a.	11	1.2	6.1	1
05970	>C12-C16 Aromatic	n.a.	2.3 J	1.2	6.1	1
05970	>C16-C21 Aliphatic	n.a.	19	3.6	6.1	1
05970	>C16-C21 Aromatic	n.a.	14	2.4	6.1	1
05970	>C21-C34 Aliphatic	n.a.	52	7.3	12	1
05970	>C21-C34 Aromatic	n.a.	28	2.4	6.1	1
GC Petroleum Hydrocarbons	**ECY 97-602 WA VPH**		**mg/kg**	**mg/kg**	**mg/kg**	
05666	Benzene	71-43-2	0.256 J	0.0819	0.819	64.98
05666	C5-C6 Aliphatic Hydrocarbons	n.a.	N.D.	4.10	8.19	64.98
05666	C6-C8 Aliphatic Hydrocarbons	n.a.	N.D.	4.10	8.19	64.98
05666	C8-C10 Aliphatic Hydrocarbons	n.a.	N.D.	4.10	8.19	64.98
05666	C8-C10 Aromatic Hydrocarbons	n.a.	8.76	4.10	8.19	64.98
05666	Ethylbenzene	100-41-4	1.31	0.0819	0.819	64.98
05666	Methyl t-butyl ether	1634-04-4	N.D.	0.0819	0.819	64.98
05666	Toluene	108-88-3	N.D.	0.0819	0.819	64.98

*=This limit was used in the evaluation of the final result

Sample Description: HA-1 3-3.5 Grab Soil
WA-0217 COC: R215566
13131 Bothell Everett Hwy - Everett, WA

LL Sample # SW 7442935
LL Group # 1469907
Account # 13255

Project Name: WA-0217

Collected: 04/23/2014 11:45 by RL

Submitted: 04/25/2014 09:40
Reported: 05/08/2014 10:38

Atlantic Richfield c/o ARCADIS
Suite 600
630 Plaza Drive
Highlands Ranch CO 80129

-1335

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC Petroleum Hydrocarbons	**ECY 97-602 WA VPH**		**mg/kg**	**mg/kg**	**mg/kg**	
05666	o-Xylene	95-47-6	0.449 J	0.0819	0.819	64.98
05666	m,p-Xylenes	179601-23-1	5.62	0.164	1.64	64.98
Metals	**SW-846 6010B**		**mg/kg**	**mg/kg**	**mg/kg**	
06955	Lead	7439-92-1	27.9	0.618	1.85	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	20.7	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

General Sample Comments

State of Washington Lab Certification No. C457

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	BTEX/MTBE	SW-846 8260B	1	X141171AA	04/27/2014 23:08	Christopher G Torres	1.04
10237	BTEX/MTBE	SW-846 8260B	1	Q141181AA	04/28/2014 21:36	Sarah A Guill	59.52
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201411534326	04/23/2014 11:45	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201411534326	04/23/2014 11:45	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201411534326	04/23/2014 11:45	Client Supplied	1
10725	SIM SVOA (microwave)	SW-846 8270C SIM	1	14119SLB026	05/06/2014 05:43	Mark A Clark	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	14119SLB026	04/29/2014 16:35	JoElla L Rice	1
02005	NWTPH-GX Soil C7-C12	ECY 97-602 NWTPH-Gx	1	14118A34A	04/29/2014 00:48	Marie D Beamenderfer	127.33
06647	GC-5g Field Preserved MeOH	SW-846 5035A	1	201411534326	04/23/2014 11:45	Client Supplied	n.a.
08272	NWTPH-Dx soil	ECY 97-602 NWTPH-Dx modified	1	141180011A	04/29/2014 17:15	Glorines Suarez-Rivera	1
05970	WA EPH in Soil	ECY 97-602 WA EPH	1	141200019A	05/02/2014 15:21	Heather E Williams	1
05970	WA EPH in Soil	ECY 97-602 WA EPH	1	141200019A	05/02/2014 16:01	Heather E Williams	1
05666	WA- VPH soils	ECY 97-602 WA VPH	1	14115A54B	05/05/2014 09:44	Nicholas R Rossi	64.98

*=This limit was used in the evaluation of the final result

Sample Description: HA-1 3-3.5 Grab Soil
WA-0217 COC: R215566
13131 Bothell Everett Hwy - Everett, WA

LL Sample # SW 7442935
LL Group # 1469907
Account # 13255

Project Name: WA-0217

Collected: 04/23/2014 11:45 by RL

Submitted: 04/25/2014 09:40
Reported: 05/08/2014 10:38

Atlantic Richfield c/o ARCADIS
Suite 600
630 Plaza Drive
Highlands Ranch CO 80129

-1335

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11234	WA DRO NW DX Soils (Non SG)	ECY 97-602 NWTPH-Dx 06/97	1	141180011A	04/29/2014 02:30	Sherry L Morrow	1
11213	WA EPH Soils Extraction	ECY 97-602 WA EPH	1	141200019A	05/01/2014 03:15	Roman Kuropatkin	1
00388	GC - Field Preserved (MA-VPH)	MA DEP VPH modified	1	201411534326	04/23/2014 11:45	Client Supplied	1
00497	Silica Gel Fractionation	SW-846 3630C modified	1	141200019A	05/01/2014 07:15	Roman Kuropatkin	1
06955	Lead	SW-846 6010B	1	141195708002	05/01/2014 16:20	Katlin N Cataldi	1
05708	SW SW846 ICP/ICP MS Digest	SW-846 3050B	1	141195708002	04/30/2014 08:17	James L Mertz	1
00111	Moisture	SM 2540 G-1997	1	14119820001A	04/29/2014 18:49	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: HA-1 4-4.5 Grab Soil
WA-0217 COC: R215566
13131 Bothell Everett Hwy - Everett, WA

LL Sample # SW 7442936
LL Group # 1469907
Account # 13255

Project Name: WA-0217

Collected: 04/23/2014 12:00 by RL

Submitted: 04/25/2014 09:40
Reported: 05/08/2014 10:38

Atlantic Richfield c/o ARCADIS
Suite 600
630 Plaza Drive
Highlands Ranch CO 80129

-1445

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**		**mg/kg**	**mg/kg**	
10237	Benzene	71-43-2	0.22		0.00062	0.0062	1.03
10237	Ethylbenzene	100-41-4	1.2		0.062	0.31	51.12
10237	Methyl Tertiary Butyl Ether	1634-04-4	0.0043	J	0.00062	0.0062	1.03
10237	Toluene	108-88-3	0.0060	J	0.0012	0.0062	1.03
10237	Xylene (Total)	1330-20-7	5.5		0.062	0.31	51.12
GC/MS Semivolatiles	**SW-846 8270C SIM**		**mg/kg**		**mg/kg**	**mg/kg**	
10725	Benzo(a)anthracene	56-55-3	0.0025		0.00080	0.0020	1
10725	Benzo(a)pyrene	50-32-8	0.0036		0.00080	0.0020	1
10725	Benzo(b)fluoranthene	205-99-2	0.0083		0.00080	0.0020	1
10725	Benzo(k)fluoranthene	207-08-9	0.0031		0.00080	0.0020	1
10725	Chrysene	218-01-9	0.0076		0.00040	0.0020	1
10725	Dibenz(a,h)anthracene	53-70-3	N.D.		0.00080	0.0020	1
10725	Indeno(1,2,3-cd)pyrene	193-39-5	0.0023		0.00080	0.0020	1
10725	1-Methylnaphthalene	90-12-0	0.012		0.00080	0.0020	1
10725	2-Methylnaphthalene	91-57-6	0.023		0.00080	0.0020	1
10725	Naphthalene	91-20-3	0.063		0.00080	0.0020	1
GC Volatiles	**ECY 97-602 NWTPH-Gx**		**mg/kg**		**mg/kg**	**mg/kg**	
02005	NWTPH-GX Soil C7-C12	n.a.	49		5.9	29	121.97
GC Petroleum Hydrocarbons	**ECY 97-602 NWTPH-Dx modified**		**mg/kg**		**mg/kg**	**mg/kg**	
08272	Diesel Range Organics C12-C24	n.a.	37		3.6	8.4	1
08272	Heavy Range Organics C24-C40	n.a.	150		12	36	1
GC Petroleum Hydrocarbons	**ECY 97-602 WA EPH**		**mg/kg**		**mg/kg**	**mg/kg**	
05970	>C10-C12 Aliphatic	n.a.	N.D.		1.2	5.8	1
05970	>C10-C12 Aromatic	n.a.	1.4	J	1.2	5.8	1
05970	>C12-C16 Aliphatic	n.a.	3.4	J	1.2	5.8	1
05970	>C12-C16 Aromatic	n.a.	N.D.		1.2	5.8	1
05970	>C16-C21 Aliphatic	n.a.	12		3.5	5.8	1
05970	>C16-C21 Aromatic	n.a.	5.9		2.3	5.8	1
05970	>C21-C34 Aliphatic	n.a.	120		6.9	12	1
05970	>C21-C34 Aromatic	n.a.	48		2.3	5.8	1
GC Petroleum Hydrocarbons	**ECY 97-602 WA VPH**		**mg/kg**		**mg/kg**	**mg/kg**	
05666	Benzene	71-43-2	0.254	J	0.0690	0.690	57.36
05666	C5-C6 Aliphatic Hydrocarbons	n.a.	N.D.		3.45	6.90	57.36
05666	C6-C8 Aliphatic Hydrocarbons	n.a.	N.D.		3.45	6.90	57.36
05666	C8-C10 Aliphatic Hydrocarbons	n.a.	4.17	J	3.45	6.90	57.36
05666	C8-C10 Aromatic Hydrocarbons	n.a.	12.7		3.45	6.90	57.36
05666	Ethylbenzene	100-41-4	1.58		0.0690	0.690	57.36
05666	Methyl t-butyl ether	1634-04-4	N.D.		0.0690	0.690	57.36
05666	Toluene	108-88-3	N.D.		0.0690	0.690	57.36

*=This limit was used in the evaluation of the final result

Sample Description: HA-1 4-4.5 Grab Soil
WA-0217 COC: R215566
13131 Bothell Everett Hwy - Everett, WA

LL Sample # SW 7442936
LL Group # 1469907
Account # 13255

Project Name: WA-0217

Collected: 04/23/2014 12:00 by RL

Submitted: 04/25/2014 09:40
Reported: 05/08/2014 10:38

Atlantic Richfield c/o ARCADIS
Suite 600
630 Plaza Drive
Highlands Ranch CO 80129

-1445

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC Petroleum Hydrocarbons	**ECY 97-602 WA VPH**		**mg/kg**	**mg/kg**	**mg/kg**	
05666	o-Xylene	95-47-6	0.307 J	0.0690	0.690	57.36
05666	m,p-Xylenes	179601-23-1	7.34	0.138	1.38	57.36
Metals	**SW-846 6010B**		**mg/kg**	**mg/kg**	**mg/kg**	
06955	Lead	7439-92-1	23.7	0.584	1.75	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	16.9	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

General Sample Comments

State of Washington Lab Certification No. C457

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	BTEX/MTBE	SW-846 8260B	1	X141171AA	04/27/2014 23:30	Christopher G Torres	1.03
10237	BTEX/MTBE	SW-846 8260B	1	Q141181AA	04/28/2014 21:59	Sarah A Guill	51.12
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201411534326	04/23/2014 12:00	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201411534326	04/23/2014 12:00	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201411534326	04/23/2014 12:00	Client Supplied	1
10725	SIM SVOA (microwave)	SW-846 8270C SIM	1	14119SLB026	05/07/2014 10:35	Mark A Clark	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	14119SLB026	04/29/2014 16:35	JoElla L Rice	1
02005	NWTPH-GX Soil C7-C12	ECY 97-602 NWTPH-Gx	1	14118A34A	04/29/2014 01:25	Marie D Beamenderfer	121.97
06647	GC-5g Field Preserved MeOH	SW-846 5035A	1	201411534326	04/23/2014 12:00	Client Supplied	n.a.
08272	NWTPH-Dx soil	ECY 97-602 NWTPH-Dx modified	1	141180011A	04/29/2014 16:54	Glorines Suarez-Rivera	1
05970	WA EPH in Soil	ECY 97-602 WA EPH	1	141200019A	05/02/2014 19:29	Heather E Williams	1
05970	WA EPH in Soil	ECY 97-602 WA EPH	1	141200019A	05/02/2014 20:09	Heather E Williams	1
05666	WA- VPH soils	ECY 97-602 WA VPH	1	14115A54B	05/05/2014 10:24	Nicholas R Rossi	57.36

*=This limit was used in the evaluation of the final result

Sample Description: HA-1 4-4.5 Grab Soil
WA-0217 COC: R215566
13131 Bothell Everett Hwy - Everett, WA

LL Sample # SW 7442936
LL Group # 1469907
Account # 13255

Project Name: WA-0217

Collected: 04/23/2014 12:00 by RL

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630 Plaza Drive
Highlands Ranch CO 80129

-1445

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11234	WA DRO NW DX Soils (Non SG)	ECY 97-602 NWTPH-Dx 06/97	1	141180011A	04/29/2014 02:30	Sherry L Morrow	1
11213	WA EPH Soils Extraction	ECY 97-602 WA EPH	1	141200019A	05/01/2014 03:15	Roman Kuropatkin	1
00388	GC - Field Preserved (MA-VPH)	MA DEP VPH modified	1	201411534326	04/23/2014 12:00	Client Supplied	1
00497	Silica Gel Fractionation	SW-846 3630C modified	1	141200019A	05/01/2014 07:15	Roman Kuropatkin	1
06955	Lead	SW-846 6010B	1	141195708002	05/01/2014 16:24	Katlin N Cataldi	1
05708	SW SW846 ICP/ICP MS Digest	SW-846 3050B	1	141195708002	04/30/2014 08:17	James L Mertz	1
00111	Moisture	SM 2540 G-1997	1	14119820001A	04/29/2014 18:49	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: HA-1 7.5-8 Grab Soil
WA-0217 COC: R215566
13131 Bothell Everett Hwy - Everett, WA

LL Sample # SW 7442937
LL Group # 1469907
Account # 13255

Project Name: WA-0217

Collected: 04/23/2014 12:15 by RL

Submitted: 04/25/2014 09:40
Reported: 05/08/2014 10:38

Atlantic Richfield c/o ARCADIS
Suite 600
630 Plaza Drive
Highlands Ranch CO 80129

-1758

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	**mg/kg**	
10237	Benzene	71-43-2	0.0087	0.00047	0.0047	0.73
10237	Ethylbenzene	100-41-4	0.014	0.00094	0.0047	0.73
10237	Methyl Tertiary Butyl Ether	1634-04-4	0.0027 J	0.00047	0.0047	0.73
10237	Toluene	108-88-3	N.D.	0.00094	0.0047	0.73
10237	Xylene (Total)	1330-20-7	0.071	0.00094	0.0047	0.73
GC/MS Semivolatiles	**SW-846 8270C SIM**		**mg/kg**	**mg/kg**	**mg/kg**	
10725	Benzo(a)anthracene	56-55-3	N.D.	0.00086	0.0022	1
10725	Benzo(a)pyrene	50-32-8	N.D.	0.00086	0.0022	1
10725	Benzo(b)fluoranthene	205-99-2	N.D.	0.00086	0.0022	1
10725	Benzo(k)fluoranthene	207-08-9	N.D.	0.00086	0.0022	1
10725	Chrysene	218-01-9	N.D.	0.00043	0.0022	1
10725	Dibenz(a,h)anthracene	53-70-3	N.D.	0.00086	0.0022	1
10725	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.00086	0.0022	1
10725	1-Methylnaphthalene	90-12-0	0.0018 J	0.00086	0.0022	1
10725	2-Methylnaphthalene	91-57-6	0.0030	0.00086	0.0022	1
10725	Naphthalene	91-20-3	0.0059	0.00086	0.0022	1
GC Volatiles	**ECY 97-602 NWTPH-Gx**		**mg/kg**	**mg/kg**	**mg/kg**	
02005	NWTPH-GX Soil C7-C12	n.a.	3.1 J	1.3	6.5	25.17
GC Petroleum Hydrocarbons	**ECY 97-602 NWTPH-Dx modified**		**mg/kg**	**mg/kg**	**mg/kg**	
08272	Diesel Range Organics C12-C24	n.a.	N.D.	3.9	9.0	1
08272	Heavy Range Organics C24-C40	n.a.	N.D.	13	39	1
GC Petroleum Hydrocarbons	**ECY 97-602 WA EPH**		**mg/kg**	**mg/kg**	**mg/kg**	
05970	>C10-C12 Aliphatic	n.a.	N.D.	1.3	6.3	1
05970	>C10-C12 Aromatic	n.a.	N.D.	1.3	6.3	1
05970	>C12-C16 Aliphatic	n.a.	N.D.	1.3	6.3	1
05970	>C12-C16 Aromatic	n.a.	N.D.	1.3	6.3	1
05970	>C16-C21 Aliphatic	n.a.	N.D.	3.8	6.3	1
05970	>C16-C21 Aromatic	n.a.	N.D.	2.5	6.3	1
05970	>C21-C34 Aliphatic	n.a.	N.D.	7.6	13	1
05970	>C21-C34 Aromatic	n.a.	N.D.	2.5	6.3	1
GC Petroleum Hydrocarbons	**ECY 97-602 WA VPH**		**mg/kg**	**mg/kg**	**mg/kg**	
05666	Benzene	71-43-2	N.D.	0.0681	0.681	52.8
05666	C5-C6 Aliphatic Hydrocarbons	n.a.	N.D.	3.41	6.81	52.8
05666	C6-C8 Aliphatic Hydrocarbons	n.a.	N.D.	3.41	6.81	52.8
05666	C8-C10 Aliphatic Hydrocarbons	n.a.	N.D.	3.41	6.81	52.8
05666	C8-C10 Aromatic Hydrocarbons	n.a.	N.D.	3.41	6.81	52.8
05666	Ethylbenzene	100-41-4	N.D.	0.0681	0.681	52.8
05666	Methyl t-butyl ether	1634-04-4	N.D.	0.0681	0.681	52.8
05666	Toluene	108-88-3	N.D.	0.0681	0.681	52.8

*=This limit was used in the evaluation of the final result

Sample Description: HA-1 7.5-8 Grab Soil
WA-0217 COC: R215566
13131 Bothell Everett Hwy - Everett, WA

LL Sample # SW 7442937
LL Group # 1469907
Account # 13255

Project Name: WA-0217

Collected: 04/23/2014 12:15 by RL

Submitted: 04/25/2014 09:40
Reported: 05/08/2014 10:38

Atlantic Richfield c/o ARCADIS
Suite 600
630 Plaza Drive
Highlands Ranch CO 80129

-1758

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC Petroleum Hydrocarbons	**ECY 97-602 WA VPH**		**mg/kg**		**mg/kg**	**mg/kg**	
05666	o-Xylene	95-47-6	N.D.		0.0681	0.681	52.8
05666	m,p-Xylenes	179601-23-1	0.175	J	0.136	1.36	52.8
Metals	**SW-846 6010B**		**mg/kg**		**mg/kg**	**mg/kg**	
06955	Lead	7439-92-1	1.34	J	0.645	1.94	1
Wet Chemistry	**SM 2540 G-1997**		**%**		**%**	**%**	
00111	Moisture	n.a.	22.5		0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

General Sample Comments

State of Washington Lab Certification No. C457

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	BTEX/MTBE	SW-846 8260B	1	X141171AA	04/27/2014 21:14	Christopher G Torres	0.73
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201411534326	04/23/2014 12:15	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201411534326	04/23/2014 12:15	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201411534326	04/23/2014 12:15	Client Supplied	1
10725	SIM SVOA (microwave)	SW-846 8270C SIM	1	14119SLB026	05/06/2014 07:54	Mark A Clark	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	14119SLB026	04/29/2014 16:35	JoElla L Rice	1
02005	NWTPH-GX Soil C7-C12	ECY 97-602 NWTPH-Gx	1	14118A34A	04/28/2014 20:01	Marie D Beamenderfer	25.17
06647	GC-5g Field Preserved MeOH	SW-846 5035A	1	201411534326	04/23/2014 12:15	Client Supplied	n.a.
08272	NWTPH-Dx soil	ECY 97-602 NWTPH-Dx modified	1	141180011A	04/29/2014 16:33	Glorines Suarez-Rivera	1
05970	WA EPH in Soil	ECY 97-602 WA EPH	1	141200019A	05/02/2014 10:02	Heather E Williams	1
05970	WA EPH in Soil	ECY 97-602 WA EPH	1	141200019A	05/02/2014 10:42	Heather E Williams	1
05666	WA- VPH soils	ECY 97-602 WA VPH	1	14115A54B	05/05/2014 11:04	Nicholas R Rossi	52.8
11234	WA DRO NW DX Soils (Non SG)	ECY 97-602 NWTPH-Dx 06/97	1	141180011A	04/29/2014 02:30	Sherry L Morrow	1

*=This limit was used in the evaluation of the final result

Sample Description: HA-1 7.5-8 Grab Soil
WA-0217 COC: R215566
13131 Bothell Everett Hwy - Everett, WA

LL Sample # SW 7442937
LL Group # 1469907
Account # 13255

Project Name: WA-0217

Collected: 04/23/2014 12:15 by RL

Submitted: 04/25/2014 09:40
Reported: 05/08/2014 10:38

Atlantic Richfield c/o ARCADIS
Suite 600
630 Plaza Drive
Highlands Ranch CO 80129

-1758

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11213	WA EPH Soils Extraction	ECY 97-602 WA EPH	1	141200019A	05/01/2014 03:15	Roman Kuropatkin	1
00388	GC - Field Preserved (MA-VPH)	MA DEP VPH modified	1	201411534326	04/23/2014 12:15	Client Supplied	1
00497	Silica Gel Fractionation	SW-846 3630C modified	1	141200019A	05/01/2014 07:15	Roman Kuropatkin	1
06955	Lead	SW-846 6010B	1	141195708002	05/01/2014 16:36	Katlin N Cataldi	1
05708	SW SW846 ICP/ICP MS Digest	SW-846 3050B	1	141195708002	04/30/2014 08:17	James L Mertz	1
00111	Moisture	SM 2540 G-1997	1	14119820001A	04/29/2014 18:49	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: HA-2 3-3.5 Grab Soil
WA-0217 COC: R215566
13131 Bothell Everett Hwy - Everett, WA

LL Sample # SW 7442938
LL Group # 1469907
Account # 13255

Project Name: WA-0217

Collected: 04/23/2014 09:00 by RL

Submitted: 04/25/2014 09:40
Reported: 05/08/2014 10:38

Atlantic Richfield c/o ARCADIS
Suite 600
630 Plaza Drive
Highlands Ranch CO 80129

-2335

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	**mg/kg**	
10237	Benzene	71-43-2	N.D.	0.00043	0.0043	0.8
10237	Ethylbenzene	100-41-4	N.D.	0.00086	0.0043	0.8
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.00043	0.0043	0.8
10237	Toluene	108-88-3	N.D.	0.00086	0.0043	0.8
10237	Xylene (Total)	1330-20-7	N.D.	0.00086	0.0043	0.8
GC/MS Semivolatiles	**SW-846 8270C SIM**		**mg/kg**	**mg/kg**	**mg/kg**	
10725	Benzo(a)anthracene	56-55-3	N.D.	0.00072	0.0018	1
10725	Benzo(a)pyrene	50-32-8	N.D.	0.00072	0.0018	1
10725	Benzo(b)fluoranthene	205-99-2	N.D.	0.00072	0.0018	1
10725	Benzo(k)fluoranthene	207-08-9	N.D.	0.00072	0.0018	1
10725	Chrysene	218-01-9	N.D.	0.00036	0.0018	1
10725	Dibenz(a,h)anthracene	53-70-3	N.D.	0.00072	0.0018	1
10725	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.00072	0.0018	1
10725	1-Methylnaphthalene	90-12-0	N.D.	0.00072	0.0018	1
10725	2-Methylnaphthalene	91-57-6	N.D.	0.00072	0.0018	1
10725	Naphthalene	91-20-3	N.D.	0.00072	0.0018	1
GC Volatiles	**ECY 97-602 NWTPH-Gx**		**mg/kg**	**mg/kg**	**mg/kg**	
02005	NWTPH-GX Soil C7-C12	n.a.	N.D.	0.92	4.6	21.17
GC Petroleum Hydrocarbons	**ECY 97-602 NWTPH-Dx modified**		**mg/kg**	**mg/kg**	**mg/kg**	
08272	Diesel Range Organics C12-C24	n.a.	N.D.	3.2	7.6	1
08272	Heavy Range Organics C24-C40	n.a.	N.D.	11	32	1
GC Petroleum Hydrocarbons	**ECY 97-602 WA EPH**		**mg/kg**	**mg/kg**	**mg/kg**	
05970	>C10-C12 Aliphatic	n.a.	N.D.	1.1	5.3	1
05970	>C10-C12 Aromatic	n.a.	N.D.	1.1	5.3	1
05970	>C12-C16 Aliphatic	n.a.	N.D.	1.1	5.3	1
05970	>C12-C16 Aromatic	n.a.	N.D.	1.1	5.3	1
05970	>C16-C21 Aliphatic	n.a.	N.D.	3.2	5.3	1
05970	>C16-C21 Aromatic	n.a.	N.D.	2.1	5.3	1
05970	>C21-C34 Aliphatic	n.a.	N.D.	6.3	11	1
05970	>C21-C34 Aromatic	n.a.	N.D.	2.1	5.3	1
GC Petroleum Hydrocarbons	**ECY 97-602 WA VPH**		**mg/kg**	**mg/kg**	**mg/kg**	
05666	Benzene	71-43-2	N.D.	0.0502	0.502	46.41
05666	C5-C6 Aliphatic Hydrocarbons	n.a.	N.D.	2.51	5.02	46.41
05666	C6-C8 Aliphatic Hydrocarbons	n.a.	N.D.	2.51	5.02	46.41
05666	C8-C10 Aliphatic Hydrocarbons	n.a.	N.D.	2.51	5.02	46.41
05666	C8-C10 Aromatic Hydrocarbons	n.a.	N.D.	2.51	5.02	46.41
05666	Ethylbenzene	100-41-4	N.D.	0.0502	0.502	46.41
05666	Methyl t-butyl ether	1634-04-4	N.D.	0.0502	0.502	46.41
05666	Toluene	108-88-3	N.D.	0.0502	0.502	46.41

*=This limit was used in the evaluation of the final result

Sample Description: HA-2 3-3.5 Grab Soil
WA-0217 COC: R215566
13131 Bothell Everett Hwy - Everett, WA

LL Sample # SW 7442938
LL Group # 1469907
Account # 13255

Project Name: WA-0217

Collected: 04/23/2014 09:00 by RL

Submitted: 04/25/2014 09:40
Reported: 05/08/2014 10:38

Atlantic Richfield c/o ARCADIS
Suite 600
630 Plaza Drive
Highlands Ranch CO 80129

-2335

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC Petroleum Hydrocarbons	**ECY 97-602 WA VPH**		**mg/kg**	**mg/kg**	**mg/kg**	
05666	o-Xylene	95-47-6	N.D.	0.0502	0.502	46.41
05666	m,p-Xylenes	179601-23-1	N.D.	0.100	1.00	46.41
Metals	**SW-846 6010B**		**mg/kg**	**mg/kg**	**mg/kg**	
06955	Lead	7439-92-1	N.D.	0.536	1.61	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	7.6	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

General Sample Comments

State of Washington Lab Certification No. C457

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	BTEX/MTBE	SW-846 8260B	1	X141171AA	04/27/2014 18:58	Christopher G Torres	0.8
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201411534326	04/23/2014 09:00	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201411534326	04/23/2014 09:00	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201411534326	04/23/2014 09:00	Client Supplied	1
10725	SIM SVOA (microwave)	SW-846 8270C SIM	1	14119SLB026	05/06/2014 08:27	Mark A Clark	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	14119SLB026	04/29/2014 16:35	JoElla L Rice	1
02005	NWTPH-GX Soil C7-C12	ECY 97-602 NWTPH-Gx	1	14118A34A	04/28/2014 20:36	Marie D Beamenderfer	21.17
06647	GC-5g Field Preserved MeOH	SW-846 5035A	1	201411534326	04/23/2014 09:00	Client Supplied	n.a.
08272	NWTPH-Dx soil	ECY 97-602 NWTPH-Dx modified	1	141180011A	04/29/2014 14:48	Glorines Suarez-Rivera	1
05970	WA EPH in Soil	ECY 97-602 WA EPH	1	141200019A	05/02/2014 11:22	Heather E Williams	1
05970	WA EPH in Soil	ECY 97-602 WA EPH	1	141200019A	05/02/2014 12:02	Heather E Williams	1
05666	WA- VPH soils	ECY 97-602 WA VPH	1	14115A54B	05/05/2014 11:45	Nicholas R Rossi	46.41
11234	WA DRO NW DX Soils (Non SG)	ECY 97-602 NWTPH-Dx 06/97	1	141180011A	04/29/2014 02:30	Sherry L Morrow	1

*=This limit was used in the evaluation of the final result

Sample Description: HA-2 3-3.5 Grab Soil
WA-0217 COC: R215566
13131 Bothell Everett Hwy - Everett, WA

LL Sample # SW 7442938
LL Group # 1469907
Account # 13255

Project Name: WA-0217

Collected: 04/23/2014 09:00 by RL

Submitted: 04/25/2014 09:40
Reported: 05/08/2014 10:38

Atlantic Richfield c/o ARCADIS
Suite 600
630 Plaza Drive
Highlands Ranch CO 80129

-2335

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11213	WA EPH Soils Extraction	ECY 97-602 WA EPH	1	141200019A	05/01/2014 03:15	Roman Kuropatkin	1
00388	GC - Field Preserved (MA-VPH)	MA DEP VPH modified	1	201411534326	04/23/2014 09:00	Client Supplied	1
00497	Silica Gel Fractionation	SW-846 3630C modified	1	141200019A	05/01/2014 07:15	Roman Kuropatkin	1
06955	Lead	SW-846 6010B	1	141195708002	05/01/2014 16:40	Katlin N Cataldi	1
05708	SW SW846 ICP/ICP MS Digest	SW-846 3050B	1	141195708002	04/30/2014 08:17	James L Mertz	1
00111	Moisture	SM 2540 G-1997	1	14119820001A	04/29/2014 18:49	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: HA-2 4-4.5 Grab Soil
WA-0217 COC: R215566
13131 Bothell Everett Hwy - Everett, WA

LL Sample # SW 7442939
LL Group # 1469907
Account # 13255

Project Name: WA-0217

Collected: 04/23/2014 09:15 by RL

Submitted: 04/25/2014 09:40
Reported: 05/08/2014 10:38

Atlantic Richfield c/o ARCADIS
Suite 600
630 Plaza Drive
Highlands Ranch CO 80129

-2445

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	**mg/kg**	
10237	Benzene	71-43-2	0.017	0.00048	0.0048	0.81
10237	Ethylbenzene	100-41-4	N.D.	0.00095	0.0048	0.81
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.00048	0.0048	0.81
10237	Toluene	108-88-3	N.D.	0.00095	0.0048	0.81
10237	Xylene (Total)	1330-20-7	0.0012 J	0.00095	0.0048	0.81
GC/MS Semivolatiles	**SW-846 8270C SIM**		**mg/kg**	**mg/kg**	**mg/kg**	
10725	Benzo(a)anthracene	56-55-3	0.0024	0.00078	0.0020	1
10725	Benzo(a)pyrene	50-32-8	0.0058	0.00078	0.0020	1
10725	Benzo(b)fluoranthene	205-99-2	0.0075	0.00078	0.0020	1
10725	Benzo(k)fluoranthene	207-08-9	0.0070	0.00078	0.0020	1
10725	Chrysene	218-01-9	0.0070	0.00039	0.0020	1
10725	Dibenz(a,h)anthracene	53-70-3	N.D.	0.00078	0.0020	1
10725	Indeno(1,2,3-cd)pyrene	193-39-5	0.0016 J	0.00078	0.0020	1
10725	1-Methylnaphthalene	90-12-0	0.0033	0.00078	0.0020	1
10725	2-Methylnaphthalene	91-57-6	0.0079	0.00078	0.0020	1
10725	Naphthalene	91-20-3	0.011	0.00078	0.0020	1
	The surrogate data is outside the QC limits due to unresolvable matrix problems evident in the sample chromatogram.					
GC Volatiles	**ECY 97-602 NWTPH-Gx**		**mg/kg**	**mg/kg**	**mg/kg**	
02005	NWTPH-GX Soil C7-C12	n.a.	2.3 J	1.2	6.2	26.43
GC Petroleum Hydrocarbons	**ECY 97-602 NWTPH-Dx modified**		**mg/kg**	**mg/kg**	**mg/kg**	
08272	Diesel Range Organics C12-C24	n.a.	140	17	41	5
08272	Heavy Range Organics C24-C40	n.a.	1,600	58	170	5
GC Petroleum Hydrocarbons	**ECY 97-602 WA EPH**		**mg/kg**	**mg/kg**	**mg/kg**	
05970	>C10-C12 Aliphatic	n.a.	N.D.	1.2	5.9	1
05970	>C10-C12 Aromatic	n.a.	N.D.	1.2	5.9	1
05970	>C12-C16 Aliphatic	n.a.	1.7 J	1.2	5.9	1
05970	>C12-C16 Aromatic	n.a.	N.D.	1.2	5.9	1
05970	>C16-C21 Aliphatic	n.a.	5.6 J	3.5	5.9	1
05970	>C16-C21 Aromatic	n.a.	4.4 J	2.3	5.9	1
05970	>C21-C34 Aliphatic	n.a.	98	7.0	12	1
05970	>C21-C34 Aromatic	n.a.	60	2.3	5.9	1
GC Petroleum Hydrocarbons	**ECY 97-602 WA VPH**		**mg/kg**	**mg/kg**	**mg/kg**	
05666	Benzene	71-43-2	0.0683 J	0.0609	0.609	51.92
05666	C5-C6 Aliphatic Hydrocarbons	n.a.	N.D.	3.05	6.09	51.92
05666	C6-C8 Aliphatic Hydrocarbons	n.a.	3.11 J	3.05	6.09	51.92
05666	C8-C10 Aliphatic Hydrocarbons	n.a.	N.D.	3.05	6.09	51.92
05666	C8-C10 Aromatic Hydrocarbons	n.a.	N.D.	3.05	6.09	51.92
05666	Ethylbenzene	100-41-4	N.D.	0.0609	0.609	51.92

*=This limit was used in the evaluation of the final result

Sample Description: HA-2 4-4.5 Grab Soil
WA-0217 COC: R215566
13131 Bothell Everett Hwy - Everett, WA

LL Sample # SW 7442939
LL Group # 1469907
Account # 13255

Project Name: WA-0217

Collected: 04/23/2014 09:15 by RL

Submitted: 04/25/2014 09:40
Reported: 05/08/2014 10:38

Atlantic Richfield c/o ARCADIS
Suite 600
630 Plaza Drive
Highlands Ranch CO 80129

-2445

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC Petroleum Hydrocarbons	**ECY 97-602 WA VPH**		**mg/kg**	**mg/kg**	**mg/kg**	
05666	Methyl t-butyl ether	1634-04-4	N.D.	0.0609	0.609	51.92
05666	Toluene	108-88-3	N.D.	0.0609	0.609	51.92
05666	o-Xylene	95-47-6	N.D.	0.0609	0.609	51.92
05666	m,p-Xylenes	179601-23-1	N.D.	0.122	1.22	51.92
Metals	**SW-846 6010B**		**mg/kg**	**mg/kg**	**mg/kg**	
06955	Lead	7439-92-1	23.3	0.570	1.71	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	14.8	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

General Sample Comments

State of Washington Lab Certification No. C457

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	BTEX/MTBE	SW-846 8260B	1	X141171AA	04/27/2014 19:20	Christopher G Torres	0.81
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201411534326	04/23/2014 09:15	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201411534326	04/23/2014 09:15	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201411534326	04/23/2014 09:15	Client Supplied	1
10725	SIM SVOA (microwave)	SW-846 8270C SIM	1	14119SLB026	05/07/2014 11:09	Mark A Clark	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	14119SLB026	04/29/2014 16:35	JoElla L Rice	1
02005	NWTPH-GX Soil C7-C12	ECY 97-602 NWTPH-Gx	1	14118A34A	04/28/2014 21:12	Marie D Beamenderfer	26.43
06647	GC-5g Field Preserved MeOH	SW-846 5035A	1	201411534326	04/23/2014 09:15	Client Supplied	n.a.
08272	NWTPH-Dx soil	ECY 97-602 NWTPH-Dx modified	1	141180011A	04/30/2014 22:10	Glorines Suarez-Rivera	5
05970	WA EPH in Soil	ECY 97-602 WA EPH	1	141200019A	05/02/2014 20:48	Heather E Williams	1
05970	WA EPH in Soil	ECY 97-602 WA EPH	1	141200019A	05/02/2014 21:28	Heather E Williams	1
05666	WA- VPH soils	ECY 97-602 WA VPH	1	14115A54B	05/05/2014 12:25	Nicholas R Rossi	51.92

*=This limit was used in the evaluation of the final result

Sample Description: HA-2 4-4.5 Grab Soil
WA-0217 COC: R215566
13131 Bothell Everett Hwy - Everett, WA

LL Sample # SW 7442939
LL Group # 1469907
Account # 13255

Project Name: WA-0217

Collected: 04/23/2014 09:15 by RL

Submitted: 04/25/2014 09:40
Reported: 05/08/2014 10:38

Atlantic Richfield c/o ARCADIS
Suite 600
630 Plaza Drive
Highlands Ranch CO 80129

-2445

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11234	WA DRO NW DX Soils (Non SG)	ECY 97-602 NWTPH-Dx 06/97	1	141180011A	04/29/2014 02:30	Sherry L Morrow	1
11213	WA EPH Soils Extraction	ECY 97-602 WA EPH	1	141200019A	05/01/2014 03:15	Roman Kuropatkin	1
00388	GC - Field Preserved (MA-VPH)	MA DEP VPH modified	1	201411534326	04/23/2014 09:15	Client Supplied	1
00497	Silica Gel Fractionation	SW-846 3630C modified	1	141200019A	05/01/2014 07:15	Roman Kuropatkin	1
06955	Lead	SW-846 6010B	1	141195708002	05/01/2014 16:44	Katlin N Cataldi	1
05708	SW SW846 ICP/ICP MS Digest	SW-846 3050B	1	141195708002	04/30/2014 08:17	James L Mertz	1
00111	Moisture	SM 2540 G-1997	1	14119820001A	04/29/2014 18:49	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: HA-2 7-7.5 Grab Soil
WA-0217 COC: R215566
13131 Bothell Everett Hwy - Everett, WA

LL Sample # SW 7442940
LL Group # 1469907
Account # 13255

Project Name: WA-0217

Collected: 04/23/2014 09:30 by RL

Submitted: 04/25/2014 09:40
Reported: 05/08/2014 10:38

Atlantic Richfield c/o ARCADIS
Suite 600
630 Plaza Drive
Highlands Ranch CO 80129

-2775

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	**mg/kg**	
10237	Benzene	71-43-2	0.0065	0.00055	0.0055	0.88
10237	Ethylbenzene	100-41-4	N.D.	0.0011	0.0055	0.88
10237	Methyl Tertiary Butyl Ether	1634-04-4	0.00082 J	0.00055	0.0055	0.88
10237	Toluene	108-88-3	N.D.	0.0011	0.0055	0.88
10237	Xylene (Total)	1330-20-7	0.016	0.0011	0.0055	0.88
GC/MS Semivolatiles	**SW-846 8270C SIM**		**mg/kg**	**mg/kg**	**mg/kg**	
10725	Benzo(a)anthracene	56-55-3	N.D.	0.00083	0.0021	1
10725	Benzo(a)pyrene	50-32-8	N.D.	0.00083	0.0021	1
10725	Benzo(b)fluoranthene	205-99-2	N.D.	0.00083	0.0021	1
10725	Benzo(k)fluoranthene	207-08-9	N.D.	0.00083	0.0021	1
10725	Chrysene	218-01-9	0.00049 J	0.00042	0.0021	1
10725	Dibenz(a,h)anthracene	53-70-3	N.D.	0.00083	0.0021	1
10725	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.00083	0.0021	1
10725	1-Methylnaphthalene	90-12-0	0.0057	0.00083	0.0021	1
10725	2-Methylnaphthalene	91-57-6	0.0092	0.00083	0.0021	1
10725	Naphthalene	91-20-3	0.064	0.00083	0.0021	1
GC Volatiles	**ECY 97-602 NWTPH-Gx**		**mg/kg**	**mg/kg**	**mg/kg**	
02005	NWTPH-GX Soil C7-C12	n.a.	3.4 J	1.2	5.8	23.22
GC Petroleum Hydrocarbons	**ECY 97-602 NWTPH-Dx modified**		**mg/kg**	**mg/kg**	**mg/kg**	
08272	Diesel Range Organics C12-C24	n.a.	10	3.7	8.7	1
08272	Heavy Range Organics C24-C40	n.a.	N.D.	12	37	1
GC Petroleum Hydrocarbons	**ECY 97-602 WA EPH**		**mg/kg**	**mg/kg**	**mg/kg**	
05970	>C10-C12 Aliphatic	n.a.	N.D.	1.2	6.2	1
05970	>C10-C12 Aromatic	n.a.	N.D.	1.2	6.2	1
05970	>C12-C16 Aliphatic	n.a.	9.1	1.2	6.2	1
05970	>C12-C16 Aromatic	n.a.	N.D.	1.2	6.2	1
05970	>C16-C21 Aliphatic	n.a.	6.5	3.7	6.2	1
05970	>C16-C21 Aromatic	n.a.	N.D.	2.5	6.2	1
05970	>C21-C34 Aliphatic	n.a.	N.D.	7.4	12	1
05970	>C21-C34 Aromatic	n.a.	N.D.	2.5	6.2	1
GC Petroleum Hydrocarbons	**ECY 97-602 WA VPH**		**mg/kg**	**mg/kg**	**mg/kg**	
05666	Benzene	71-43-2	N.D.	0.0578	0.578	46.31
05666	C5-C6 Aliphatic Hydrocarbons	n.a.	N.D.	2.89	5.78	46.31
05666	C6-C8 Aliphatic Hydrocarbons	n.a.	N.D.	2.89	5.78	46.31
05666	C8-C10 Aliphatic Hydrocarbons	n.a.	N.D.	2.89	5.78	46.31
05666	C8-C10 Aromatic Hydrocarbons	n.a.	N.D.	2.89	5.78	46.31
05666	Ethylbenzene	100-41-4	N.D.	0.0578	0.578	46.31
05666	Methyl t-butyl ether	1634-04-4	N.D.	0.0578	0.578	46.31
05666	Toluene	108-88-3	N.D.	0.0578	0.578	46.31

*=This limit was used in the evaluation of the final result

Sample Description: HA-2 7-7.5 Grab Soil
WA-0217 COC: R215566
13131 Bothell Everett Hwy - Everett, WA

LL Sample # SW 7442940
LL Group # 1469907
Account # 13255

Project Name: WA-0217

Collected: 04/23/2014 09:30 by RL

Submitted: 04/25/2014 09:40
Reported: 05/08/2014 10:38

Atlantic Richfield c/o ARCADIS
Suite 600
630 Plaza Drive
Highlands Ranch CO 80129

-2775

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC Petroleum Hydrocarbons	**ECY 97-602 WA VPH**		**mg/kg**	**mg/kg**	**mg/kg**	
05666	o-Xylene	95-47-6	N.D.	0.0578	0.578	46.31
05666	m,p-Xylenes	179601-23-1	N.D.	0.116	1.16	46.31
Metals	**SW-846 6010B**		**mg/kg**	**mg/kg**	**mg/kg**	
06955	Lead	7439-92-1	2.41	0.612	1.84	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	19.9	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

General Sample Comments

State of Washington Lab Certification No. C457

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	BTEX/MTBE	SW-846 8260B	1	X141171AA	04/27/2014 21:37	Christopher G Torres	0.88
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201411534326	04/23/2014 09:30	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201411534326	04/23/2014 09:30	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201411534326	04/23/2014 09:30	Client Supplied	1
10725	SIM SVOA (microwave)	SW-846 8270C SIM	1	14119SLB026	05/07/2014 10:02	Mark A Clark	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	14119SLB026	04/29/2014 16:35	JoElla L Rice	1
02005	NWTPH-GX Soil C7-C12	ECY 97-602 NWTPH-Gx	1	14118A34A	04/28/2014 21:48	Marie D Beamenderfer	23.22
06647	GC-5g Field Preserved MeOH	SW-846 5035A	1	201411534326	04/23/2014 09:30	Client Supplied	n.a.
08272	NWTPH-Dx soil	ECY 97-602 NWTPH-Dx modified	1	141180011A	04/29/2014 15:30	Glorines Suarez-Rivera	1
05970	WA EPH in Soil	ECY 97-602 WA EPH	1	141200019A	05/02/2014 12:41	Heather E Williams	1
05970	WA EPH in Soil	ECY 97-602 WA EPH	1	141200019A	05/02/2014 13:21	Heather E Williams	1
05666	WA- VPH soils	ECY 97-602 WA VPH	1	14115A54B	05/05/2014 13:06	Nicholas R Rossi	46.31
11234	WA DRO NW DX Soils (Non SG)	ECY 97-602 NWTPH-Dx 06/97	1	141180011A	04/29/2014 02:30	Sherry L Morrow	1

*=This limit was used in the evaluation of the final result

Sample Description: HA-2 7-7.5 Grab Soil
WA-0217 COC: R215566
13131 Bothell Everett Hwy - Everett, WA

LL Sample # SW 7442940
LL Group # 1469907
Account # 13255

Project Name: WA-0217

Collected: 04/23/2014 09:30 by RL

Submitted: 04/25/2014 09:40
Reported: 05/08/2014 10:38

Atlantic Richfield c/o ARCADIS
Suite 600
630 Plaza Drive
Highlands Ranch CO 80129

-2775

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11213	WA EPH Soils Extraction	ECY 97-602 WA EPH	1	141200019A	05/01/2014 03:15	Roman Kuropatkin	1
00388	GC - Field Preserved (MA-VPH)	MA DEP VPH modified	1	201411534326	04/23/2014 09:30	Client Supplied	1
00497	Silica Gel Fractionation	SW-846 3630C modified	1	141200019A	05/01/2014 07:15	Roman Kuropatkin	1
06955	Lead	SW-846 6010B	1	141195708002	05/01/2014 16:48	Katlin N Cataldi	1
05708	SW SW846 ICP/ICP MS Digest	SW-846 3050B	1	141195708002	04/30/2014 08:17	James L Mertz	1
00111	Moisture	SM 2540 G-1997	1	14119820001A	04/29/2014 18:49	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: DUP-1 Grab Soil
WA-0217 COC: R215566
13131 Bothell Everett Hwy - Everett, WA

LL Sample # SW 7442941
LL Group # 1469907
Account # 13255

Project Name: WA-0217

Collected: 04/23/2014 by RL

Submitted: 04/25/2014 09:40
Reported: 05/08/2014 10:38

Atlantic Richfield c/o ARCADIS
Suite 600
630 Plaza Drive
Highlands Ranch CO 80129

FD-1-

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	**mg/kg**	
10237	Benzene	71-43-2	0.14	0.00055	0.0055	0.9
10237	Ethylbenzene	100-41-4	1.0	0.049	0.25	40.26
10237	Methyl Tertiary Butyl Ether	1634-04-4	0.0030 J	0.00055	0.0055	0.9
10237	Toluene	108-88-3	0.0034 J	0.0011	0.0055	0.9
10237	Xylene (Total)	1330-20-7	5.0	0.049	0.25	40.26
GC Volatiles	**ECY 97-602 NWTPH-Gx**		**mg/kg**	**mg/kg**	**mg/kg**	
02005	NWTPH-GX Soil C7-C12	n.a.	38	5.2	26	106.05
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	18.2	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

General Sample Comments

State of Washington Lab Certification No. C457

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	BTEX/MTBE	SW-846 8260B	1	X141171AA	04/27/2014 23:53	Christopher G Torres	0.9
10237	BTEX/MTBE	SW-846 8260B	1	Q141181AA	04/28/2014 22:22	Sarah A Guill	40.26
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201411534326	04/23/2014 00:00	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201411534326	04/23/2014 00:00	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201411534326	04/23/2014 00:00	Client Supplied	1
02005	NWTPH-GX Soil C7-C12	ECY 97-602 NWTPH-Gx	1	14118A34A	04/29/2014 02:01	Marie D Beamenderfer	106.05
06647	GC-5g Field Preserved MeOH	SW-846 5035A	1	201411534326	04/23/2014 00:00	Client Supplied	n.a.
00111	Moisture	SM 2540 G-1997	1	14119820001A	04/29/2014 18:49	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: TRIP BLANK Methanol
WA-0217 COC: R215566
13131 Bothell Everett Hwy - Everett, WA

LL Sample # G5 7442942
LL Group # 1469907
Account # 13255

Project Name: WA-0217

Collected: 04/23/2014

Submitted: 04/25/2014 09:40
Reported: 05/08/2014 10:38

Atlantic Richfield c/o ARCADIS
Suite 600
630 Plaza Drive
Highlands Ranch CO 80129

TBMTH

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	**mg/kg**	
10237	Benzene	71-43-2	N.D.	0.00050	0.0050	1
10237	Ethylbenzene	100-41-4	N.D.	0.0010	0.0050	1
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.00050	0.0050	1
10237	Toluene	108-88-3	N.D.	0.0010	0.0050	1
10237	Xylene (Total)	1330-20-7	N.D.	0.0010	0.0050	1
GC Volatiles	**ECY 97-602 NWTPH-Gx**		**mg/kg**	**mg/kg**	**mg/kg**	
02005	NWTPH-GX Soil C7-C12	n.a.	N.D.	1.0	5.0	25

General Sample Comments

State of Washington Lab Certification No. C457

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	BTEX/MTBE	SW-846 8260B	1	X141171AA	04/27/2014 17:00	Christopher G Torres	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201411534326	04/23/2014 00:00	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201411534326	04/23/2014 00:00	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201411534326	04/23/2014 00:00	Client Supplied	1
02005	NWTPH-GX Soil C7-C12	ECY 97-602 NWTPH-Gx	1	14118A34A	04/28/2014 18:49	Laura M Krieger	25
06647	GC-5g Field Preserved MeOH	SW-846 5035A	1	201411534326	04/23/2014 00:00	Client Supplied	n.a.

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: Atlantic Richfield c/o ARCADIS Group Number: 1469907
Reported: 05/08/14 at 10:38 AM

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL**	Blank LOQ	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: Q141181AA	Sample number(s): 7442935-7442936,7442941								
Ethylbenzene	N.D.	0.050	0.25	mg/kg	97	96	80-120	0	30
Xylene (Total)	N.D.	0.050	0.25	mg/kg	95	95	80-120	0	30
Batch number: X141171AA	Sample number(s): 7442935-7442942								
Benzene	N.D.	0.00050	0.0050	mg/kg	99	95	80-120	4	30
Ethylbenzene	N.D.	0.0010	0.0050	mg/kg	99	97	80-120	2	30
Methyl Tertiary Butyl Ether	N.D.	0.00050	0.0050	mg/kg	110	105	69-126	5	30
Toluene	N.D.	0.0010	0.0050	mg/kg	97	95	80-120	2	30
Xylene (Total)	N.D.	0.0010	0.0050	mg/kg	98	97	80-120	2	30
Batch number: 14119SLB026	Sample number(s): 7442935-7442940								
Benzo(a)anthracene	N.D.	0.00067	0.0017	mg/kg	110		83-119		
Benzo(a)pyrene	N.D.	0.00067	0.0017	mg/kg	103		80-122		
Benzo(b)fluoranthene	N.D.	0.00067	0.0017	mg/kg	117		82-135		
Benzo(k)fluoranthene	N.D.	0.00067	0.0017	mg/kg	102		79-123		
Chrysene	N.D.	0.00033	0.0017	mg/kg	109		84-113		
Dibenz(a,h)anthracene	N.D.	0.00067	0.0017	mg/kg	106		83-123		
Indeno(1,2,3-cd)pyrene	N.D.	0.00067	0.0017	mg/kg	104		82-123		
1-Methylnaphthalene	N.D.	0.00067	0.0017	mg/kg	93		78-119		
2-Methylnaphthalene	N.D.	0.00067	0.0017	mg/kg	98		78-121		
Naphthalene	N.D.	0.00067	0.0017	mg/kg	96		79-113		
Batch number: 14118A34A	Sample number(s): 7442935-7442942								
NWTPH-GX Soil C7-C12	N.D.	1.0	5.0	mg/kg	83	89	65-120	7	30
Batch number: 14115A54B	Sample number(s): 7442935-7442940								
Benzene	N.D.	0.0500	0.500	mg/kg	100	100	70-130	0	50
C5-C6 Aliphatic Hydrocarbons	N.D.	2.50	5.00	mg/kg	93	95	70-130	2	50
C6-C8 Aliphatic Hydrocarbons	N.D.	2.50	5.00	mg/kg	96	98	70-130	2	50
C8-C10 Aliphatic Hydrocarbons	N.D.	2.50	5.00	mg/kg	98	101	70-130	3	50
C8-C10 Aromatic Hydrocarbons	N.D.	2.50	5.00	mg/kg	103	104	70-130	1	50
Ethylbenzene	N.D.	0.0500	0.500	mg/kg	100	101	70-130	1	50
Methyl t-butyl ether	N.D.	0.0500	0.500	mg/kg	95	95	70-130	0	50
Toluene	N.D.	0.0500	0.500	mg/kg	101	102	70-130	1	50
o-Xylene	N.D.	0.0500	0.500	mg/kg	104	105	70-130	1	50
m,p-Xylenes	N.D.	0.100	1.00	mg/kg	104	105	70-130	1	50
Batch number: 141180011A	Sample number(s): 7442935-7442940								
Diesel Range Organics C12-C24	N.D.	3.0	7.0	mg/kg	88		60-120		
Heavy Range Organics C24-C40	N.D.	10.	30	mg/kg					
Batch number: 141200019A	Sample number(s): 7442935-7442940								
>C10-C12 Aliphatic	N.D.	1.0	5.0	mg/kg	90		31-137		

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Atlantic Richfield c/o ARCADIS Group Number: 1469907
Reported: 05/08/14 at 10:38 AM

Analysis Name	Blank Result	Blank MDL**	Blank LOQ	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
>C10-C12 Aromatic	N.D.	1.0	5.0	mg/kg	95		22-119		
>C12-C16 Aliphatic	N.D.	1.0	5.0	mg/kg	92		42-146		
>C12-C16 Aromatic	N.D.	1.0	5.0	mg/kg	101		24-136		
>C16-C21 Aliphatic	N.D.	3.0	5.0	mg/kg	93		57-111		
>C16-C21 Aromatic	N.D.	2.0	5.0	mg/kg	106		34-143		
>C21-C34 Aliphatic	N.D.	6.0	10	mg/kg	92		50-124		
>C21-C34 Aromatic	N.D.	2.0	5.0	mg/kg	94		44-134		
Batch number: 141195708002	Sample number(s): 7442935-7442940								
Lead	N.D.	0.500	1.50	mg/kg	110		80-120		
Batch number: 14119820001A	Sample number(s): 7442935-7442941								
Moisture					100		99-101		

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: 14119SLB026	Sample number(s): 7442935-7442940 UNSPK: 7442935								
Benzo(a)anthracene	91	94	44-143	2	30				
Benzo(a)pyrene	97	93	49-137	4	30				
Benzo(b)fluoranthene	124	123	26-142	1	30				
Benzo(k)fluoranthene	114	108	49-144	4	30				
Chrysene	97	96	43-141	0	30				
Dibenz(a,h)anthracene	60	58	25-145	3	30				
Indeno(1,2,3-cd)pyrene	58	53	26-139	8	30				
1-Methylnaphthalene	98	97	59-139	1	30				
2-Methylnaphthalene	103	99	46-147	3	30				
Naphthalene	127	110	52-136	8	30				
Batch number: 141180011A	Sample number(s): 7442935-7442940 BKG: P437840								
Diesel Range Organics C12-C24						N.D.	10	200* (1)	20
Heavy Range Organics C24-C40						N.D.	N.D.	0 (1)	20
Batch number: 141200019A	Sample number(s): 7442935-7442940 UNSPK: 7442935 BKG: 7442935								
>C10-C12 Aliphatic	79		31-137			1.6 J	1.0 J	44* (1)	25
>C10-C12 Aromatic	61		22-119			1.5 J	1.0 J	37* (1)	25
>C12-C16 Aliphatic	384*		42-146			8.7	4.4 J	66* (1)	25
>C12-C16 Aromatic	83		42-122			1.8 J	1.2 J	41* (1)	25
>C16-C21 Aliphatic	491*		57-111			15	8.0	62* (1)	25
>C16-C21 Aromatic	119		53-132			11	6.4	52* (1)	25
>C21-C34 Aliphatic	126*		38-120			42	27	42* (1)	25
>C21-C34 Aromatic	64		55-126			22	16	36* (1)	25
Batch number: 141195708002	Sample number(s): 7442935-7442940 UNSPK: P443547 BKG: P443547								
Lead	98	92	75-125	3	20	14.9	12.0	22*	20
Batch number: 14119820001A	Sample number(s): 7442935-7442941 BKG: P439950								
Moisture						15.9	15.1	5	5

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Atlantic Richfield c/o ARCADIS Group Number: 1469907
Reported: 05/08/14 at 10:38 AM

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: NC UST Volatiles
Batch number: X141171AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
7442935	107	102	100	88
7442936	110	103	107	78
7442937	109	103	95	95
7442938	114	109	91	91
7442939	109	105	101	85
7442940	108	101	97	90
7442941	109	103	105	81
7442942	108	105	93	96
Blank	108	101	93	94
LCS	107	101	97	99
LCSD	106	99	97	99
Limits:	50-141	54-135	52-141	50-131

Analysis Name: SIM SVOA (microwave)
Batch number: 14119SLB026

	Fluoranthene-d10	Benzo(a)pyrene-d12	1-Methylnaphthalene-d10
7442935	92	108	87
7442936	100	110	88
7442937	97	115	88
7442938	100	120*	90
7442939	105	120*	94
7442940	106	115	96
Blank	98	112	91
LCS	93	109	87
MS	93	108	86
MSD	91	109	92
Limits:	59-115	61-118	70-127

Analysis Name: NWTPH-GX Soil C7-C12
Batch number: 14118A34A

	Trifluorotoluene-F
7442935	83
7442936	89
7442937	64
7442938	82
7442939	73
7442940	73
7442941	81
7442942	93
Blank	89
LCS	80

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Atlantic Richfield c/o ARCADIS Group Number: 1469907
Reported: 05/08/14 at 10:38 AM

Surrogate Quality Control

LCSD 91

Limits: 50-142

Analysis Name: WA- VPH soils
Batch number: 14115A54B

	Trifluorotoluene-P	Trifluorotoluene-F
7442935	84	91
7442936	86	95
7442937	68	77
7442938	83	92
7442939	81	86
7442940	74	83
Blank	89	95
LCS	98	95
LCSD	99	98
Limits:	60-140	60-140

Analysis Name: NWTPH-Dx soil
Batch number: 141180011A

	Orthoterphenyl
7442935	118
7442936	120
7442937	113
7442938	112
7442939	204*
7442940	118
Blank	112
DUP	114
LCS	110
Limits:	50-150

Analysis Name: WA EPH in Soil
Batch number: 141200019A

	Orthoterphenyl	1-chlorooctadecane
7442935	97	77
7442936	89	68
7442937	85	73
7442938	96	52
7442939	101	62
7442940	100	53
Blank	85	68
DUP	103	80
LCS	102	69
MS	82	52
Limits:	50-142	33-122

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

A-13255 G-1469907 S-7442935-42

bp rm

Laboratory Management Program LaMP Chain of Custody Record

R215566

Page ____ of ____

BP Site Node Path: _____ **Req Due Date (mm/dd/yy):** _____ **Rush TAT:** Yes ____ No ____

BP Facility No: WA - 217 **Lab Work Order Number:** _____

Lab Name: Lancaster	Facility Address: 13131 Bothell Everett Hwy	Consultant/Contractor: ARCADIS
Lab Address: 2425 New Holland Pike, Lancaster PA	City, State, ZIP Code: Everett WA	Consultant/Contractor Project No: GP09BPNA.WA01
Lab PM: Natalie Luciano	Lead Regulatory Agency: WA Dep of Ecology	Address: 1100 Olive Way ~~WA~~ Seattle WA 98101
Lab Phone:	California Global ID No.: —	Consultant/Contractor PM: Rick Rodriguez
Lab Shipping Accnt:	Enfos Proposal No: —	Phone: Email:
Lab Bottle Order No: 154635	Accounting Mode: Provision ___ OOC-BU ___ OOC-RM ___	Email EDD To: and to lab.enfosdoc@bp.com
Other Info:	Stage: Activity:	Invoice To: BP ___ Contractor ___

BP Project Manager (PM):
BP PM Phone:
BP PM Email:

Report Type & QC Level: Standard ____ Full Data Package ____

Lab No.	Sample Description	Date	Time	Matrix: Soil / Solid	Water / Liquid	Air / Vapor	Is this location a well?	No. Containers: Total Number of Container:	Preservative: Unpreserved	H2SO4	HNO3	HCl and 504	Methanol	Requested Analyses: GRO	BTEX / MTBE	Total Lead	Moisture	EPH / VPH	cPAHs by 8270 SIM	DRO/HO (Ox)	Naphthalene, Methyl-1-Methyl-2			Comments
	HA-1 3-3.5	4-23-14	1145	X					4			2	3	X	→			→	→	X	X			
	HA-1 4-4.5		1200						4			2	3	X	→			→	→	X	X			
	HA-1 7.5-8		1215						4			2	3	X	→			→	→	X	X			
	HA-2 3-3.5		900						4			2	3	X	→			→	→	X	X			
	HA-2 4-4.5		915						4			2	3	X	→			→	→	X	X			
	HA-2 7-7.5		930						4			2	3	X	→			→	→	X	X			
	~~HA-4~~																							
	DUP-1			X					1			2	2	X	X		X							
	TRIP BLANK											2	2	X	X									

Sampler's Name: Ross LaGrandeur	Relinquished By / Affiliation	Date	Time	Accepted By / Affiliation	Date	Time
Sampler's Company: ARCADIS	L Megashko	4/15/14	15:21			
Shipment Method: UPS Next day Ship Date: 4/24/14		4/24/14	830			
Shipment Tracking No:				ELLE	4/25/14	0940

Special Instructions:

THIS LINE - LAB USE ONLY: Custody Seals In Place: Yes / No | Temp Blank: Yes / No | Cooler Temp on Receipt: 1.6-2.4 °F/C | Trip Blank: Yes / No | MS/MSD Sample Submitted: Yes / No

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Sample Administration Receipt Documentation Log

Doc Log ID: 12775

Group Number(s): 1469907

Client: Arcadis

Delivery and Receipt Information

Delivery Method:	Fed Ex	Arrival Timestamp:	04/25/2014 9:40
Number of Packages:	2	Number of Projects:	1

Arrival Condition Summary

Shipping Container Sealed:	Yes	Total Trip Blank Qty:	4
Custody Seal Present:	Yes	Trip Blank Type:	2-Unpreserved 2-MeOH
Custody Seal Intact:	Yes	Air Quality Samples Present:	No
Samples Chilled:	Yes	Air Quality Flow Controllers Present:	N/A
Paperwork Enclosed:	Yes	Flow Controller Quantity:	0
Samples Intact:	Yes	Air Quality Returns:	N/A
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		
Sample IDs on COC match Containers:	Yes		
Sample Date/Times match COC:	Yes		
VOA Vial Headspace ≥ 6mm:	N/A		
VOA IDs (≥ 6mm):	N/A		

Unpacked by Joseph Gruber (5200) at 13:28 on 04/25/2014

Samples Chilled Details

Thermometer Types: *DT = Digital (Temp. Bottle)* *IR = Infrared (Surface Temp)* *All Temperatures in °C.*

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Samples Collected Same Day as Receipt?	Elevated Temp?
1	DT131	2.4	DT	Wet	Y	Bagged	N	N
2	DT131	1.6	DT	Wet	Y	Bagged	N	N

2425 New Holland Pike
Lancaster, PA 17605-2425
T | 717-656-2300
F | 717-656-2681
www.LancasterLabs.com

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Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	**BMQL**	Below Minimum Quantitation Level
N.D.	none detected	**MPN**	Most Probable Number
TNTC	Too Numerous To Count	**CP Units**	cobalt-chloroplatinate units
IU	International Units	**NTU**	nephelometric turbidity units
umhos/cm	micromhos/cm	**ng**	nanogram(s)
C	degrees Celsius	**F**	degrees Fahrenheit
meq	milliequivalents	**lb.**	pound(s)
g	gram(s)	**kg**	kilogram(s)
µg	microgram(s)	**mg**	milligram(s)
mL	milliliter(s)	**L**	liter(s)
m3	cubic meter(s)	**µL**	microliter(s)
		pg/L	picogram/liter

< less than - The number following the sign is the limit of quantitation, the smallest amount of analyte which can be reliably determined using this specific test.

> greater than

ppm parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Data Qualifiers:

C – result confirmed by reanalysis.

J - estimated value – The result is ≥ the Method Detection Limit (MDL) and < the Limit of Quantitation (LOQ).

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers		Inorganic Qualifiers	
A	TIC is a possible aldol-condensation product	**B**	Value is <CRDL, but ≥IDL
B	Analyte was also detected in the blank	**E**	Estimated due to interference
C	Pesticide result confirmed by GC/MS	**M**	Duplicate injection precision not met
D	Compound quantitated on a diluted sample	**N**	Spike sample not within control limits
E	Concentration exceeds the calibration range of the instrument	**S**	Method of standard additions (MSA) used for calculation
N	Presumptive evidence of a compound (TICs only)	**U**	Compound was not detected
P	Concentration difference between primary and confirmation columns >25%	**W**	Post digestion spike out of control limits
U	Compound was not detected	*****	Duplicate analysis not within control limits
X,Y,Z	Defined in case narrative	**+**	Correlation coefficient for MSA <0.995

Analytical test results meet all requirements of NELAC unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR part 136 Table II as “analyze immediately” are not performed within 15 minutes.

ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Atlantic Richfield c/o ARCADIS
Suite 600
630 Plaza Drive
Highlands Ranch CO 80129

July 22, 2014

Project: WA-0217

Submittal Date: 07/12/2014
Group Number: 1488604
PO Number: GP09BPNA.WA01
State of Sample Origin: WA

Client Sample Description	Lancaster Labs (LL) #
MW-11-4-S-071114 Soil	7531497
MW-11-8-9.5-S-071114 Soil	7531498
MW-11-9.5-11-S-071114 Soil	7531499
MW-11-12.5-14-S-071114 Soil	7531500

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

ELECTRONIC COPY TO	ARCADIS U.S., Inc.	Attn: Sam Miles
ELECTRONIC COPY TO	ARCADIS U.S., Inc.	Attn: Ryan Brauchla
ELECTRONIC COPY TO	ARCADIS U.S., Inc.	Attn: Richard Rodriguez

Respectfully Submitted,

Natalie R. Luciano
Senior Specialist

(717) 556-7258

Project Name: WA-0217
LL Group #: 1488604

General Comments:

Through our technical processes and second person review of data, we have established that our data/deliverables are in compliance with the methods and project requirements unless otherwise noted or previously resolved with the client. The compliance signature is located on the cover page of the Analysis Reports.

See the Laboratory Sample Analysis Record section of the Analysis Report for the method references.

All QC met criteria unless otherwise noted in an Analysis Specific Comment below. Refer to the QC Summary for specific values and acceptance criteria.

Project specific QC samples are not included in this data set

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in an Analysis Specific Comment below.

The samples were received at the appropriate temperature and in accordance with the chain of custody unless otherwise noted.

Analysis Specific Comments:

ECY 97-602 NWTPH-Gx, GC Volatiles

Sample #s: 7531497

Reporting limits were raised due to sample foaming.

SM 2540 G-1997, Wet Chemistry

Batch #: 14197820002B (Sample number(s): 7531497-7531500 BKG: P528547)

The duplicate RPD for the following analyte(s) exceeded the acceptance window: Moisture

Sample Description: MW-11-4-S-071114 Soil
WA-217 COC: R218736
13131 Bothell-Everett Hwy - Everette, WA

LL Sample # SW 7531497
LL Group # 1488604
Account # 13255

Project Name: WA-0217

Collected: 07/11/2014 11:20 by RB

Submitted: 07/12/2014 10:40
Reported: 07/22/2014 16:14

Atlantic Richfield c/o ARCADIS
Suite 600
630 Plaza Drive
Highlands Ranch CO 80129

114--

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	**mg/kg**	
10237	Benzene	71-43-2	0.0047 J	0.00057	0.0057	1.02
10237	Ethylbenzene	100-41-4	N.D.	0.0011	0.0057	1.02
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.00057	0.0057	1.02
10237	Toluene	108-88-3	N.D.	0.0011	0.0057	1.02
10237	Xylene (Total)	1330-20-7	0.0016 J	0.0011	0.0057	1.02
GC Volatiles	**ECY 97-602 NWTPH-Gx**		**mg/kg**	**mg/kg**	**mg/kg**	
02005	NWTPH-GX Soil C7-C12	n.a.	29 J	12	61	272.86
	Reporting limits were raised due to sample foaming.					
GC Petroleum Hydrocarbons	**ECY 97-602 NWTPH-Dx modified**		**mg/kg**	**mg/kg**	**mg/kg**	
08272	Diesel Range Organics C12-C24	n.a.	59	3.3	7.8	1
08272	Heavy Range Organics C24-C40	n.a.	540	11	33	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	9.9	0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.					

General Sample Comments

State of Washington Lab Certification No. C457

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	UST BTEX/MTBE 8260	SW-846 8260B	1	X141991AA	07/18/2014 09:56	Stephanie A Selis	1.02
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201419535075	07/11/2014 11:20	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201419535075	07/11/2014 11:20	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201419535075	07/11/2014 11:20	Client Supplied	1
02005	NWTPH-GX Soil C7-C12	ECY 97-602 NWTPH-Gx	1	14195A34B	07/15/2014 21:00	Marie D Beamenderfer	272.86
06647	GC-5g Field Preserved MeOH	SW-846 5035A	1	201419535075	07/11/2014 11:20	Client Supplied	n.a.
08272	NWTPH-Dx soil	ECY 97-602 NWTPH-Dx modified	1	141960007A	07/16/2014 11:30	Glorines Suarez-Rivera	1
11234	WA DRO NW DX Soils (Non SG)	ECY 97-602 NWTPH-Dx 06/97	1	141960007A	07/15/2014 16:25	JoElla L Rice	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-11-4-S-071114 Soil
WA-217 COC: R218736
13131 Bothell-Everett Hwy - Everette, WA

LL Sample # SW 7531497
LL Group # 1488604
Account # 13255

Project Name: WA-0217

Collected: 07/11/2014 11:20 by RB

Submitted: 07/12/2014 10:40
Reported: 07/22/2014 16:14

Atlantic Richfield c/o ARCADIS
Suite 600
630 Plaza Drive
Highlands Ranch CO 80129

114--

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00111	Moisture	SM 2540 G-1997	1	14197820002B	07/16/2014 18:13	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-11-8-9.5-S-071114 Soil
WA-217 COC: R218736
13131 Bothell-Everett Hwy - Everette, WA

LL Sample # SW 7531498
LL Group # 1488604
Account # 13255

Project Name: WA-0217

Collected: 07/11/2014 11:55 by RB

Submitted: 07/12/2014 10:40
Reported: 07/22/2014 16:14

Atlantic Richfield c/o ARCADIS
Suite 600
630 Plaza Drive
Highlands Ranch CO 80129

11895

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	**mg/kg**	
10237	Benzene	71-43-2	0.030	0.00049	0.0049	0.88
10237	Ethylbenzene	100-41-4	0.0020 J	0.00099	0.0049	0.88
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.00049	0.0049	0.88
10237	Toluene	108-88-3	N.D.	0.00099	0.0049	0.88
10237	Xylene (Total)	1330-20-7	0.0036 J	0.00099	0.0049	0.88
GC Volatiles	**ECY 97-602 NWTPH-Gx**		**mg/kg**	**mg/kg**	**mg/kg**	
02005	NWTPH-GX Soil C7-C12	n.a.	N.D.	0.97	4.9	21.64
GC Petroleum Hydrocarbons	**ECY 97-602 NWTPH-Dx modified**		**mg/kg**	**mg/kg**	**mg/kg**	
08272	Diesel Range Organics C12-C24	n.a.	N.D.	3.4	7.9	1
08272	Heavy Range Organics C24-C40	n.a.	N.D.	11	34	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	11.0	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

General Sample Comments

State of Washington Lab Certification No. C457

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	UST BTEX/MTBE 8260	SW-846 8260B	1	X141971AA	07/16/2014 21:27	Chelsea B Stong	0.88
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201419535075	07/11/2014 11:55	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201419535075	07/11/2014 11:55	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201419535075	07/11/2014 11:55	Client Supplied	1
02005	NWTPH-GX Soil C7-C12	ECY 97-602 NWTPH-Gx	1	14195A34B	07/15/2014 21:35	Laura M Krieger	21.64
06647	GC-5g Field Preserved MeOH	SW-846 5035A	1	201419535075	07/11/2014 11:55	Client Supplied	n.a.
08272	NWTPH-Dx soil	ECY 97-602 NWTPH-Dx modified	1	141960007A	07/16/2014 13:46	Glorines Suarez-Rivera	1
11234	WA DRO NW DX Soils (Non SG)	ECY 97-602 NWTPH-Dx 06/97	1	141960007A	07/15/2014 16:25	JoElla L Rice	1
00111	Moisture	SM 2540 G-1997	1	14197820002B	07/16/2014 18:13	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-11-9.5-11-S-071114 Soil
WA-217 COC: R218736
13131 Bothell-Everett Hwy - Everette, WA

LL Sample # SW 7531499
LL Group # 1488604
Account # 13255

Project Name: WA-0217

Collected: 07/11/2014 12:15 by RB

Submitted: 07/12/2014 10:40
Reported: 07/22/2014 16:14

Atlantic Richfield c/o ARCADIS
Suite 600
630 Plaza Drive
Highlands Ranch CO 80129

1195-

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	**mg/kg**	
10237	Benzene	71-43-2	0.013	0.00050	0.0050	0.89
10237	Ethylbenzene	100-41-4	N.D.	0.0010	0.0050	0.89
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.00050	0.0050	0.89
10237	Toluene	108-88-3	N.D.	0.0010	0.0050	0.89
10237	Xylene (Total)	1330-20-7	0.0010 J	0.0010	0.0050	0.89
GC Volatiles	**ECY 97-602 NWTPH-Gx**		**mg/kg**	**mg/kg**	**mg/kg**	
02005	NWTPH-GX Soil C7-C12	n.a.	N.D.	1.1	5.7	25.06
GC Petroleum Hydrocarbons	**ECY 97-602 NWTPH-Dx modified**		**mg/kg**	**mg/kg**	**mg/kg**	
08272	Diesel Range Organics C12-C24	n.a.	N.D.	3.3	7.8	1
08272	Heavy Range Organics C24-C40	n.a.	N.D.	11	33	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	11.4	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

General Sample Comments

State of Washington Lab Certification No. C457

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	UST BTEX/MTBE 8260	SW-846 8260B	1	X141971AA	07/16/2014 20:41	Chelsea B Stong	0.89
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201419535075	07/11/2014 12:15	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201419535075	07/11/2014 12:15	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201419535075	07/11/2014 12:15	Client Supplied	1
02005	NWTPH-GX Soil C7-C12	ECY 97-602 NWTPH-Gx	1	14195A34B	07/15/2014 22:11	Marie D Beamenderfer	25.06
06647	GC-5g Field Preserved MeOH	SW-846 5035A	1	201419535075	07/11/2014 12:15	Client Supplied	n.a.
08272	NWTPH-Dx soil	ECY 97-602 NWTPH-Dx modified	1	141970032A	07/17/2014 20:19	Glorines Suarez-Rivera	1
11234	WA DRO NW DX Soils (Non SG)	ECY 97-602 NWTPH-Dx 06/97	1	141970032A	07/17/2014 06:30	Olivia Arosemena	1
00111	Moisture	SM 2540 G-1997	1	14197820002B	07/16/2014 18:13	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-11-12.5-14-S-071114 Soil
WA-217 COC: R218736
13131 Bothell-Everett Hwy - Everette, WA

LL Sample # SW 7531500
LL Group # 1488604
Account # 13255

Project Name: WA-0217

Collected: 07/11/2014 13:00 by RB

Submitted: 07/12/2014 10:40
Reported: 07/22/2014 16:14

Atlantic Richfield c/o ARCADIS
Suite 600
630 Plaza Drive
Highlands Ranch CO 80129

11125

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	**mg/kg**	
10237	Benzene	71-43-2	0.00050 J	0.00048	0.0048	0.84
10237	Ethylbenzene	100-41-4	N.D.	0.00095	0.0048	0.84
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.00048	0.0048	0.84
10237	Toluene	108-88-3	N.D.	0.00095	0.0048	0.84
10237	Xylene (Total)	1330-20-7	N.D.	0.00095	0.0048	0.84
GC Volatiles	**ECY 97-602 NWTPH-Gx**		**mg/kg**	**mg/kg**	**mg/kg**	
02005	NWTPH-GX Soil C7-C12	n.a.	N.D.	1.1	5.5	24.31
GC Petroleum Hydrocarbons	**ECY 97-602 NWTPH-Dx modified**		**mg/kg**	**mg/kg**	**mg/kg**	
08272	Diesel Range Organics C12-C24	n.a.	N.D.	3.4	7.8	1
08272	Heavy Range Organics C24-C40	n.a.	N.D.	11	34	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	12.1	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

General Sample Comments

State of Washington Lab Certification No. C457

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	UST BTEX/MTBE 8260	SW-846 8260B	1	X141971AA	07/16/2014 21:04	Chelsea B Stong	0.84
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201419535075	07/11/2014 13:00	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201419535075	07/11/2014 13:00	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201419535075	07/11/2014 13:00	Client Supplied	1
02005	NWTPH-GX Soil C7-C12	ECY 97-602 NWTPH-Gx	1	14197A34A	07/17/2014 22:54	Marie D Beamenderfer	24.31
06647	GC-5g Field Preserved MeOH	SW-846 5035A	1	201419535075	07/11/2014 13:00	Client Supplied	n.a.
08272	NWTPH-Dx soil	ECY 97-602 NWTPH-Dx modified	1	141970032A	07/17/2014 22:11	Glorines Suarez-Rivera	1
11234	WA DRO NW DX Soils (Non SG)	ECY 97-602 NWTPH-Dx 06/97	1	141970032A	07/17/2014 06:30	Olivia Arosemena	1
00111	Moisture	SM 2540 G-1997	1	14197820002B	07/16/2014 18:13	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: Atlantic Richfield c/o ARCADIS Group Number: 1488604
Reported: 07/22/14 at 04:14 PM

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL**	Blank LOQ	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: X141971AA	Sample number(s): 7531498-7531500								
Benzene	N.D.	0.00050	0.0050	mg/kg	94	92	80-120	2	30
Ethylbenzene	N.D.	0.0010	0.0050	mg/kg	99	96	80-120	3	30
Methyl Tertiary Butyl Ether	N.D.	0.00050	0.0050	mg/kg	88	89	69-126	1	30
Toluene	N.D.	0.0010	0.0050	mg/kg	98	95	80-120	3	30
Xylene (Total)	N.D.	0.0010	0.0050	mg/kg	98	95	80-120	3	30
Batch number: X141991AA	Sample number(s): 7531497								
Benzene	N.D.	0.00050	0.0050	mg/kg	95	92	80-120	3	30
Ethylbenzene	N.D.	0.0010	0.0050	mg/kg	103	100	80-120	3	30
Methyl Tertiary Butyl Ether	N.D.	0.00050	0.0050	mg/kg	89	88	69-126	0	30
Toluene	N.D.	0.0010	0.0050	mg/kg	103	101	80-120	2	30
Xylene (Total)	N.D.	0.0010	0.0050	mg/kg	103	100	80-120	3	30
Batch number: 14195A34B	Sample number(s): 7531497-7531499								
NWTPH-GX Soil C7-C12	N.D.	1.0	5.0	mg/kg	85	87	65-120	3	30
Batch number: 14197A34A	Sample number(s): 7531500								
NWTPH-GX Soil C7-C12	N.D.	1.0	5.0	mg/kg	82	87	65-120	6	30
Batch number: 141960007A	Sample number(s): 7531497-7531498								
Diesel Range Organics C12-C24	N.D.	3.0	7.0	mg/kg	77		60-120		
Heavy Range Organics C24-C40	N.D.	10.	30	mg/kg					
Batch number: 141970032A	Sample number(s): 7531499-7531500								
Diesel Range Organics C12-C24	N.D.	3.0	7.0	mg/kg	87		60-120		
Heavy Range Organics C24-C40	N.D.	10.	30	mg/kg					
Batch number: 14197820002B	Sample number(s): 7531497-7531500								
Moisture					100		99-101		

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: 141960007A	Sample number(s): 7531497-7531498					BKG: P529386			
Diesel Range Organics C12-C24						N.D.	N.D.	0 (1)	20
Heavy Range Organics C24-C40						N.D.	N.D.	0 (1)	20

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Atlantic Richfield c/o ARCADIS Group Number: 1488604
Reported: 07/22/14 at 04:14 PM

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: 141970032A	Sample number(s): 7531499-7531500					BKG: P529794			
Diesel Range Organics C12-C24						7.6	7.3	4 (1)	20
Heavy Range Organics C24-C40						28 J	27 J	0 (1)	20
Batch number: 14197820002B	Sample number(s): 7531497-7531500					BKG: P528547			
Moisture						16.3	19.7	19*	5

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: NC UST Volatiles
Batch number: X141971AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
7531498	102	99	101	98
7531499	102	104	101	100
7531500	102	99	101	96
Blank	100	97	102	96
LCS	99	96	103	101
LCSD	98	97	103	100
Limits:	50-141	54-135	52-141	50-131

Analysis Name: NC UST Volatiles
Batch number: X141991AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
7531497	103	101	108	88
Blank	103	99	101	95
LCS	102	95	103	102
LCSD	99	96	103	102
Limits:	50-141	54-135	52-141	50-131

Analysis Name: NWTPH-GX Soil C7-C12
Batch number: 14195A34B

	Trifluorotoluene-F
7531497	89
7531498	74
7531499	70
Blank	88
LCS	86
LCSD	86
Limits:	50-142

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Atlantic Richfield c/o ARCADIS Group Number: 1488604
Reported: 07/22/14 at 04:14 PM

Surrogate Quality Control

Analysis Name: NWTPH-GX Soil C7-C12
Batch number: 14197A34A

	Trifluorotoluene-F
7531500	62
Blank	88
LCS	82
LCSD	83
Limits:	50-142

Analysis Name: NWTPH-Dx soil
Batch number: 141960007A

	Orthoterphenyl
7531497	108
7531498	99
Blank	106
DUP	101
LCS	103
Limits:	50-150

Analysis Name: NWTPH-Dx soil
Batch number: 141970032A

	Orthoterphenyl
7531499	106
7531500	103
Blank	104
DUP	105
LCS	107
Limits:	50-150

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

bp rm **Laboratory Management Program LaMP** **Chain of Custody Record** R218736

Page 1 of 1

19-13255
G-1488604
S-753149750

BP Site Node Path: _____ BP Facility No: 217

Req Due Date (mm/dd/yy): STAT Rush TAT: Yes ___ No ___

Lab Work Order Number: _____

Lab Name: Eurofins Lancaster Labs Env LLC	Facility Address: 13131 Bothell-Everett Highway	Consultant/Contractor: ARCADIS
Lab Address: 2425 New Holland Pike, Lancaster, PA 17601	City, State, ZIP Code: Everett, WA 98208	Consultant/Contractor Project No: GP09BPNAWA01
Lab PM: Natalie Luciano	Lead Regulatory Agency: Ecology	Address: 1100 Olive Way, Suite 800, Seattle, WA 98101
Lab Phone: 717-556-7258	California Global ID No.:	Consultant/Contractor PM: Richard Rodriguez
Lab Shipping Accnt:	Enfos Proposal No:	Phone: 206-726-4721 Email: richard.rodriguez@arcadis-us.com
Lab Bottle Order No: 158324	Accounting Mode: Provision ___ OOC-BU ___ OOC-RM ___	Email EDD To: samuel.miles@arcadis-us.com ryan.brauchla@arcadis-us.com and to lab.enfosdoc@bp.com
Other Info:	Stage: Activity:	Invoice To: BP ___ Contractor X

BP Project Manager (PM):

BP PM Phone:

BP PM Email:

Lab No.	Sample Description	Date	Time	Matrix: Soil / Solid	Water / Liquid	Air / Vapor	Is this location a well?	No. Containers / Preservative: Total Number of Containers	Unpreserved	H2SO4	HNO3	HCl	Methanol	NaHSO4	Requested Analyses: NWTPH-Gx, GRO by	DRO by NWTPH-Dx	BTEX/MTBE by 8260	EPH by WAEPH	VPH by WAVPH	cPAHs by 8270SIM	Naphthalenes by 8270 SIM	Report Type & QC Level / Comments
	MW-11-4-S-071114	7/11/2014	1120	X			Y	8	3				3	2	X	X	X	X	X	X	X	Standard X
	MW-11-6.5-8-S-071114	7/11/2014	1140	X			Y	8	3				3	2								Full Data Package ___
	MW-11-8-9.5-S-071114	7/11/2014	1155	X			Y	8	3				3	2								Comments: Note: If sample not collected, indicate "No Sample" in comments and single-strike out and initial any preprinted sample description.
	MW-11-9.5-11-S-071114	7/11/2014	1215	X			Y	8	3				3	2								Hold all Samples
	MW-11-11-12.5-S-071114	7/11/2014	1230	X			Y	8	3				3	2								
	MW-11-12.5-14-S-071114	7/11/2014	1300	X			Y	8	3				3	2								

Sampler's Name: Ryan Brauchla	Relinquished By / Affiliation	Date	Time	Accepted By / Affiliation	Date	Time
Sampler's Company: ARCADIS	[signature]	7/8/14	1345	Sam Miles	7/9/14	1400
Shipment Method: UPS 2nd Day Air Ship Date: 7/11/14	Ryan Brauchla/ARCADIS	7/11/14	1600	UPS	7/11/14	1600
Shipment Tracking No:				[signature] ELLE	7/12/14	1046

Special Instructions:

THIS LINE - LAB USE ONLY: Custody Seals In Place: (Yes) / No | Temp Blank: (Yes) / No | Cooler Temp on Receipt: 1.2 °F/C | Trip Blank: Yes / (No) | MS/MSD Sample Submitted: Yes / (No)

G# 1488604

Natalie Luciano

From: Rodriguez, Richard <Richard.Rodriguez@arcadis-us.com>
Sent: Monday, July 14, 2014 10:51 AM
To: Natalie Luciano
Cc: Miles, Samuel; Brauchla, Ryan
Subject: WA-0217 - Soil Samples
Attachments: SWA01P0714071407330.pdf

Please run the following samples in the manner, Original COC attached.

Samples identified to be analyzed on a 5 day TAT – we will need to ensure we have time to run the remaining analytes within hold times once the initial results are in.

SAMPLE ID	GRO	DRO/HO	BTEX/MTBE	EDB/EDC	cPAHS	TOTAL NAPHTHALENES
MW-11-4-S	X	X	X	Hold	Hold	Hold
MW-11-6.5-8.5-S	Hold					
MW-11-8-9.5-S	X	X	X	Hold	Hold	Hold
MW-11-9.5-11-S	X	X	X			
MW-11-11-12.5-S	Hold					
MW-11-12.5-14-S	X	X	X	Hold	Hold	Hold

Please give me a call if you have any questions.

Thanks
Rick

Richard Rodriguez | Project Geologist | richard.rodriguez@arcadis-us.com
ARCADIS U.S., Inc. | 1100 Olive Way, Suite 800 | Seattle, WA 98101
T: 206.325.5254 | D: 206.726.4721 | M: 206.380.3491 | F: 206.325.8218
www.arcadis-us.com

ARCADIS, Imagine the result

Please consider the environment before printing this email.

eurofins | Lancaster Laboratories Environmental

Sample Administration Receipt Documentation Log

Doc Log ID: 19865

Group Number(s): 1488604

Client: Arcadis

Delivery and Receipt Information

Delivery Method:	UPS	Arrival Timestamp:	07/12/2014 10:40
Number of Packages:	1	Number of Projects:	1

Arrival Condition Summary

Shipping Container Sealed:	Yes	Total Trip Blank Qty:	0
Custody Seal Present:	Yes	Trip Blank Type:	N/A
Custody Seal Intact:	Yes	Air Quality Samples Present:	No
Samples Chilled:	Yes	Air Quality Flow Controllers Present:	N/A
Paperwork Enclosed:	Yes	Flow Controller Quantity:	0
Samples Intact:	Yes	Air Quality Returns:	N/A
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		
Sample IDs on COC match Containers:	Yes		
Sample Date/Times match COC:	Yes		
VOA Vial Headspace ≥ 6mm:	No		
VOA IDs (≥ 6mm):	N/A		

Unpacked by Joseph Gruber (5200) at 12:14 on 07/12/2014

Samples Chilled Details

Thermometer Types: *DT = Digital (Temp. Bottle)* *IR = Infrared (Surface Temp)* *All Temperatures in °C.*

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Samples Collected Same Day as Receipt?	Elevated Temp?
1	DT131	1.2	DT	Wet	Y	Bagged	N	N

2425 New Holland Pike
Lancaster, PA 17605-2425

T | 717-656-2300
F | 717-656-2681
www.LancasterLabs.com

eurofins | Lancaster Laboratories Environmental

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	**BMQL**	Below Minimum Quantitation Level
N.D.	none detected	**MPN**	Most Probable Number
TNTC	Too Numerous To Count	**CP Units**	cobalt-chloroplatinate units
IU	International Units	**NTU**	nephelometric turbidity units
umhos/cm	micromhos/cm	**ng**	nanogram(s)
C	degrees Celsius	**F**	degrees Fahrenheit
meq	milliequivalents	**lb.**	pound(s)
g	gram(s)	**kg**	kilogram(s)
µg	microgram(s)	**mg**	milligram(s)
mL	milliliter(s)	**L**	liter(s)
m3	cubic meter(s)	**µL**	microliter(s)
		pg/L	picogram/liter

< less than - The number following the sign is the limit of quantitation, the smallest amount of analyte which can be reliably determined using this specific test.

> greater than

ppm parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Data Qualifiers:

C – result confirmed by reanalysis.

J - estimated value – The result is ≥ the Method Detection Limit (MDL) and < the Limit of Quantitation (LOQ).

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers		Inorganic Qualifiers	
A	TIC is a possible aldol-condensation product	**B**	Value is <CRDL, but ≥IDL
B	Analyte was also detected in the blank	**E**	Estimated due to interference
C	Pesticide result confirmed by GC/MS	**M**	Duplicate injection precision not met
D	Compound quantitated on a diluted sample	**N**	Spike sample not within control limits
E	Concentration exceeds the calibration range of the instrument	**S**	Method of standard additions (MSA) used for calculation
N	Presumptive evidence of a compound (TICs only)	**U**	Compound was not detected
P	Concentration difference between primary and confirmation columns >25%	**W**	Post digestion spike out of control limits
U	Compound was not detected	*****	Duplicate analysis not within control limits
X,Y,Z	Defined in case narrative	**+**	Correlation coefficient for MSA <0.995

Analytical test results meet all requirements of NELAC unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR part 136 Table II as “analyze immediately” are not performed within 15 minutes.

ARCADIS

Appendix C

Groundwater Monitoring
Field Data Sheets

WELL GAUGING DATA

Project # 140305-DM1 Date 3/5/14 Client Arcadis

Site 13131 Bothell Everett Hwy, Everett WA

	Well ID	Time	Well Size (in.)	Sheen / Odor	Depth to Immiscible Liquid (ft.)	Thickness of Immiscible Liquid (ft.)	Volume of Immiscibles Removed (ml)	Depth to water (ft.)	Depth to well bottom (ft.)	Survey Point: TOB or (TOC)	Notes
	MW-1	0945	2					5.55	17.99		VOC= 0.0
3	MW-2	1010	2					4.51	14.65		VOC= 0.0
	MW-4	951	2					6.12	23.89		VOC= 0.0
2	MW-6	1006	1					4.68	11.35		VOC= 0.0
	MW-7	957	1					4.81	14.15		VOC= 0.0
	MW-8	1305	1					~~6.12~~ 5.12 DM	~~23.89~~ 15.32 DM		VOC= 0.0
	MW-9	1308	1					7.29	14.51		VOC= 0.0
	MW-10	1312	1					5.42	14.12		VOC= 0.0
1	IW-1	1003	4					4.25	14.23		VOC= 0.0
4	IW-3	1015	4					4.55	14.48		VOC= 0.0

LOW FLOW WELL MONITORING DATA SHEET

Project #: 140305-DM1	Client: Arcadis
Sampler: DM	Gauging Date: 3/5/14
Well I.D.: MW-2	Well Diameter (in.): (2) 3 4 6 8 ___
Total Well Depth (ft.): 19.65	Depth to Water (ft.): 4.51
Depth to Free Product: —	Thickness of Free Product (feet): —
Referenced to: (PVC) Grade	Flow Cell Type: YSI 556

Purge Method: 2" Grundfos Pump | ~~Peristaltic Pump~~ | Bladder Pump
Sampling Method: Dedicated Tubing | New Tubing | Other ___

Start Purge Time: 1145 Flow Rate: 200 ml/min Pump Depth: 10'

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)
1148	12.06	6.49	531	18	1.40	83.2	600ml	4.62
1151	12.05	6.52	540	15	1.42	83.6	~~900ml~~ 1200ml	4.63
1154	12.05	6.53	542	13	1.43	84.9	~~1200~~ 1800ml	4.65
1157	12.04	6.53	544	12	1.45	85.3	2400ml	4.67
~~1161200~~	12.04	6.55	545	11	1.46	85.9	3000ml	4.68

Did well dewater? Yes (No) Amount actually evacuated: 3L

Sampling Time: 1202 Sampling Date: 3/5/14

Sample I.D.: MW-2-030514 Laboratory: Lancaster

Analyzed for: TPH-G BTEX MTBE TPH-D Other: See C.O.C.

Equipment Blank I.D.: @ Time Duplicate I.D.:

LOW FLOW WELL MONITORING DATA SHEET

Project #: 140305-DM1	Client: Arcadis
Sampler: DM	Gauging Date: 3/5/14
Well I.D.: MW-6	Well Diameter (in.): 2 3 4 6 8 (1")
Total Well Depth (ft.): 11.35	Depth to Water (ft.): 4.68
Depth to Free Product: —	Thickness of Free Product (feet): —
Referenced to: PVC Grade	Flow Cell Type: YSI 556

Purge Method: 2" Grundfos Pump | Peristaltic Pump | Bladder Pump
Sampling Method: Dedicated Tubing | New Tubing | Other

Start Purge Time: 1055 Flow Rate: 100ml/min Pump Depth: 8'

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)
1101	12.53	6.68	425	>1000	1.55	49.7	600ml	4.76
1104	12.50	6.71	428	>1000	1.59	52.6	900ml	4.78
1107	12.49	6.73	430	>1000	1.60	54.4	1200ml	4.80
1110	12.49	6.73	432	>1000	1.62	55.1	1500ml	4.83
1113	12.48	6.74	433	>1000	1.63	56.3	1800ml	4.86

Did well dewater? Yes (No) Amount actually evacuated: 1.8L

Sampling Time: 1115 Sampling Date: 3/5/14

Sample I.D.: MW-6-030514 Laboratory: Lancaster

Analyzed for: TPH-G BTEX MTBE TPH-D Other: See C.O.C.

Equipment Blank I.D.: @ Time Duplicate I.D.:

LOW FLOW WELL MONITORING DATA SHEET

Project #: 140305-DM1	Client: Arcadis
Sampler: DM	Gauging Date: ~~3/5/14~~ 3/5/14
Well I.D.: IW-1	Well Diameter (in.): 2 3 (4) 6 8 ___
Total Well Depth (ft.): 14.23	Depth to Water (ft.): 4.25
Depth to Free Product: —	Thickness of Free Product (feet): —
Referenced to: (PVC) Grade	Flow Cell Type: YSI 556

Purge Method: 2" Grundfos Pump ~~Peristaltic Pump~~ Bladder Pump
Sampling Method: Dedicated Tubing New Tubing Other ___

Start Purge Time: 1025 Flow Rate: 200 ml/min Pump Depth: 6.5'

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)
1028	12.11	6.46	266	14	1.28	41.1	600ml	4.29
1031	12.08	6.49	260	12	1.31	42.8	1200ml	4.30
1034	12.09	6.54	258	12	1.33	42.4	1800ml	4.31
1037	12.08	6.54	258	10	1.34	43.2	2400ml	4.31
1040	12.08	6.54	257	10	1.34	43.7	3000ml	4.31

Did well dewater? Yes (No) Amount actually evacuated: 3L

Sampling Time: 1042 Sampling Date: 3/5/14

Sample I.D.: IW-1-030514 Laboratory: Lancaster

Analyzed for: TPH-G BTEX MTBE TPH-D Other: See C.O.C.

Equipment Blank I.D.: @ Time Duplicate I.D.:

LOW FLOW WELL MONITORING DATA SHEET

Project #: 140305 - DM1	Client: Arcadis
Sampler: DM	Gauging Date: 3/5/14
Well I.D.: IW-3	Well Diameter (in.): 2 3 (4) 6 8 ___
Total Well Depth (ft.): 14.48	Depth to Water (ft.): 4.55
Depth to Free Product: —	Thickness of Free Product (feet): —
Referenced to: (PVC) Grade	Flow Cell Type: YSI 556

Purge Method: 2" Grundfos Pump ~~Peristaltic~~ Pump Bladder Pump
Sampling Method: Dedicated Tubing New Tubing Other ___

Start Purge Time: 1225 Flow Rate: 200 ml/min Pump Depth: 8'

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)
1228	12.09	6.79	671	15	1.28	38.6	600ml	4.58
1231	12.10	6.83	670	13	1.26	38.9	1200ml	4.58
1234	12.11	6.82	668	10	1.24	39.9	1800ml	4.58
1237	12.11	6.83	666	10	1.22	40.2	2400ml	4.59
1240	12.12	6.84	665	9	1.21	39.6	3000ml	4.60

Did well dewater? Yes (No)	Amount actually evacuated: 3L
Sampling Time: 1242	Sampling Date: 3/5/14
Sample I.D.: IW-3-030514	Laboratory: Lancaster
Analyzed for: TPH-G BTEX MTBE TPH-D	Other: see C.O.C.
Equipment Blank I.D.: @ Time	Duplicate I.D.: BD-271-030514

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page : 1 Of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	ARCADIS	Report To:	Samuel Miles	Attention:	Richard Rodriguez
Address:	1100 Olive Way Suite 800	Copy To:	Richard Rodriguez	Company Name:	ARCADIS
	Seattle, WA 98101		Rory Henneck	Address:	1100 Olive Way Suite 800, Seattle, WA
Email To:	Samuel.Miles@arcadis-us.com	Purchase Order No.			
Phone:	206-726-4720 Fax 206-325-8218	Client Project ID:	ARCO 217	Project Manager:	Natalie Luciano
Requested Due Date/TAT:	10 Day (Default)	Project Number:	GP09BPNA.WA01		

Regulatory Agency: Department of Ecology

State / Location: WA

Requested Analysis Filtered (Y/N): Y

ITEM#	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test: GRO (NWTPH-Gx)	BTEX (8260B)	Total Pb (EPA 6010)	Dissolved Lead (6010) FF	Residual Chlorine (Y/N)	
1	MW-2-030514	WT		3/5/14	1202				8			X	X					X	X	X	X		
2	MW-6-030514	WT		3/5/14	1115				8			X	X					X	X	X	X		
3	IW-1-030514	WT		3/5/14	1042				8			X	X					X	X	X	X		
4	IW-3-030514	WT		3/5/14	1242				8			X	X					X	X	X	X		
5	BD-217-030514	WT		3/5/14	1042				8			X	X					X	X	X	X		
6	TB-217-030514	WT		3/5/14	1230				3				X										on Hold
7																							
8																							
9																							
10																							
11																							
12																							

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
		3/5/14					

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Daniel Musso

SIGNATURE of SAMPLER:

DATE Signed: 3/5/14

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

WELLHEAD INSPECTION FORM

Client: Arcadis Site: 13131 Bothell Everett Hwy, Everett WA Date: 3/5/14

Job #: 140305-DM1 Technician: Dan Mosso Page 1 of 1

Well ID	Well Inspected - No Corrective Action Required	Check indicates deficiency: Cap non-functional	Lock non-functional	Lock missing	Bolts missing (list qty)	Tabs stripped (list qty)	Tabs broken (list qty)	Annular seal incomplete	Apron damaged	Rim / Lid broken	Trip Hazard	Below Grade	Other (explain in notes)	Well Not Inspected (explain in notes)	Notes (list if cap or lick replaced, if there are access issues associated with repairs, if traffic control is required, if stand pipe damaged, or any specific details not covered by checklist)
MW-1						3/3									
MW-2	X														
MW-4					1/3	3/3									
MW-6	X														
MW-7	X														
MW-8	X														
MW-9	X														
MW-10	X														
IW-1	X														
IW-3	X														

NOTES: Water Bailed From about 1/4 of Wells

TEST EQUIPMENT CALIBRATION LOG

PROJECT NAME 13131 Bothell Everett Hwy, Everett WA				PROJECT NUMBER 140305-DM1			
EQUIPMENT NAME	EQUIPMENT NUMBER	DATE/TIME OF TEST	STANDARDS USED	EQUIPMENT READING	CALIBRATED TO: OR WITHIN 10%:	TEMP.	INITIALS
YSI 556	BTS-8	3/5/14 0935	ph 4 ph 7 ph 10	ph → 4.02 ph → 7.01 ph → 9.98	Yes	14.8 °c	DM
↓	↓	↓	ORP 250mV	ORP 250.2 mV	Yes	14.7 °c	DM
↓	↓	↓	Conductivity 3900 µS	Cond 3898 µS	Yes	14.9 °c	DM
↓	↓	↓	D.O. %	100.0%	Yes	—	DM

SPH or Purge Water Drum Log

Client: ARCADIS

Site Address: 13131 BOTHELL EVERETT HWY, EVERETT, WA

STATUS OF DRUM(S) UPON ARRIVAL						
Date	9/25/13	12/11/13	3/5/14			
Number of drum(s) empty:	0	0	0			
Number of drum(s) 1/4 full:	0	0	0			
Number of drum(s) 1/2 full:	0	0	0			
Number of drum(s) 3/4 full:	0	0	0			
Number of drum(s) full:	0	0	0			
Total drum(s) on site:	0	0	0			
Are the drum(s) properly labeled?	NA	NA	N/A			
Drum ID & Contents:	NA	NA	N/A			
If any drum(s) are partially or totally filled, what is the first use date:	NA	NA	N/A			

- If you add any SPH to an empty or partially filled drum, drum must have at least 20 gals. of Purgewater or DI Water.

-If drum contains SPH, the drum MUST be steel AND labeled with the appropriate label.

-All BTS drums MUST be labeled appropriately.

STATUS OF DRUM(S) UPON DEPARTURE						
Date	9/25/13	12/11/13	3/5/14			
Number of drums empty:	0	0	0			
Number of drum(s) 1/4 full:	1	Ø 1	1			
Number of drum(s) 1/2 full:	0	0	0			
Number of drum(s) 3/4 full:	0	0	0			
Number of drum(s) full:	0	0	0			
Total drum(s) on site:	1	Ø 1	1			
Are the drum(s) properly labeled?	YES	YES	YES			
Drum ID & Contents:	PSH/H2O	PSH/H2O	BTS-1 030514/ H2O			

LOCATION OF DRUM(S)	
Describe location of drum(s):	NEXT TO TRASH COMPOUND

FINAL STATUS						
Number of new drum(s) left on site this event	1	1	1			
Date of inspection:	9/25/13	12/11/13	3/5/14			
Drum(s) labelled properly:	YES	YES	YES			
Logged by BTS Field Tech:	LB	LB	DM			
Office reviewed by:						

WELL GAUGING DATA

Project # 140731-C91 Date 7/31/14 Client Arcadis

Site 13131 Bothell Everett Highway Everett WA

Well ID	Time	Well Size (in.)	Sheen / Odor	Depth to Immiscible Liquid (ft.)	Thickness of Immiscible Liquid (ft.)	Volume of Immiscibles Removed (ml)	Depth to water (ft.)	Depth to well bottom (ft.)	Survey Point: TOB or TOC	VOC (ppm) Notes
MW-1	0830	2					7.21	17.99		.4
MW-2	1040	2					7.48	19.65		.6
MW-4	0836	2					8.41	23.89		.4
MW-6	1015	1					7.45	11.35		0.0
MW-7	0842	1					8.34	14.15		.1
MW-8	0819	1					8.02	17.75		.4
MW-9	0815	1					9.13	14.51		.3
MW-10	0810	1					8.78	14.12		.3
MW-11	1025	2					8.71	14.36		35.4
IW-1	0850	4					6.55	14.23		1.2
IW-3	0945	4					6.81	14.48	↓	.6

LOW FLOW WELL MONITORING DATA SHEET

Project #: 140731-CP1	Client: Arcadis
Sampler: CP	Gauging Date: 7/31/14
Well I.D.: MW-2	Well Diameter (in.): (2) 3 4 6 8 ___
Total Well Depth (ft.): 19.65	Depth to Water (ft.): 7.48
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: PVC Grade	Flow Cell Type: YSI 556

Purge Method: 2" Grundfos Pump | (Peristaltic Pump) | Bladder Pump
Sampling Method: Dedicated (Tubing) | New Tubing | Other ___

Start Purge Time: 1047 Flow Rate: 100 mL/min Pump Depth: 13'

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or (mL))	Depth to Water (ft.)
1050	19.52	6.42	367	46	5.95	526.5	300	7.48
1053	19.41	6.29	362	34	5.81	512.5	600	7.48
1056	19.41	6.27	361	20	5.77	506.3	900	7.48
1059	19.50	6.26	358	22	5.68	497.3	1200	7.49
1102	19.64	6.27	357	19	5.59	496.1	1500	7.49

Did well dewater? Yes (No) Amount actually evacuated: 1.5L

Sampling Time: 1105 Sampling Date: 7/31/14

Sample I.D.: MW-2-07312014 Laboratory: Lancaster

Analyzed for: (TPH-G) (BTEX) MTBE TPH-D Other: See COC

Equipment Blank I.D.: @ Time Duplicate I.D.:

LOW FLOW WELL MONITORING DATA SHEET

Project #: 140731-CP1	Client: Arcadis
Sampler: CP	Gauging Date: 7/31/14
Well I.D.: MW-6	Well Diameter (in.): 2 3 4 6 8 1"
Total Well Depth (ft.): 11.35	Depth to Water (ft.): 7.45
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: PVC Grade	Flow Cell Type: YSI 556

Purge Method: 2" Grundfos Pump | Peristaltic Pump | Bladder Pump
Sampling Method: Dedicated Tubing | New Tubing | Other

Start Purge Time: 1126 Flow Rate: 100 mL/min Pump Depth: 9'

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)
1129	20.00	6.02	397	296	21.22	556.4	300	7.91
1132	20.71	5.96	397	216	18.05	545.1	600	7.92
1135	20.29	5.92	397	146	15.45	531.0	900	7.94
1138	19.60	5.87	395	48	10.47	492.3	1200	7.95
1141	19.60	5.85	396	90	9.65	482.8	1500	7.97

Did well dewater? Yes No Amount actually evacuated: 1.5L

Sampling Time: 1144 Sampling Date: 7/31/14

Sample I.D.: MW-6-07312014 Laboratory: Lancaster

Analyzed for: TPH-G BTEX MTBE TPH-D Other: See COC

Equipment Blank I.D.: @ Time Duplicate I.D.:

LOW FLOW WELL MONITORING DATA SHEET

Project #: 140731-CP1	Client: Arcadis
Sampler: CP	Gauging Date: 7/31/14
Well I.D.: MW-11	Well Diameter (in.): (2) 3 4 6 8 ____
Total Well Depth (ft.): 14.36	Depth to Water (ft.): 8.71
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: PVC Grade	Flow Cell Type: YSI 556

Purge Method: 2" Grundfos Pump | Peristaltic Pump | Bladder Pump
Sampling Method: Dedicated Tubing | New Tubing | Other ____

Start Purge Time: 1208 Flow Rate: 100 mL/min Pump Depth: 12'

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)
1211	19.39	5.95	570	108	6.17	500.5	300	9.19
1214	19.37	6.03	576	66	6.00	493.9	600	9.20
1217	19.34	5.91	585	32	5.99	484.2	900	9.23
1220	19.16	5.92	584	23	5.56	466.5	1200	9.25
1223	19.13	5.92	584	14	5.46	460.1	1500	9.31

Did well dewater? Yes (No) Amount actually evacuated: 1.5L

Sampling Time: 1225 Sampling Date: 7/31/14

Sample I.D.: MW-11-07312014 Laboratory: Lancaster

Analyzed for: (TPH-G) (BTEX) MTBE TPH-D Other: See COC

Equipment Blank I.D.: @ Time Duplicate I.D.:

LOW FLOW WELL MONITORING DATA SHEET

Project #: 140731-CP1	Client: Arcadis
Sampler: CP	Gauging Date: 7/31/14
Well I.D.: IW-1	Well Diameter (in.): 2 3 (4) 6 8 ___
Total Well Depth (ft.): 14.23	Depth to Water (ft.): 6.55
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	Flow Cell Type: YSI 556

Purge Method: 2" Grundfos Pump (Peristaltic Pump) Bladder Pump
Sampling Method: Dedicated (Tubing) New Tubing Other ___

Start Purge Time: 0904 Flow Rate: 100 mL/min Pump Depth: 9'

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)
0907	19.55	6.49	257	146	37.09	368.9	300	6.57
0910	19.55	6.40	256	23	35.96	385.1	600	6.60
0913	19.54	6.36	256	10	34.82	404.1	900	6.91
0916	19.62	6.34	256	6	32.80	420.9	1200	6.91
0919	19.64	6.33	256	4	31.06	429.5	1500	7.05

Did well dewater? Yes (No) Amount actually evacuated: 1.5L

Sampling Time: 0920 Sampling Date: 7/31/14

Sample I.D.: IW-1-07312014 Laboratory: Lancaster

Analyzed for: (TPH-G) (BTEX) MTBE TPH-D Other: (See COC)

Equipment Blank I.D.: @ Time Duplicate I.D.: BD-217-07312014

LOW FLOW WELL MONITORING DATA SHEET

Project #: 140731-CP1	Client: Arcadis
Sampler: CP	Gauging Date: 7/31/14
Well I.D.: FW-3	Well Diameter (in.): 2 3 (4) 6 8 ___
Total Well Depth (ft.): 14.48	Depth to Water (ft.): 6.81
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: PVC Grade	Flow Cell Type: YSI 556

Purge Method: 2" Grundfos Pump | Peristaltic Pump | Bladder Pump
Sampling Method: Dedicated Tubing | New Tubing | Other ___

Start Purge Time: 0952 Flow Rate: 100 mL/min Pump Depth: 10'

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)
0955	20.48	6.41	395	11	7.48	481.9	300	7.21
0958	20.20	6.16	393	8	6.78	466.5	600	7.23
1001	20.16	6.08	390	6	6.40	462.0	900	7.23
1004	20.20	6.06	389	5	6.15	455.3	1200	7.59
1007	20.31	6.08	388	5	5.96	451.0	1500	7.81
~~10~~								

Did well dewater? Yes (No) Amount actually evacuated: 1.5L

Sampling Time: 1010 Sampling Date: 7/31/14

Sample I.D.: FW3-07312014 Laboratory: Lancaster

Analyzed for: TPH-G BTEX MTBE TPH-D Other: See COC

Equipment Blank I.D.: @ Time Duplicate I.D.:

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	ARCADIS	Report To:	Samuel Miles	Attention:	Richard Rodriguez
Address:	1100 Olive Way Suite 800	Copy To:	Richard Rodriguez	Company Name:	ARCADIS
	Seattle, WA 98101		Rory Henneck	Address:	1100 Olive Way Suite 800, Seattle, WA
Email To:	Samuel.Miles@arcadis-us.com	Purchase Order No.			
Phone:	206-726-4720 Fax: 206-325-8218	Client Project ID:	ARCO 217	Project Manager:	Natalie Luciano
Requested Due Date/TAT:	10 Day (Default)	Project Number:	GP09BPNA.WA01		

Regulatory Agency: Department of Ecology

State / Location: WA

Requested Analysis Filtered (Y/N)

ITEM#	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	GRO (NWTPH-Gx)	BTEX (8260B)	Total Pb (EPA 6010)	Dissolved Lead (6010)	Residual Chlorine (Y/N)
1	MW-2-07312014	WT				7/31/14	1105		8			X	X						X	X	X	X	
2	MW-6-07312014	WT				7/31/14	1144		8			X	X						X	X	X	X	
3	MW-11-07312014	WT				7/31/14	1225		8			X	X						X	X	X	X	
4	IW-1-07312014	WT				7/31/14	0920		8			X	X						X	X	X	X	
5	IW-3-07312014	WT				7/31/14	1010		8			X	X						X	X	X	X	
6	BD-217-07312014	WT				7/31/14	—		8			X	X						X	X	X	X	
7	TB-217-07312014	WT				7/31/14	0750		3				X						X	X			
8																							
9																							
10																							
11																							
12																							

MATRIX CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; TS

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	Craig Peter	7/31/14					

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Craig Peter

SIGNATURE of SAMPLER: Craig Peter

DATE Signed: 7/31/14

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

WELLHEAD INSPECTION FORM

Client: Arcadis Site: 13131 Bothell Everett Highway Date: 7/31/14

Job #: 140731-CP1 Technician: CP Page 1 of 1

Well ID	Well Inspected - No Corrective Action Required	Check indicates deficiency: Cap non-functional	Lock non-functional	Lock missing	Bolts missing (list qty)	Tabs stripped (list qty)	Tabs broken (list qty)	Annular seal incomplete	Apron damaged	Rim / Lid broken	Trip Hazard	Below Grade	Other (explain in notes)	Well Not Inspected (explain in notes)	Notes (list if cap or lick replaced, if there are access issues associated with repairs, if traffic control is required, if stand pipe damaged, or any specific details not covered by checklist)
MW-1				X											
MW-2				X											
MW-4				X											
MW-6				X											
MW-7				X											
MW-8				X											
MW-9				X											
MW-10				X											
MW-11				X											
IW-1				X											
IW-3				X											

NOTES:

TEST EQUIPMENT CALIBRATION LOG

PROJECT NAME 13131 Bothell/Everett Hwy Everett WA				PROJECT NUMBER 140731-CP1			
EQUIPMENT NAME	EQUIPMENT NUMBER	DATE/TIME OF TEST	STANDARDS USED	EQUIPMENT READING	CALIBRATED TO: OR WITHIN 10%:	TEMP.	INITIALS
YSI 556	09B 100592	7/31/14 0625	pH 4.0 7.0 10.0	4.2 6.8 9.95	✓ ✓ ✓	26.10	CP
			conductivity 3900	3905	✓	26.30	CP
			ORP 231.5	225.0	✓	25.55	CP
			D.O. 100%	101.5	✓	25.60	CP

~~CHEVRON-WASHINGTON/OREGON TYPE~~ **A** BILL OF LADING

SOURCE RECORD **BILL OF LADING**

FOR PURGEWATER RECOVERED FROM GROUNDWATER WELLS AT CHEVRON FACILITIES IN THE STATE OF WASHINGTON AND OREGON. THE PURGE- WATER WHICH HAS BEEN RECOVERED FROM GROUND- WATER WELLS IS COLLECTED BY THE CONTRACTOR AND HAULED TO THEIR FACILITY IN KENT, WASHINGTON FOR TEMPORARILY HOLDING PENDING TRANSPORT BY OTHERS TO FINAL DESTINATION.

The contractor performing this work is BLAINE TECH SERVICES, INC. (BLAINE TECH), 22727 72ND Ave South, Suite D – 102, Kent, WA 98032. BLAINE TECH. is authorized by Chevron Environmental Management Company (CHEVRON EMC) to recover, collect, apportion into loads, and haul the purgewater that is drawn from wells at the CHEVRON EMC facility indicated below and to deliver that purgewater to BLAINE TECH for temporarily holding. Transport routing of the purgewater may be direct from one CHEVRON EMC facility to BLAINE TECH; from one CHEVRON EMC facility to BLAINE TECH via another CHEVRON EMC facility; or any combination thereof. The well purgewater is and remains the property of CHEVRON EMC.

This **Source Record BILL OF LADING** was initiated to cover the recovery of Non-Hazardous Well Purgewater from wells at the Chevron facility described below:

217

~~CHEVRON #'S~~ ~~Chevron Project Manager~~

13131 Bothell Everett Hwy Everett WA

Street number street name city state

WELL I.D.	GALS.	WELL I.D.	GALS.
MW-2	.5		
MW-6	.5		
MW-11	.5		
IW-1	.5		
IW-3	.5		

added equip. rinse water .5

any other adjustments

TOTAL GALS. RECOVERED 3

loaded onto BTS vehicle # 92

BTS event # 140731-EP1 time 1521 date 7/31/14

signature Craig Pitt

TASK ORDER SHEET (TOS)

Client:	BP/ARCO		
ARCADIS PM:	Richard Rodriguez	**ARCADIS Proj No:**	GP09BPNAWA
Client Facility No:	217	**Lab Release No.:**	
Site Contact/Tel#	NA	**Project Lab**	Lancaster Laboratories
			Lancaster, PA
Street Address:	13131 Bothelle Everett, Everett		
Fieldwork Dates:	7/31/14	**Facility/Field Hours**	dawn to dusk
Description of Tasks:	**Gauging and No-Purge Groundwater Sampling**		

Pre-Mob Checklist

- [/] Take Site Field Book and record site activities in the field book
- [/] Check to see that equipment is operating properly prior to leaving office
- [/] At minimum, take all equipment listed in the equipment required checklist shown below. Feel free to take additional equipment
- [/] Review HASP, Update all JLAs as deemed necessary (whenever changing conditions observed)

Onsite Checklist:

Groundwater Monitoring

- [/] Review and sign HASP - conduct tailgate safety meeting
- [/] Walk site and report any unusual situations (ie drums)
- [/] Review Task Order and ensure tasks listed are completed
- [/] Check well heads and vaults for damage, staining, spills, or other issues.
- [/] Collect PID readings and gauge wells.
- [/] Collect no-purge samples from wells.
- [/] Coordinate Sample delivery with Lancaster.

Pre-Departure Checklist:

- [/] Ensure well plugs and replaced and vaults are secured.
- [/] Decontaminate tools and equipment.
- [/] Store and secure tools, equipment, and supplies for travel.
- [/] Ensure gauging and sampling forms are accurate and completed.
- [/] Ensure chain of custody is accurate and complete.
- [/] Ensure bill of lading is accurate and complete.
- [/] If drum was used, ensure drum bung/lid is secured , drum is properly labeled, and drum inventory is completed.
- [/] Walk around vehicle and site and inspect for forgotten or unsecured items.

Decon Procedures: Standard

Equipment Required:

X	YSI/Horiba		Generator (small)	X	PPE
X	CAMERA (Digital) w/ Charger	X	First Aid Kit w/ Eyewash		PE & Silicon Tubing
	Electronic Water Level Meter	X	Absorbent Pads		Summa Canisters
X	DISPOSABLE GLOVES		Battery Packs		Absorbent Socks
X	Oil-Water Interface Probe		Metal Detector	X	Decon supplies
X	Disposable Bailers	X	Traffic Control-Cones		Garden Cart
X	String or line		Locks		Vacuum Gauges
X	Secondary containment for samples		Peristaltic Pump		Water Level Meter
X	PID	X	Fire Extinguisher		WELL CAPS 2 "

Name	**Signature**	**Date**
Craig Petarr	Craig Petarr	7/31/14

ARCADIS

Appendix D

Groundwater Laboratory Report and
Chain-of-Custody Documentation

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Atlantic Richfield c/o ARCADIS
Suite 600
630 Plaza Drive
Highlands Ranch CO 80129

March 13, 2014

Project: WA-0217

Submittal Date: 03/08/2014
Group Number: 1457961
PO Number: GP09BPNA.WA01
State of Sample Origin: WA

Client Sample Description	Lancaster Labs (LL) #
MW-2-030514 Water	7387191
MW-2-030514 Filtered Water	7387192
MW-6-030514 Water	7387193
MW-6-030514 Filtered Water	7387194
IW-1-030514 Water	7387195
IW-1-030514 Filtered Water	7387196
IW-3-030514 Water	7387197
IW-3-030514 Filtered Water	7387198
BD-217-030514 Water	7387199
BD-217-030514 Filtered Water	7387200

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

ELECTRONIC COPY TO	ARCADIS U.S., Inc.	Attn: Sam Miles
ELECTRONIC COPY TO	Atlantic Richfield c/o ARCADIS	Attn: Rory Henneck
ELECTRONIC COPY TO	ARCADIS U.S., Inc.	Attn: Richard Rodriguez

Respectfully Submitted,

Natalie R. Luciano
Senior Specialist

(717) 556-7258

Project Name: WA-0217
LLI Group #: 1457961

General Comments:

Through our technical processes and second person review of data, we have established that our data/deliverables are in compliance with the methods and project requirements unless otherwise noted or previously resolved with the client. The compliance signature is located on the cover page of the Analysis Reports.

See the Laboratory Sample Analysis Record section of the Analysis Report for the method references.

All QC met criteria unless otherwise noted in an Analysis Specific Comment below. Refer to the QC Summary for specific values and acceptance criteria.

Project specific QC samples are not included in this data set

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in an Analysis Specific Comment below.

The samples were received at the appropriate temperature and in accordance with the chain of custody unless otherwise noted.

Analysis Specific Comments:

No additional comments are necessary.

Sample Description: MW-2-030514 Water
WA-0217
13131 Bothell-Everett Hwy - Everett, WA

LL Sample # WW 7387191
LL Group # 1457961
Account # 13255

Project Name: WA-0217

Collected: 03/05/2014 12:02 by DM

Submitted: 03/08/2014 09:10
Reported: 03/13/2014 21:34

Atlantic Richfield c/o ARCADIS
Suite 600
630 Plaza Drive
Highlands Ranch CO 80129

BEE01

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		ug/l	ug/l	ug/l	
10335	Benzene	71-43-2	N.D.	0.50	5.0	1
10335	Ethylbenzene	100-41-4	16	0.80	5.0	1
10335	Toluene	108-88-3	N.D.	0.70	5.0	1
10335	Xylene (Total)	1330-20-7	19	0.80	5.0	1
GC Volatiles	**ECY 97-602 NWTPH-Gx**		ug/l	ug/l	ug/l	
08273	NWTPH-Gx water C7-C12	n.a.	360	50	250	1
Metals	**SW-846 6010B**		ug/l	ug/l	ug/l	
07055	Lead	7439-92-1	N.D.	4.7	15.0	1

General Sample Comments

State of Washington Lab Certification No. C457

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	VOCs 8260 BTEX	SW-846 8260B	1	N140711AA	03/13/2014 00:50	Sarah A Guill	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	N140711AA	03/13/2014 00:50	Sarah A Guill	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	14070A94A	03/12/2014 21:16	Marie D Beamenderfer	1
01146	GC VOA Water Prep	SW-846 5030B	1	14070A94A	03/12/2014 21:16	Marie D Beamenderfer	1
07055	Lead	SW-846 6010B	1	140701848003	03/13/2014 06:25	Tara L Snyder	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	140701848003	03/12/2014 10:48	Micaela L Dishong	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-2-030514 Filtered Water
WA-0217
13131 Bothell-Everett Hwy - Everett, WA

LL Sample # WW 7387192
LL Group # 1457961
Account # 13255

Project Name: WA-0217

Collected: 03/05/2014 12:02 by DM

Submitted: 03/08/2014 09:10
Reported: 03/13/2014 21:34

Atlantic Richfield c/o ARCADIS
Suite 600
630 Plaza Drive
Highlands Ranch CO 80129

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved	**SW-846 6010B**		**ug/l**	**ug/l**	**ug/l**	
07055	Lead	7439-92-1	N.D.	4.7	15.0	1

General Sample Comments

State of Washington Lab Certification No. C457
This sample was field filtered for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07055	Lead	SW-846 6010B	1	140701848003	03/13/2014 06:29	Tara L Snyder	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	140701848003	03/12/2014 10:48	Micaela L Dishong	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-6-030514 Water
WA-0217
13131 Bothell-Everett Hwy - Everett, WA

LL Sample # WW 7387193
LL Group # 1457961
Account # 13255

Project Name: WA-0217

Collected: 03/05/2014 11:15 by DM

Submitted: 03/08/2014 09:10
Reported: 03/13/2014 21:34

Atlantic Richfield c/o ARCADIS
Suite 600
630 Plaza Drive
Highlands Ranch CO 80129

BEE06

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		ug/l	ug/l	ug/l	
10335	Benzene	71-43-2	N.D.	0.50	5.0	1
10335	Ethylbenzene	100-41-4	N.D.	0.80	5.0	1
10335	Toluene	108-88-3	N.D.	0.70	5.0	1
10335	Xylene (Total)	1330-20-7	N.D.	0.80	5.0	1
GC Volatiles	**ECY 97-602 NWTPH-Gx**		ug/l	ug/l	ug/l	
08273	NWTPH-Gx water C7-C12	n.a.	N.D.	50	250	1
Metals	**SW-846 6010B**		ug/l	ug/l	ug/l	
07055	Lead	7439-92-1	N.D.	4.7	15.0	1

General Sample Comments

State of Washington Lab Certification No. C457

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	VOCs 8260 BTEX	SW-846 8260B	1	N140711AA	03/13/2014 01:14	Sarah A Guill	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	N140711AA	03/13/2014 01:14	Sarah A Guill	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	14070A94A	03/12/2014 15:45	Marie D Beamenderfer	1
01146	GC VOA Water Prep	SW-846 5030B	1	14070A94A	03/12/2014 15:45	Marie D Beamenderfer	1
07055	Lead	SW-846 6010B	1	140701848003	03/13/2014 06:33	Tara L Snyder	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	140701848003	03/12/2014 10:48	Micaela L Dishong	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-6-030514 Filtered Water
WA-0217
13131 Bothell-Everett Hwy - Everett, WA

LL Sample # WW 7387194
LL Group # 1457961
Account # 13255

Project Name: WA-0217

Collected: 03/05/2014 11:15 by DM

Submitted: 03/08/2014 09:10
Reported: 03/13/2014 21:34

Atlantic Richfield c/o ARCADIS
Suite 600
630 Plaza Drive
Highlands Ranch CO 80129

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved	**SW-846 6010B**		**ug/l**	**ug/l**	**ug/l**	
07055	Lead	7439-92-1	N.D.	4.7	15.0	1

General Sample Comments

State of Washington Lab Certification No. C457
This sample was field filtered for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07055	Lead	SW-846 6010B	1	140701848003	03/13/2014 06:37	Tara L Snyder	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	140701848003	03/12/2014 10:48	Micaela L Dishong	1

*=This limit was used in the evaluation of the final result

Sample Description: IW-1-030514 Water
WA-0217
13131 Bothell-Everett Hwy - Everett, WA

LL Sample # WW 7387195
LL Group # 1457961
Account # 13255

Project Name: WA-0217

Collected: 03/05/2014 10:42 by DM

Submitted: 03/08/2014 09:10
Reported: 03/13/2014 21:34

Atlantic Richfield c/o ARCADIS
Suite 600
630 Plaza Drive
Highlands Ranch CO 80129

BEEI1

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	**ug/l**	
10335	Benzene	71-43-2	N.D.	0.50	5.0	1
10335	Ethylbenzene	100-41-4	N.D.	0.80	5.0	1
10335	Toluene	108-88-3	N.D.	0.70	5.0	1
10335	Xylene (Total)	1330-20-7	0.81 J	0.80	5.0	1
GC Volatiles	**ECY 97-602 NWTPH-Gx**		**ug/l**	**ug/l**	**ug/l**	
08273	NWTPH-Gx water C7-C12	n.a.	75 J	50	250	1
Metals	**SW-846 6010B**		**ug/l**	**ug/l**	**ug/l**	
07055	Lead	7439-92-1	N.D.	4.7	15.0	1

General Sample Comments

State of Washington Lab Certification No. C457

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	VOCs 8260 BTEX	SW-846 8260B	1	N140711AA	03/13/2014 01:37	Sarah A Guill	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	N140711AA	03/13/2014 01:37	Sarah A Guill	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	14070A94A	03/12/2014 22:07	Marie D Beamenderfer	1
01146	GC VOA Water Prep	SW-846 5030B	1	14070A94A	03/12/2014 22:07	Marie D Beamenderfer	1
07055	Lead	SW-846 6010B	1	140701848004	03/13/2014 02:31	Tara L Snyder	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	140701848004	03/12/2014 10:29	Micaela L Dishong	1

*=This limit was used in the evaluation of the final result

Sample Description: IW-1-030514 Filtered Water
WA-0217
13131 Bothell-Everett Hwy - Everett, WA

LL Sample # WW 7387196
LL Group # 1457961
Account # 13255

Project Name: WA-0217

Collected: 03/05/2014 10:42 by DM

Submitted: 03/08/2014 09:10
Reported: 03/13/2014 21:34

Atlantic Richfield c/o ARCADIS
Suite 600
630 Plaza Drive
Highlands Ranch CO 80129

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved	**SW-846 6010B**		ug/l	ug/l	ug/l	
07055	Lead	7439-92-1	N.D.	4.7	15.0	1

General Sample Comments

State of Washington Lab Certification No. C457
This sample was field filtered for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07055	Lead	SW-846 6010B	1	140701848004	03/13/2014 02:53	Tara L Snyder	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	140701848004	03/12/2014 10:29	Micaela L Dishong	1

*=This limit was used in the evaluation of the final result

Sample Description: IW-3-030514 Water
WA-0217
13131 Bothell-Everett Hwy - Everett, WA

LL Sample # WW 7387197
LL Group # 1457961
Account # 13255

Project Name: WA-0217

Collected: 03/05/2014 12:42 by DM

Submitted: 03/08/2014 09:10
Reported: 03/13/2014 21:34

Atlantic Richfield c/o ARCADIS
Suite 600
630 Plaza Drive
Highlands Ranch CO 80129

BEEI3

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	**ug/l**	
10335	Benzene	71-43-2	N.D.	0.50	5.0	1
10335	Ethylbenzene	100-41-4	N.D.	0.80	5.0	1
10335	Toluene	108-88-3	N.D.	0.70	5.0	1
10335	Xylene (Total)	1330-20-7	N.D.	0.80	5.0	1
GC Volatiles	**ECY 97-602 NWTPH-Gx**		**ug/l**	**ug/l**	**ug/l**	
08273	NWTPH-Gx water C7-C12	n.a.	N.D.	50	250	1
Metals	**SW-846 6010B**		**ug/l**	**ug/l**	**ug/l**	
07055	Lead	7439-92-1	N.D.	4.7	15.0	1

General Sample Comments

State of Washington Lab Certification No. C457

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	VOCs 8260 BTEX	SW-846 8260B	1	N140711AA	03/13/2014 02:01	Sarah A Guill	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	N140711AA	03/13/2014 02:01	Sarah A Guill	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	14070A94A	03/12/2014 22:33	Marie D Beamenderfer	1
01146	GC VOA Water Prep	SW-846 5030B	1	14070A94A	03/12/2014 22:33	Marie D Beamenderfer	1
07055	Lead	SW-846 6010B	1	140701848004	03/13/2014 02:57	Tara L Snyder	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	140701848004	03/12/2014 10:29	Micaela L Dishong	1

*=This limit was used in the evaluation of the final result

Sample Description: IW-3-030514 Filtered Water
WA-0217
13131 Bothell-Everett Hwy - Everett, WA

LL Sample # WW 7387198
LL Group # 1457961
Account # 13255

Project Name: WA-0217

Collected: 03/05/2014 12:42 by DM

Submitted: 03/08/2014 09:10
Reported: 03/13/2014 21:34

Atlantic Richfield c/o ARCADIS
Suite 600
630 Plaza Drive
Highlands Ranch CO 80129

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved	**SW-846 6010B**		**ug/l**	**ug/l**	**ug/l**	
07055	Lead	7439-92-1	N.D.	4.7	15.0	1

General Sample Comments

State of Washington Lab Certification No. C457
This sample was field filtered for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07055	Lead	SW-846 6010B	1	140701848004	03/13/2014 03:08	Tara L Snyder	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	140701848004	03/12/2014 10:29	Micaela L Dishong	1

*=This limit was used in the evaluation of the final result

Sample Description: BD-217-030514 Water
WA-0217
13131 Bothell-Everett Hwy - Everett, WA

LL Sample # WW 7387199
LL Group # 1457961
Account # 13255

Project Name: WA-0217

Collected: 03/05/2014 10:42 by DM

Submitted: 03/08/2014 09:10
Reported: 03/13/2014 21:34

Atlantic Richfield c/o ARCADIS
Suite 600
630 Plaza Drive
Highlands Ranch CO 80129

BEEFD

CAT No.	Analysis Name	CAS Number	As Received Result		As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**		**ug/l**	**ug/l**	
10335	Benzene	71-43-2	N.D.		0.50	5.0	1
10335	Ethylbenzene	100-41-4	N.D.		0.80	5.0	1
10335	Toluene	108-88-3	N.D.		0.70	5.0	1
10335	Xylene (Total)	1330-20-7	N.D.		0.80	5.0	1
GC Volatiles	**ECY 97-602 NWTPH-Gx**		**ug/l**		**ug/l**	**ug/l**	
08273	NWTPH-Gx water C7-C12	n.a.	63	J	50	250	1
Metals	**SW-846 6010B**		**ug/l**		**ug/l**	**ug/l**	
07055	Lead	7439-92-1	N.D.		4.7	15.0	1

General Sample Comments

State of Washington Lab Certification No. C457

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	VOCs 8260 BTEX	SW-846 8260B	1	N140711AA	03/13/2014 02:25	Sarah A Guill	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	N140711AA	03/13/2014 02:25	Sarah A Guill	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	14070A94A	03/12/2014 22:58	Marie D Beamenderfer	1
01146	GC VOA Water Prep	SW-846 5030B	1	14070A94A	03/12/2014 22:58	Marie D Beamenderfer	1
07055	Lead	SW-846 6010B	1	140701848004	03/13/2014 03:11	Tara L Snyder	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	140701848004	03/12/2014 10:29	Micaela L Dishong	1

*=This limit was used in the evaluation of the final result

Sample Description: BD-217-030514 Filtered Water
WA-0217
13131 Bothell-Everett Hwy - Everett, WA

LL Sample # WW 7387200
LL Group # 1457961
Account # 13255

Project Name: WA-0217

Collected: 03/05/2014 10:42 by DM

Submitted: 03/08/2014 09:10
Reported: 03/13/2014 21:34

Atlantic Richfield c/o ARCADIS
Suite 600
630 Plaza Drive
Highlands Ranch CO 80129

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved	**SW-846 6010B**		ug/l	ug/l	ug/l	
07055	Lead	7439-92-1	N.D.	4.7	15.0	1

General Sample Comments

State of Washington Lab Certification No. C457
This sample was field filtered for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07055	Lead	SW-846 6010B	1	140701848004	03/13/2014 03:15	Tara L Snyder	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	140701848004	03/12/2014 10:29	Micaela L Dishong	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: Atlantic Richfield c/o ARCADIS Group Number: 1457961
Reported: 03/13/14 at 09:34 PM

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL**	Blank LOQ	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: N140711AA	Sample number(s): 7387191,7387193,7387195,7387197,7387199								
Benzene	N.D.	0.50	5.0	ug/l	109	111	78-120	1	30
Ethylbenzene	N.D.	0.80	5.0	ug/l	103	103	79-120	0	30
Toluene	N.D.	0.70	5.0	ug/l	109	110	80-120	1	30
Xylene (Total)	N.D.	0.80	5.0	ug/l	105	105	80-120	0	30
Batch number: 14070A94A	Sample number(s): 7387191,7387193,7387195,7387197,7387199								
NWTPH-Gx water C7-C12	N.D.	50.	250	ug/l	112		75-135		
Batch number: 140701848003	Sample number(s): 7387191-7387194								
Lead	N.D.	4.7	15.0	ug/l	106		88-110		
Batch number: 140701848004	Sample number(s): 7387195-7387200								
Lead	N.D.	4.7	15.0	ug/l	104		88-110		

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: 14070A94A	Sample number(s): 7387191,7387193,7387195,7387197,7387199 UNSPK: 7387193								
NWTPH-Gx water C7-C12	117	117	75-135	0	30				
Batch number: 140701848003	Sample number(s): 7387191-7387194 UNSPK: P387172 BKG: P387172								
Lead	98	99	75-125	2	20	N.D.	N.D.	0 (1)	20
Batch number: 140701848004	Sample number(s): 7387195-7387200 UNSPK: 7387195 BKG: 7387195								
Lead	95	94	75-125	1	20	N.D.	N.D.	0 (1)	20

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: PPL + Xylene (total) by 8260
Batch number: N140711AA

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Atlantic Richfield c/o ARCADIS Group Number: 1457961
Reported: 03/13/14 at 09:34 PM

Surrogate Quality Control

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
7387191	104	103	99	102
7387193	102	99	101	93
7387195	102	101	100	92
7387197	107	106	96	90
7387199	103	105	101	92
Blank	109	105	96	91
LCS	101	102	103	100
LCSD	103	103	102	100
Limits:	80-116	77-113	80-113	78-113

Analysis Name: NWTPH-Gx water C7-C12
Batch number: 14070A94A

	Trifluorotoluene-F
7387191	88
7387193	90
7387195	93
7387197	88
7387199	93
Blank	90
LCS	92
MS	97
MSD	96
Limits:	63-135

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

A-13255 G-1457961 S-738791-7201

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A — Required Client Information:

Company:	ARCADIS
Address:	1100 Olive Way Suite 800
	Seattle, WA 98101
Email To:	Samuel.Miles@arcadis-us.com
Phone:	206-726-4720 Fax: 206-325-8218
Requested Due Date/TAT:	10 Day (Default)

Section B — Required Project Information:

Report To:	Samuel Miles
Copy To:	Richard Rodriguez
	Rory Henneck
Purchase Order No.	
Client Project ID:	ARCO 217
Project Number:	GP09BPNA.WA01

Section C — Invoice Information:

Attention:	Richard Rodriguez
Company Name:	ARCADIS
Address:	1100 Olive Way Suite 800, Seattle, WA
Project Manager:	Natalie Luciano

Regulatory Agency	
Department of Ecology	
State / Location	
WA	

MATRIX: Drinking Water (DW), Water (WT), Waste Water (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Other (OT), TS

ITEM#	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	GRO (NWTPH-Gx)	BTEX (8260B)	Total Pb (EPA 6010)	Dissolved Lead (6010) FF	Residual Chlorine (Y/N)
1	Mw-2-030514	WT		3/5/14	1202				8			X	X						X	X	X	X	
2	Mw-6-030514	WT		3/5/14	1115				8			X	X						X	X	X	X	
3	Iw-1-030514	WT		3/5/14	1042				8			X	X						X	X	X	X	
4	Iw-3-030514	WT		3/5/14	1242				8			X	X						X	X	X	X	
5	BD-217-030514	WT		3/5/14	1042				8			X	X						X	X	X	X	
6	TB-217-030514	WT		3/5/14	1230				3				X										on Hold
7																							
8																							
9																							
10																							
11																							
12																							

Requested Analysis Filtered (Y/N): Y

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
		3/5/14			3/7/14	15:30				
				ELLE	3/8/14	910	0.5 0.8	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Daniel Musso

SIGNATURE of SAMPLER: [signature] DATE Signed: 3/5/14

eurofins | Lancaster Laboratories Environmental

Sample Administration Receipt Documentation Log

Doc Log ID: 8507

Group Number(s): 1457961

Client: Arcadis

ARCO 217

Delivery and Receipt Information

Delivery Method:	SeaTac	Arrival Timestamp:	03/08/2014 9:10
Number of Packages:	2	Number of Projects:	2
State/Province of Origin:	WA		

Arrival Condition Summary

Shipping Container Sealed:	Yes	Total Trip Blank Qty:	3
Custody Seal Present:	Yes	Trip Blank Type:	HCl
Custody Seal Intact:	Yes	Air Quality Samples Present:	No
Samples Chilled:	Yes	Air Quality Flow Controllers Present:	N/A
Paperwork Enclosed:	Yes	Flow Controller Quantity:	0
Samples Intact:	Yes	Air Quality Returns:	N/A
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		
Sample IDs on COC match Containers:	No		
Sample Date/Times match COC:	Yes		
VOA Vial Headspace ≥ 6mm:	No		
VOA IDs (≥ 6mm):	N/A		

Unpacked by Wesley Miller (2308) at 10:07 on 03/08/2014

Samples Chilled Details: ARCO 217

Thermometer Types: DT = Digital IR = Infrared

Cooler #	Thermometer ID	Raw Temp (°C)	Corrected Temp (°C)	Thermometer Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT121	0.8	0.8	DT	Wet	Y	Bagged	N
2	DT121	0.5	0.5	DT	Wet	Y	Bagged	N

Sample ID Discrepancy Details: ARCO 217

Sample ID on COC	Sample ID on Label	Comments
IW-3-030514	IW-2-030514	1 vial labeled IW-2-030514

General Comments:

2425 New Holland Pike
Lancaster, PA 17605-2425

T | 717-656-2300
F | 717-656-2681
www.LancasterLabs.com

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Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	**BMQL**	Below Minimum Quantitation Level
N.D.	none detected	**MPN**	Most Probable Number
TNTC	Too Numerous To Count	**CP Units**	cobalt-chloroplatinate units
IU	International Units	**NTU**	nephelometric turbidity units
umhos/cm	micromhos/cm	**ng**	nanogram(s)
C	degrees Celsius	**F**	degrees Fahrenheit
meq	milliequivalents	**lb.**	pound(s)
g	gram(s)	**kg**	kilogram(s)
µg	microgram(s)	**mg**	milligram(s)
mL	milliliter(s)	**L**	liter(s)
m3	cubic meter(s)	**µL**	microliter(s)
		pg/L	picogram/liter

< less than - The number following the sign is the limit of quantitation, the smallest amount of analyte which can be reliably determined using this specific test.

> greater than

ppm parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Data Qualifiers:

C – result confirmed by reanalysis.

J - estimated value – The result is ≥ the Method Detection Limit (MDL) and < the Limit of Quantitation (LOQ).

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers		Inorganic Qualifiers	
A	TIC is a possible aldol-condensation product	**B**	Value is <CRDL, but ≥IDL
B	Analyte was also detected in the blank	**E**	Estimated due to interference
C	Pesticide result confirmed by GC/MS	**M**	Duplicate injection precision not met
D	Compound quantitated on a diluted sample	**N**	Spike sample not within control limits
E	Concentration exceeds the calibration range of the instrument	**S**	Method of standard additions (MSA) used for calculation
N	Presumptive evidence of a compound (TICs only)	**U**	Compound was not detected
P	Concentration difference between primary and confirmation columns >25%	**W**	Post digestion spike out of control limits
U	Compound was not detected	*****	Duplicate analysis not within control limits
X,Y,Z	Defined in case narrative	**+**	Correlation coefficient for MSA <0.995

Analytical test results meet all requirements of NELAC unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR part 136 Table II as “analyze immediately” are not performed within 15 minutes.

ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Atlantic Richfield c/o ARCADIS
Suite 600
630 Plaza Drive
Highlands Ranch CO 80129

August 12, 2014

Project: WA-0217

Submittal Date: 08/06/2014
Group Number: 1494052
PO Number: GP09BPNA.WA01
State of Sample Origin: WA

Client Sample Description	Lancaster Labs (LL) #
MW-2-07312014 Water	7556045
MW-2-07312014 Filtered Water	7556046
MW-6-07312014 Water	7556047
MW-6-07312014 Filtered Water	7556048
MW-11-07312014 Water	7556049
MW-11-07312014 Filtered Water	7556050
IW-1-07312014 Water	7556051
IW-1-07312014 Filtered Water	7556052
IW-3-07312014 Water	7556053
IW-3-07312014 Filtered Water	7556054
BD-217-07312014 Water	7556055
BD-217-07312014 Filtered Water	7556056
TB-217-07312014 Water	7556057

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

ELECTRONIC COPY TO	ARCADIS U.S., Inc.	Attn: Richard Rodriguez
ELECTRONIC COPY TO	ARCADIS U.S., Inc.	Attn: Sam Miles
ELECTRONIC COPY TO	Atlantic Richfield c/o ARCADIS	Attn: Rory Henneck

Respectfully Submitted,

Natalie R. Luciano
Senior Specialist

(717) 556-7258

Project Name: WA-0217
LL Group #: 1494052

General Comments:

Through our technical processes and second person review of data, we have established that our data/deliverables are in compliance with the methods and project requirements unless otherwise noted or previously resolved with the client. The compliance signature is located on the cover page of the Analysis Reports.

See the Laboratory Sample Analysis Record section of the Analysis Report for the method references.

All QC met criteria unless otherwise noted in an Analysis Specific Comment below. Refer to the QC Summary for specific values and acceptance criteria.

Project specific QC samples are not included in this data set

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in an Analysis Specific Comment below.

The samples were received at the appropriate temperature and in accordance with the chain of custody unless otherwise noted.

Analysis Specific Comments:

SW-846 8260B, GC/MS Volatiles

Batch #: T142191AA (Sample number(s): 7556045, 7556047, 7556049, 7556051, 7556053, 7556055, 7556057)

The recovery(ies) for one or more surrogates were outside of the QC window for sample(s) 7556047

Sample Description: MW-2-07312014 Water
WA-0217
13131 Bothell-Everett Highway - Everett, WA

LL Sample # WW 7556045
LL Group # 1494052
Account # 13255

Project Name: WA-0217

Collected: 07/31/2014 11:05 by CP

Submitted: 08/06/2014 09:45
Reported: 08/12/2014 18:28

Atlantic Richfield c/o ARCADIS
Suite 600
630 Plaza Drive
Highlands Ranch CO 80129

BEE02

CAT No.	Analysis Name	CAS Number	As Received Result		As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**		**ug/l**	**ug/l**	
10335	Benzene	71-43-2	1.1		0.50	1.0	1
10335	Ethylbenzene	100-41-4	N.D.		0.50	1.0	1
10335	Toluene	108-88-3	N.D.		0.50	1.0	1
10335	Xylene (Total)	1330-20-7	N.D.		0.50	1.0	1
GC Volatiles	**ECY 97-602 NWTPH-Gx**		**ug/l**		**ug/l**	**ug/l**	
08273	NWTPH-Gx water C7-C12	n.a.	400		50	250	1
Metals	**SW-846 6010B**		**ug/l**		**ug/l**	**ug/l**	
07055	Lead	7439-92-1	5.3	J	4.7	15.0	1

General Sample Comments

State of Washington Lab Certification No. C457

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	VOCs 8260 BTEX	SW-846 8260B	1	T142191AA	08/07/2014 14:47	Sarah A Guill	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	T142191AA	08/07/2014 14:47	Sarah A Guill	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	14219A53A	08/07/2014 22:04	Marie D Beamenderfer	1
01146	GC VOA Water Prep	SW-846 5030B	1	14219A53A	08/07/2014 22:04	Marie D Beamenderfer	1
07055	Lead	SW-846 6010B	1	142191848002	08/09/2014 00:42	Elaine F Stoltzfus	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	142191848002	08/07/2014 22:00	Annamaria Kuhns	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-2-07312014 Filtered Water
WA-0217
13131 Bothell-Everett Highway - Everett, WA

LL Sample # WW 7556046
LL Group # 1494052
Account # 13255

Project Name: WA-0217

Collected: 07/31/2014 11:05 by CP

Submitted: 08/06/2014 09:45
Reported: 08/12/2014 18:28

Atlantic Richfield c/o ARCADIS
Suite 600
630 Plaza Drive
Highlands Ranch CO 80129

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved	**SW-846 6010B**		**ug/l**	**ug/l**	**ug/l**	
07055	Lead	7439-92-1	N.D.	4.7	15.0	1

General Sample Comments

State of Washington Lab Certification No. C457
This sample was field filtered for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07055	Lead	SW-846 6010B	1	142191848002	08/09/2014 00:53	Elaine F Stoltzfus	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	142191848002	08/07/2014 22:00	Annamaria Kuhns	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-6-07312014 Water
WA-0217
13131 Bothell-Everett Highway - Everett, WA

LL Sample # WW 7556047
LL Group # 1494052
Account # 13255

Project Name: WA-0217

Collected: 07/31/2014 11:44 by CP

Submitted: 08/06/2014 09:45
Reported: 08/12/2014 18:28

Atlantic Richfield c/o ARCADIS
Suite 600
630 Plaza Drive
Highlands Ranch CO 80129

BEE06

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		ug/l	ug/l	ug/l	
10335	Benzene	71-43-2	N.D.	0.50	1.0	1
10335	Ethylbenzene	100-41-4	N.D.	0.50	1.0	1
10335	Toluene	108-88-3	N.D.	0.50	1.0	1
10335	Xylene (Total)	1330-20-7	N.D.	0.50	1.0	1
GC Volatiles	**ECY 97-602 NWTPH-Gx**		ug/l	ug/l	ug/l	
08273	NWTPH-Gx water C7-C12	n.a.	N.D.	50	250	1
Metals	**SW-846 6010B**		ug/l	ug/l	ug/l	
07055	Lead	7439-92-1	N.D.	4.7	15.0	1

General Sample Comments

State of Washington Lab Certification No. C457

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	VOCs 8260 BTEX	SW-846 8260B	1	T142191AA	08/07/2014 15:10	Sarah A Guill	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	T142191AA	08/07/2014 15:10	Sarah A Guill	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	14219A53A	08/07/2014 17:59	Marie D Beamenderfer	1
01146	GC VOA Water Prep	SW-846 5030B	1	14219A53A	08/07/2014 17:59	Marie D Beamenderfer	1
07055	Lead	SW-846 6010B	1	142191848002	08/09/2014 00:56	Elaine F Stoltzfus	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	142191848002	08/07/2014 22:00	Annamaria Kuhns	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-6-07312014 Filtered Water
WA-0217
13131 Bothell-Everett Highway - Everett, WA

LL Sample # WW 7556048
LL Group # 1494052
Account # 13255

Project Name: WA-0217

Collected: 07/31/2014 11:44 by CP

Submitted: 08/06/2014 09:45
Reported: 08/12/2014 18:28

Atlantic Richfield c/o ARCADIS
Suite 600
630 Plaza Drive
Highlands Ranch CO 80129

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved	**SW-846 6010B**		**ug/l**	**ug/l**	**ug/l**	
07055	Lead	7439-92-1	N.D.	4.7	15.0	1

General Sample Comments

State of Washington Lab Certification No. C457
This sample was field filtered for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07055	Lead	SW-846 6010B	1	142191848002	08/09/2014 01:00	Elaine F Stoltzfus	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	142191848002	08/07/2014 22:00	Annamaria Kuhns	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-11-07312014 Water
WA-0217
13131 Bothell-Everett Highway - Everett, WA

LL Sample # WW 7556049
LL Group # 1494052
Account # 13255

Project Name: WA-0217

Collected: 07/31/2014 12:25 by CP

Submitted: 08/06/2014 09:45
Reported: 08/12/2014 18:28

Atlantic Richfield c/o ARCADIS
Suite 600
630 Plaza Drive
Highlands Ranch CO 80129

BEE11

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		ug/l	ug/l	ug/l	
10335	Benzene	71-43-2	460	5.0	10	10
10335	Ethylbenzene	100-41-4	100	0.50	1.0	1
10335	Toluene	108-88-3	5.6	0.50	1.0	1
10335	Xylene (Total)	1330-20-7	21	0.50	1.0	1
GC Volatiles	**ECY 97-602 NWTPH-Gx**		ug/l	ug/l	ug/l	
08273	NWTPH-Gx water C7-C12	n.a.	4,200	50	250	1
Metals	**SW-846 6010B**		ug/l	ug/l	ug/l	
07055	Lead	7439-92-1	N.D.	4.7	15.0	1

General Sample Comments

State of Washington Lab Certification No. C457

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	VOCs 8260 BTEX	SW-846 8260B	1	T142191AA	08/07/2014 15:34	Sarah A Guill	1
10335	VOCs 8260 BTEX	SW-846 8260B	1	T142191AA	08/07/2014 15:57	Sarah A Guill	10
01163	GC/MS VOA Water Prep	SW-846 5030B	1	T142191AA	08/07/2014 15:34	Sarah A Guill	1
01163	GC/MS VOA Water Prep	SW-846 5030B	2	T142191AA	08/07/2014 15:57	Sarah A Guill	10
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	14219A53A	08/07/2014 18:26	Marie D Beamenderfer	1
01146	GC VOA Water Prep	SW-846 5030B	1	14219A53A	08/07/2014 18:26	Marie D Beamenderfer	1
07055	Lead	SW-846 6010B	1	142191848002	08/09/2014 01:03	Elaine F Stoltzfus	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	142191848002	08/07/2014 22:00	Annamaria Kuhns	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-11-07312014 Filtered Water
WA-0217
13131 Bothell-Everett Highway - Everett, WA

LL Sample # WW 7556050
LL Group # 1494052
Account # 13255

Project Name: WA-0217

Collected: 07/31/2014 12:25 by CP

Submitted: 08/06/2014 09:45
Reported: 08/12/2014 18:28

Atlantic Richfield c/o ARCADIS
Suite 600
630 Plaza Drive
Highlands Ranch CO 80129

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved	**SW-846 6010B**		ug/l	ug/l	ug/l	
07055	Lead	7439-92-1	N.D.	4.7	15.0	1

General Sample Comments

State of Washington Lab Certification No. C457
This sample was field filtered for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07055	Lead	SW-846 6010B	1	142191848002	08/09/2014 01:07	Elaine F Stoltzfus	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	142191848002	08/07/2014 22:00	Annamaria Kuhns	1

*=This limit was used in the evaluation of the final result

Sample Description: IW-1-07312014 Water
WA-0217
13131 Bothell-Everett Highway - Everett, WA

LL Sample # WW 7556051
LL Group # 1494052
Account # 13255

Project Name: WA-0217

Collected: 07/31/2014 09:20 by CP

Submitted: 08/06/2014 09:45
Reported: 08/12/2014 18:28

Atlantic Richfield c/o ARCADIS
Suite 600
630 Plaza Drive
Highlands Ranch CO 80129

BEEI1

CAT No.	Analysis Name	CAS Number	As Received Result		As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**		**ug/l**	**ug/l**	
10335	Benzene	71-43-2	0.74	J	0.50	1.0	1
10335	Ethylbenzene	100-41-4	63		0.50	1.0	1
10335	Toluene	108-88-3	0.52	J	0.50	1.0	1
10335	Xylene (Total)	1330-20-7	54		0.50	1.0	1
GC Volatiles	**ECY 97-602 NWTPH-Gx**		**ug/l**		**ug/l**	**ug/l**	
08273	NWTPH-Gx water C7-C12	n.a.	2,200		50	250	1
Metals	**SW-846 6010B**		**ug/l**		**ug/l**	**ug/l**	
07055	Lead	7439-92-1	N.D.		4.7	15.0	1

General Sample Comments

State of Washington Lab Certification No. C457

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	VOCs 8260 BTEX	SW-846 8260B	1	T142191AA	08/07/2014 16:21	Sarah A Guill	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	T142191AA	08/07/2014 16:21	Sarah A Guill	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	14219A53A	08/07/2014 18:53	Marie D Beamenderfer	1
01146	GC VOA Water Prep	SW-846 5030B	1	14219A53A	08/07/2014 18:53	Marie D Beamenderfer	1
07055	Lead	SW-846 6010B	1	142191848002	08/09/2014 01:11	Elaine F Stoltzfus	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	142191848002	08/07/2014 22:00	Annamaria Kuhns	1

*=This limit was used in the evaluation of the final result

Sample Description: IW-1-07312014 Filtered Water
WA-0217
13131 Bothell-Everett Highway - Everett, WA

LL Sample # WW 7556052
LL Group # 1494052
Account # 13255

Project Name: WA-0217

Collected: 07/31/2014 09:20 by CP

Submitted: 08/06/2014 09:45
Reported: 08/12/2014 18:28

Atlantic Richfield c/o ARCADIS
Suite 600
630 Plaza Drive
Highlands Ranch CO 80129

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved	**SW-846 6010B**		**ug/l**	**ug/l**	**ug/l**	
07055	Lead	7439-92-1	N.D.	4.7	15.0	1

General Sample Comments

State of Washington Lab Certification No. C457
This sample was field filtered for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07055	Lead	SW-846 6010B	1	142191848002	08/09/2014 01:15	Elaine F Stoltzfus	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	142191848002	08/07/2014 22:00	Annamaria Kuhns	1

*=This limit was used in the evaluation of the final result

Sample Description: IW-3-07312014 Water
WA-0217
13131 Bothell-Everett Highway - Everett, WA

LL Sample # WW 7556053
LL Group # 1494052
Account # 13255

Project Name: WA-0217

Collected: 07/31/2014 10:10 by CP

Submitted: 08/06/2014 09:45
Reported: 08/12/2014 18:28

Atlantic Richfield c/o ARCADIS
Suite 600
630 Plaza Drive
Highlands Ranch CO 80129

BEEI3

CAT No.	Analysis Name	CAS Number	As Received Result		As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**		**ug/l**	**ug/l**	
10335	Benzene	71-43-2	0.58	J	0.50	1.0	1
10335	Ethylbenzene	100-41-4	150		0.50	1.0	1
10335	Toluene	108-88-3	0.62	J	0.50	1.0	1
10335	Xylene (Total)	1330-20-7	110		0.50	1.0	1
GC Volatiles	**ECY 97-602 NWTPH-Gx**		**ug/l**		**ug/l**	**ug/l**	
08273	NWTPH-Gx water C7-C12	n.a.	2,300		50	250	1
Metals	**SW-846 6010B**		**ug/l**		**ug/l**	**ug/l**	
07055	Lead	7439-92-1	N.D.		4.7	15.0	1

General Sample Comments

State of Washington Lab Certification No. C457

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	VOCs 8260 BTEX	SW-846 8260B	1	T142191AA	08/07/2014 16:44	Sarah A Guill	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	T142191AA	08/07/2014 16:44	Sarah A Guill	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	14219A53A	08/07/2014 19:20	Marie D Beamenderfer	1
01146	GC VOA Water Prep	SW-846 5030B	1	14219A53A	08/07/2014 19:20	Marie D Beamenderfer	1
07055	Lead	SW-846 6010B	1	142191848002	08/09/2014 00:16	Elaine F Stoltzfus	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	142191848002	08/07/2014 22:00	Annamaria Kuhns	1

*=This limit was used in the evaluation of the final result

Sample Description: IW-3-07312014 Filtered Water
WA-0217
13131 Bothell-Everett Highway - Everett, WA

LL Sample # WW 7556054
LL Group # 1494052
Account # 13255

Project Name: WA-0217

Collected: 07/31/2014 10:10 by CP

Submitted: 08/06/2014 09:45
Reported: 08/12/2014 18:28

Atlantic Richfield c/o ARCADIS
Suite 600
630 Plaza Drive
Highlands Ranch CO 80129

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved	**SW-846 6010B**		**ug/l**	**ug/l**	**ug/l**	
07055	Lead	7439-92-1	N.D.	4.7	15.0	1

General Sample Comments

State of Washington Lab Certification No. C457
This sample was field filtered for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07055	Lead	SW-846 6010B	1	142191848002	08/09/2014 01:18	Elaine F Stoltzfus	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	142191848002	08/07/2014 22:00	Annamaria Kuhns	1

*=This limit was used in the evaluation of the final result

Sample Description: BD-217-07312014 Water
WA-0217
13131 Bothell-Everett Highway - Everett, WA

LL Sample # WW 7556055
LL Group # 1494052
Account # 13255

Project Name: WA-0217

Collected: 07/31/2014 by CP

Submitted: 08/06/2014 09:45
Reported: 08/12/2014 18:28

Atlantic Richfield c/o ARCADIS
Suite 600
630 Plaza Drive
Highlands Ranch CO 80129

BEEFD

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	**ug/l**	
10335	Benzene	71-43-2	0.63 J	0.50	1.0	1
10335	Ethylbenzene	100-41-4	63	0.50	1.0	1
10335	Toluene	108-88-3	N.D.	0.50	1.0	1
10335	Xylene (Total)	1330-20-7	52	0.50	1.0	1
GC Volatiles	**ECY 97-602 NWTPH-Gx**		**ug/l**	**ug/l**	**ug/l**	
08273	NWTPH-Gx water C7-C12	n.a.	2,100	50	250	1
Metals	**SW-846 6010B**		**ug/l**	**ug/l**	**ug/l**	
07055	Lead	7439-92-1	N.D.	4.7	15.0	1

General Sample Comments

State of Washington Lab Certification No. C457

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	VOCs 8260 BTEX	SW-846 8260B	1	T142191AA	08/07/2014 17:08	Sarah A Guill	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	T142191AA	08/07/2014 17:08	Sarah A Guill	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	14219A53A	08/07/2014 19:47	Marie D Beamenderfer	1
01146	GC VOA Water Prep	SW-846 5030B	1	14219A53A	08/07/2014 19:47	Marie D Beamenderfer	1
07055	Lead	SW-846 6010B	1	142191848002	08/09/2014 01:22	Elaine F Stoltzfus	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	142191848002	08/07/2014 22:00	Annamaria Kuhns	1

*=This limit was used in the evaluation of the final result

Sample Description: BD-217-07312014 Filtered Water
WA-0217
13131 Bothell-Everett Highway - Everett, WA

LL Sample # WW 7556056
LL Group # 1494052
Account # 13255

Project Name: WA-0217

Collected: 07/31/2014 by CP

Submitted: 08/06/2014 09:45
Reported: 08/12/2014 18:28

Atlantic Richfield c/o ARCADIS
Suite 600
630 Plaza Drive
Highlands Ranch CO 80129

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved	**SW-846 6010B**		ug/l	ug/l	ug/l	
07055	Lead	7439-92-1	N.D.	4.7	15.0	1

General Sample Comments

State of Washington Lab Certification No. C457
This sample was field filtered for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07055	Lead	SW-846 6010B	1	142191848002	08/09/2014 01:26	Elaine F Stoltzfus	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	142191848002	08/07/2014 22:00	Annamaria Kuhns	1

*=This limit was used in the evaluation of the final result

Sample Description: TB-217-07312014 Water
WA-0217
13131 Bothell-Everett Highway - Everett, WA

LL Sample # WW 7556057
LL Group # 1494052
Account # 13255

Project Name: WA-0217

Collected: 07/31/2014 07:50

Submitted: 08/06/2014 09:45
Reported: 08/12/2014 18:28

Atlantic Richfield c/o ARCADIS
Suite 600
630 Plaza Drive
Highlands Ranch CO 80129

BEETB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		ug/l	ug/l	ug/l	
10335	Benzene	71-43-2	N.D.	0.50	1.0	1
10335	Ethylbenzene	100-41-4	N.D.	0.50	1.0	1
10335	Toluene	108-88-3	N.D.	0.50	1.0	1
10335	Xylene (Total)	1330-20-7	N.D.	0.50	1.0	1
GC Volatiles	**ECY 97-602 NWTPH-Gx**		ug/l	ug/l	ug/l	
08273	NWTPH-Gx water C7-C12	n.a.	N.D.	50	250	1

General Sample Comments

State of Washington Lab Certification No. C457

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	VOCs 8260 BTEX	SW-846 8260B	1	T142191AA	08/07/2014 10:52	Sarah A Guill	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	T142191AA	08/07/2014 10:52	Sarah A Guill	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	14219A53A	08/07/2014 13:04	Marie D Beamenderfer	1
01146	GC VOA Water Prep	SW-846 5030B	1	14219A53A	08/07/2014 13:04	Marie D Beamenderfer	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: Atlantic Richfield c/o ARCADIS Group Number: 1494052
Reported: 08/12/14 at 06:28 PM

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL**	Blank LOQ	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: T142191AA	Sample number(s): 7556045,7556047,7556049,7556051,7556053,7556055,7556057								
Benzene	N.D.	0.50	1.0	ug/l	111	115	78-120	3	30
Ethylbenzene	N.D.	0.50	1.0	ug/l	87	91	79-120	5	30
Toluene	N.D.	0.50	1.0	ug/l	93	95	80-120	2	30
Xylene (Total)	N.D.	0.50	1.0	ug/l	99	100	80-120	1	30
Batch number: 14219A53A	Sample number(s): 7556045,7556047,7556049,7556051,7556053,7556055,7556057								
NWTPH-Gx water C7-C12	N.D.	50.	250	ug/l	103	102	75-135	1	30
Batch number: 142191848002	Sample number(s): 7556045-7556056								
Lead	N.D.	4.7	15.0	ug/l	105		88-116		

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: 142191848002	Sample number(s): 7556045-7556056 UNSPK: 7556053 BKG: 7556053								
Lead	102	102	75-125	0	20	N.D.	N.D.	0 (1)	20

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: PPL + Xylene (total) by 8260
Batch number: T142191AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
7556045	106	111	89	87
7556047	109	115*	90	87
7556049	106	105	90	90
7556051	104	109	89	92
7556053	105	104	90	92
7556055	104	105	89	92
7556057	106	111	89	87

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Atlantic Richfield c/o ARCADIS Group Number: 1494052
Reported: 08/12/14 at 06:28 PM

Surrogate Quality Control

Blank	109	111	88	87
LCS	105	107	91	89
LCSD	105	107	93	91
Limits:	80-116	77-113	80-113	78-113

Analysis Name: NWTPH-Gx water C7-C12
Batch number: 14219A53A

	Trifluorotoluene-F
7556045	78
7556047	71
7556049	114
7556051	83
7556053	76
7556055	82
7556057	72
Blank	75
LCS	80
LCSD	80
Limits:	63-135

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

acct#13255 Gp#1494052 sample# 7556045-57

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A — Required Client Information:

Company:	ARCADIS
Address:	1100 Olive Way Suite 800
	Seattle, WA 98101
Email To:	Samuel.Miles@arcadis-us.com
Phone:	206-726-4720 Fax: 206-325-8218
Requested Due Date/TAT:	10 Day (Default)

Section B — Required Project Information:

Report To:	Samuel Miles
Copy To:	Richard Rodriguez
	Rory Henneck
Purchase Order No.	
Client Project ID:	ARCO 217
Project Number:	GP09BPNA.WA01

Section C — Invoice Information:

Attention:	Richard Rodriguez
Company Name:	ARCADIS
Address:	1100 Olive Way Suite 800, Seattle, WA
Project Manager:	Natalie Luciano

Regulatory Agency	
Department of Ecology	
State / Location	
WA	

MATRIX: Drinking Water (DW), Water (WT), Waste Water (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Other (OT), TS

ITEM#	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	GRO (NWTPH-Gx)	BTEX (8260B)	Total Pb (EPA 6010)	Dissolved Lead (6010)	Residual Chlorine (Y/N)
1	MW-2-07312014	WT				7/31/14	1105		8			X	X					Y	X	X	Y	X	
2	MW-6-07312014	WT				7/31/14	1144		8			X	X						X	X	X	X	
3	MW-11-07312014	WT				7/31/14	1225		8			X	X						X	X	X	X	
4	IW-1-07312014	WT				7/31/14	0920		8			X	X						X	X	X	X	
5	IW-3-07312014	WT				7/31/14	1010		8			X	X						X	X	X	X	
6	BD-217-07312014	WT				7/31/14	—		8			X	X						X	X	X	X	
7	TB-217-07312014	WT				7/31/14	0750		3				X						X	X			
8																							
9																							
10																							
11																							
12																							

Requested Analysis Filtered (Y/N)

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
	Craig Peter	7/31/14		[illegible] / ELLE	8/5/14	8:00
				[illegible] / ELLE	8/6/14	945

SAMPLE CONDITIONS			
TEMP in C: 2.3 2.9	Received on Ice (Y/N): X	Custody Sealed Cooler (Y/N): X	Samples Intact (Y/N): Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Craig Peter

SIGNATURE of SAMPLER: Craig Peter

DATE Signed: 7/31/14

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Sample Administration Receipt Documentation Log

Doc Log ID: 22740

Group Number(s): 1494052

Client: Arcadis

Delivery and Receipt Information

Delivery Method:	SeaTac	Arrival Timestamp:	08/06/2014 9:45
Number of Packages:	2	Number of Projects:	1
State/Province of Origin:	WA		

Arrival Condition Summary

Shipping Container Sealed:	Yes	Total Trip Blank Qty:	3
Custody Seal Present:	Yes	Trip Blank Type:	HCL
Custody Seal Intact:	Yes	Air Quality Samples Present:	No
Samples Chilled:	Yes	Air Quality Flow Controllers Present:	N/A
Paperwork Enclosed:	Yes	Flow Controller Quantity:	0
Samples Intact:	Yes	Air Quality Returns:	N/A
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		
Sample IDs on COC match Containers:	Yes		
Sample Date/Times match COC:	Yes		
VOA Vial Headspace ≥ 6mm:	Yes		
VOA IDs (≥ 6mm):	1-trip blank		

Unpacked by Brandy Barclay (2299) at 10:33 on 08/06/2014

Samples Chilled Details

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Samples Collected Same Day as Receipt?	Elevated Temp?
1	DT146	2.3	DT	Wet	Y	Bagged	N	N
2	DT146	4.9	DT	Wet	Y	Bagged	N	N

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Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	**BMQL**	Below Minimum Quantitation Level
N.D.	none detected	**MPN**	Most Probable Number
TNTC	Too Numerous To Count	**CP Units**	cobalt-chloroplatinate units
IU	International Units	**NTU**	nephelometric turbidity units
umhos/cm	micromhos/cm	**ng**	nanogram(s)
C	degrees Celsius	**F**	degrees Fahrenheit
meq	milliequivalents	**lb.**	pound(s)
g	gram(s)	**kg**	kilogram(s)
µg	microgram(s)	**mg**	milligram(s)
mL	milliliter(s)	**L**	liter(s)
m3	cubic meter(s)	**µL**	microliter(s)
		pg/L	picogram/liter

< less than - The number following the sign is the limit of quantitation, the smallest amount of analyte which can be reliably determined using this specific test.

> greater than

ppm parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Data Qualifiers:

C – result confirmed by reanalysis.

J - estimated value – The result is ≥ the Method Detection Limit (MDL) and < the Limit of Quantitation (LOQ).

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers		Inorganic Qualifiers	
A	TIC is a possible aldol-condensation product	**B**	Value is <CRDL, but ≥IDL
B	Analyte was also detected in the blank	**E**	Estimated due to interference
C	Pesticide result confirmed by GC/MS	**M**	Duplicate injection precision not met
D	Compound quantitated on a diluted sample	**N**	Spike sample not within control limits
E	Concentration exceeds the calibration range of the instrument	**S**	Method of standard additions (MSA) used for calculation
N	Presumptive evidence of a compound (TICs only)	**U**	Compound was not detected
P	Concentration difference between primary and confirmation columns >25%	**W**	Post digestion spike out of control limits
U	Compound was not detected	*****	Duplicate analysis not within control limits
X,Y,Z	Defined in case narrative	**+**	Correlation coefficient for MSA <0.995

Analytical test results meet all requirements of NELAC unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR part 136 Table II as “analyze immediately” are not performed within 15 minutes.