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Subject:

ARCO Facility No. 00217 (NW2434) - 2016 Annual Site Status Report

ENVIRONMENT

Site Address: 13131 Bothell Everett Hwy, Everett, WA 98208

On behalf of BP West Coast Products, LLC, Arcadis U.S., Inc. is pleased to submit this annual summary of site activities conducted at the Atlantic Richfield Company (ARCO) Facility No. 00217 (site) in 2016. Results and findings from work completed at the site are summarized below and in the attached data tables and figures.

Date:

March 10, 2017

Contact:

Brian Marcum

Phone:

503-785-9406

2016 Groundwater Monitoring Summary

Groundwater Monitoring Schedule: Quarterly

Email:

brian.marcum
@arcadis.com

Sample Methodology:

First Quarter:	Low Flow Purge and Sample
Second Quarter:	Low Flow Purge and Sample
Third Quarter:	Low Flow Purge, 3-well Volume Purge and Sample
Fourth Quarter:	Low Flow Purge and Sample

Our ref:

GP09BPNA.WA01

Notes:

During Q3, monitoring wells MW-7 and MW-12 ran dry while being purged using low flow purge methodologies. Since low flow purge was not possible, 3-well volume purge methods were used prior to sampling.

Non-aqueous Phase Liquid Present at Site: No

**Site Constituents of Concern above Model Toxics Control Act Method A
Cleanup Levels during reporting period:**

- Total Petroleum Hydrocarbons as gasoline range organics: First Quarter (Q1) – MW-11; Second Quarter (Q2) – MW-11; Third Quarter (Q3) – MW-11, MW-2, IW-3; Fourth Quarter (Q4) – MW-11
- Benzene: Q1 – MW-11; Q2 – MW-11; Q3 – MW-11; Q4 – MW-11
- Total Lead: Q2 – MW-12

Notes:

The method detection limit for total lead is above the MTCA Method A CUL for Q1 at MW-11 monitoring well location.

Total lead concentration was above the MTCA Method A CUL for Q2 at MW-12 monitoring well location however dissolved lead concentration was below the MTCA Method A CUL.

Observed Depth to Water per Event:

First Quarter:	3.21 (IW-1) to 6.31 (MW-9) feet below top of casing (btoc) – 2/2/2016
Second Quarter:	4.79 (IW-1) to 7.97 (MW-9) feet btoc – 5/25/2016
Third Quarter:	7.47 (IW-1) to 10.15 (MW-4) feet btoc – 8/23/2016
Fourth Quarter:	3.40 (IW-1) to 6.49 (MW-4) feet btoc – 11/30/2016

Groundwater Elevations and Flow Direction:

<u>Event</u>	<u>Elevation Range</u>	<u>Interpreted Groundwater Flow Direction</u>
First Quarter:	453.09 (MW-9) to 461.78 (MW-4) feet above North American Vertical Datum 1988 (NAVD 88)	West Southwest
Second Quarter:	450.67 (MW-8) to 459.39 (MW-1) feet above NAVD 88	West Southwest
Third Quarter:	448.20 (MW-8) to 456.59 (MW-4) feet above NAVD 88	West Southwest
Fourth Quarter:	453.72 (MW-8) to 460.61 (MW-1) feet above NAVD 88	West Southwest

WA-00217
March 10, 2017

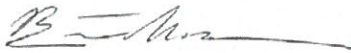
2016 Additional Site Activities

In addition to the activities summarized above, Arcadis conducted one groundwater monitoring well installation and three soil borings at the site. On April 12, 2016, new groundwater monitoring well MW-12 and soil borings SB-1, SB-2, and SB-3 were advanced and installed at the site. Information is provided in Attachment C.

If you have any questions, please contact Brian Marcum at 503-785-9406 or Brian.Marcum@arcadis.com.

Sincerely,

Arcadis U.S., Inc.



Brian Marcum
Project Manager

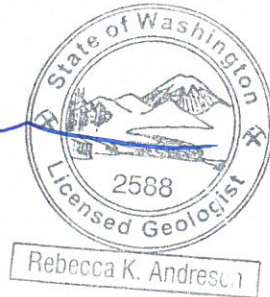
Copies:

Wade Melton, BP West Coast Products LLC



Rebecca Andresen, L.G.

Vice President



Enclosures:

Table

Table 1 Groundwater Gauging Data and Select Analytical Results

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Figure 1 Site Location Map

Figure 2 Groundwater Elevation Contour and Analytical Summary Map
February 2, 2016

Figure 3 Groundwater Elevation Contour and Analytical Summary Map May
5, 2016

Figure 4 Groundwater Elevation Contour and Analytical Summary Map
August 23, 2016

Figure 5 Groundwater Elevation Contour and Analytical Summary Map
November 30, 2016

Figure 6 Historical Groundwater Gradient Direction Rose Diagram

Attachments

Attachment A Groundwater Monitoring Field Data Sheets

Attachment B Laboratory Report and Chain-of-Custody Documentation

Attachment C 2016 Additional Site Activities

TABLE



Table 1
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 (CULs) 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		462.52	4.31	0.0	458.21	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-1	3/19/2015	(LFP)	462.52	3.49	0.0	459.03	<50	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	<4.7	--
IW-1	6/3/2015	(LFP)	462.52	5.43	0.0	457.09	690	--	--	<0.50	<0.50	11	4.6	--	--	--	<4.7	--
IW-1	2/2/2016	(LFP)	462.52	3.21	0.0	459.31	<50	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	<5.1	--
IW-1	5/25/2016	(LFP)	462.52	4.79	0.0	457.73	58(J)	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	<5.1	--
IW-1	8/23/2016	(LFP)	462.52	7.47	0.0	455.05	500	--	--	0.54(J)	<0.50	<0.50	<0.50	--	--	--	<6.2	--
IW-1	11/30/2016	(LFP)	462.52	3.40	0.0	459.12	<50	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	<6.2	--
IW-2	3/19/2015	(NS)	462.80	4.58	0.0	458.22	--	--	--	--	--	--	--	--	--	--	--	--
IW-2	6/3/2015	(NS)	462.80	5.91	0.0	456.89	--	--	--	--	--	--	--	--	--	--	--	--
IW-2	2/2/2016	(NS)	462.80	3.38	0.0	459.42	--	--	--	--	--	--	--	--	--	--	--	--
IW-2	5/25/2016	(NS)	462.80	6.16	0.0	456.64	--	--	--	--	--	--	--	--	--	--	--	--
IW-2	8/23/2016	(NS)	462.80	8.87	0.0	453.93	--	--	--	--	--	--	--	--	--	--	--	--
IW-2	11/30/2016	(NS)	462.80	4.52	0.0	458.28	--	--	--	--	--	--	--	--	--	--	--	--
IW-3	12/12/2012		462.53	4.70	0.0	457.83	<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
IW-3	3/19/2015	(LFP)	462.53	3.55	0.0	458.98	<50	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	<4.7	--
IW-3	6/3/2015	(LFP)	462.53	5.91	0.0	456.62	57(J)	--	--	<0.50	<0.50	1.1	2.5	--	--	--	<4.7	--
IW-3	2/2/2016	(LFP)	462.53	3.32	0.0	459.21	<50	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	<5.1	--
IW-3	5/25/2016	(LFP)	462.53	5.36	0.0	457.17	<50	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	<5.1	--
IW-3	8/23/2016	(LFP)	462.53	8.05	0.0	454.48	1,100	--	--	<0.50	<0.50	73	28	--	--	--	<6.2	--
IW-3	11/30/2016	(LFP)	462.53	3.78	0.0	458.75	<50	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	<6.2	--

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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 (CULs) in µg/L							800/1,000	500	500	5	1,000	700	1,000	20	0.01	5	15	15
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	(NS)	464.68	7.23	0.0	457.45	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	12/5/2011	(LF)	464.68	--	--	--	<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	--
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-1	3/19/2015	(NS)	464.68	4.31	0.0	460.37	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	6/3/2015	(LFP)	464.68	6.02	0.0	458.66	<50	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	<4.7	--
MW-1	2/2/2016	(NS)	464.68	4.18	0.0	460.50	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	5/25/2016	(NS)	464.68	5.29	0.0	459.39	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	8/23/2016	(NS)	464.68	8.14	0.0	456.54	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	11/30/2016	(NS)	464.68	4.07	0.0	460.61	--	--	--	--	--	--	--	--	--	--	--	--

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Model Toxics Control Act (MTCA) Method A Cleanup Levels (CULs) in µg/L							800/1,000	500	500	5	1,000	700	1,000	20	0.01	5	15	15
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)	462.35	5.01	--	457.34	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)	462.35	5.96	--	456.39	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-2	3/19/2015	(LFP)	462.35	4.60	0.0	457.75	190(J)	--	--	0.97(J)	<0.50	3.4	<0.50	--	--	--	<4.7	--
MW-2	3/19/2015	(Dup)(LFP)	462.35	4.60	0.0	457.75	200(J)	--	--	0.91(J)	<0.50	3.2	<0.50	--	--	--	4.9(J)	--
MW-2	6/3/2015	(LFP)	462.35	6.07	0.0	456.28	230(J)	--	--	0.76(J)	<0.50	<0.50	<0.50	--	--	--	<4.7	--
MW-2	6/3/2015	(Dup)(LFP)	462.35	6.07	0.0	456.28	170(J)	--	--	0.77(J)	<0.50	<0.50	<0.50	--	--	--	<4.7	--
MW-2	2/2/2016	(LFP)	462.35	4.49	0.0	457.86	220(J)	--	--	0.69(J)	<0.50	1.1	0.53(J)	--	--	--	<5.1	--
MW-2	5/25/2016	(LFP)	462.35	5.94	0.0	456.41	590	--	--	1.2	<0.50	12	1.6	--	--	--	<5.1	--

Table 1
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 (CULs) in µg/L							800/1,000	500	500	5	1,000	700	1,000	20	0.01	5	15	15
MW-2	8/23/2016	(LFP)	462.35	8.63	0.0	453.72	990	--	--	1.8	<0.50	0.66(J)	<0.50	--	--	--	<6.2	--
MW-2	11/30/2016	(LFP)	462.35	4.42	0.0	457.93	260	--	--	<0.50	<0.50	3.5	<0.50	--	--	--	<6.2	--
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	--
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-4	3/19/2015	(NS)	466.74	5.37	0.0	461.37	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	6/3/2015	(LFP)	466.74	7.43	0.0	459.31	<50	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	<4.7	--
MW-4	2/2/2016	(NS)	466.74	4.96	0.0	461.78	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	5/25/2016	(NS)	466.74	7.44	0.0	459.30	--	--	--	--	--	--	--	--	--	--	--	--

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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 (CULs) in µg/L							800/1,000	500	500	5	1,000	700	1,000	20	0.01	5	15	15
MW-4	8/23/2016	(NS)	466.74	10.15	0.0	456.59	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	11/30/2016	(NS)	466.74	6.49	0.0	460.25	--	--	--	--	--	--	--	--	--	--	--	--
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	(NS)	462.29	6.53	0.0	455.76	--	--	--	--	--	--	--	--	--	--	--	--
MW-6	12/5/2011	(LF)	462.29	--	--	--	<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
MW-6	3/19/2015	(LFP)	462.29	4.71	0.0	457.58	<50	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	<4.7	--
MW-6	6/3/2015	(LFP)	462.29	6.28	0.0	456.01	<50	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	<4.7	--
MW-6	2/2/2016	(LFP)	462.29	4.43	0.0	457.86	<50	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	<5.1	--
MW-6	5/25/2016	(LFP)	462.29	5.96	0.0	456.33	<50	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	<5.1	--
MW-6	8/23/2016	(LFP)	462.29	8.67	0.0	453.62	<50	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	<6.2	--
MW-6	11/30/2016	(LFP)	462.29	4.41	0.0	457.88	<50	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	<6.2	--
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	--	--	--	--	--	--	--	--	--	--	--	--

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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 (CULs) in µg/L							800/1,000	500	500	5	1,000	700	1,000	20	0.01	5	15	15
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-7	3/19/2015	(LFP)	463.37	5.12	0.0	458.25	83(J)	--	--	<0.50	<0.50	<0.50	0.88(J)	--	--	--	6.5(J)	--
MW-7	6/3/2015	(LFP)	463.37	7.57	0.0	455.80	150(J)	--	--	<0.50	<0.50	<0.50	1.3	--	--	--	<4.7	--
MW-7	2/2/2016	(LFP)	463.37	5.48	0.0	457.89	83(J)	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	<5.1	--
MW-7	5/25/2016	(LFP)	463.37	6.91	0.0	456.46	170(J)	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	<5.1	--
MW-7	8/23/2016	(P)	463.37	9.80	0.0	453.57	<50	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--
MW-7	11/30/2016	(LFP)	463.37	5.34	0.0	458.03	<50	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	<6.2	--
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-8	3/19/2015	(NS)	457.91	5.01	0.0	452.90	--	--	--	--	--	--	--	--	--	--	--	--
MW-8	6/3/2015	(LFP)	457.91	5.02	0.0	452.89	<50	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	<4.7	--
MW-8	2/2/2016	(NS)	457.91	4.80	0.0	453.11	--	--	--	--	--	--	--	--	--	--	--	--
MW-8	5/25/2016	(NS)	457.91	7.24	0.0	450.67	--	--	--	--	--	--	--	--	--	--	--	--
MW-8	8/23/2016	(NS)	457.91	9.71	0.0	448.20	--	--	--	--	--	--	--	--	--	--	--	--
MW-8	11/30/2016	(NS)	457.91	4.19	0.0	453.72	--	--	--	--	--	--	--	--	--	--	--	--
MW-9	12/7/2010	(LF)	--	7.67	--	--	<50	--	--	<1.0	<1.0	<1.0	<2.0	<1.0	--	--	8.3	--

Table 1
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 (CULs) in µg/L							800/1,000	500	500	5	1,000	700	1,000	20	0.01	5	15	15
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	(NS)	459.40	7.38	0.0	452.02	--	--	--	--	--	--	--	--	--	--	--	--
MW-9	12/5/2011	(LF)	459.40	--	--	--	<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-9	3/19/2015	(NS)	459.40	6.78	0.0	452.62	--	--	--	--	--	--	--	--	--	--	--	--
MW-9	6/3/2015	(LFP)	459.40	7.44	0.0	451.96	<50	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	11.6(J)	--
MW-9	2/2/2016	(NS)	459.40	6.31	0.0	453.09	--	--	--	--	--	--	--	--	--	--	--	--
MW-9	5/25/2016	(NS)	459.40	7.97	0.0	451.43	--	--	--	--	--	--	--	--	--	--	--	--
MW-9	8/23/2016	(NS)	459.40	9.97	0.0	449.43	--	--	--	--	--	--	--	--	--	--	--	--
MW-9	11/30/2016	(NS)	459.40	5.02	0.0	454.38	--	--	--	--	--	--	--	--	--	--	--	--
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	--
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	(NS)	459.28	7.00	0.0	452.28	--	--	--	--	--	--	--	--	--	--	--	--
MW-10	12/5/2011	(LF)	459.28	--	--	--	<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-10	3/19/2015	(NS)	459.28	6.48	0.0	452.80	--	--	--	--	--	--	--	--	--	--	--	--
MW-10	6/3/2015	(LFP)	459.28	5.49	0.0	453.79	<50	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	<4.7	--

Table 1
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 (CULs) in µg/L							800/1,000	500	500	5	1,000	700	1,000	20	0.01	5	15	15
MW-10	2/2/2016	(NS)	459.28	4.77	0.0	454.51	--	--	--	--	--	--	--	--	--	--	--	--
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
MW-11	3/19/2015	(LFP)	463.80	5.46	0.0	458.34	4,400	--	--	450	21	360	390	--	--	--	6.4(J)	--
MW-11	6/3/2015	(LFP)	463.80	7.63	0.0	456.17	5,100	--	--	400	6.9	230	220	--	--	--	<4.7	--
MW-11	2/2/2016	(LFP)	463.80	5.60	0.0	458.20	2,900	--	--	70	1.9	22	4.3	--	--	--	<25.5	--
MW-11	2/2/2016	(Dup)(LFP)	463.80	5.60	0.0	458.20	3,200	--	--	69	1.9	21	4.2	--	--	--	<5.1	--
MW-11	5/25/2016	(LFP)	463.80	7.20	0.0	456.60	4,300	--	--	58	7.2	32	22	--	--	--	<5.1	--
MW-11	5/25/2016	(Dup)(LFP)	463.80	7.20	0.0	456.60	4,200	--	--	62	7.1	33	22	--	--	--	--	--
MW-11	8/23/2016	(LFP)	463.80	9.98	0.0	453.82	5,000	--	--	140	3.9	23	9.2	--	--	--	<6.2	--
MW-11	8/23/2016	(Dup)(LFP)	463.80	9.98	0.0	453.82	5,000	--	--	140	3.8	23	9.3	--	--	--	--	--
MW-11	11/30/2016	(LFP)	463.80	5.61	0.0	458.19	3,800	--	--	130	2.4	66	12	--	--	--	<6.2	--
MW-11	11/30/2016	(Dup)(LFP)	463.80	5.61	0.0	458.19	3,800	--	--	130	2.5	68	12	--	--	--	--	--
MW-12	5/25/2016	(LFP)	462.93	6.69	0.0	456.24	190(J)	--	--	0.62(J)	<0.50	1.4	0.68(J)	--	--	--	38.7	<5.1
MW-12	8/23/2016	(P)	462.93	9.59	0.0	453.34	180(J)	--	--	1.5	<0.50	1.9	1.4	--	--	--	8.4(J)	--
MW-12	11/30/2016	(LFP)	462.93	5.25	0.0	457.68	<50	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	9.3(J)	--

TOC = Top of casing in feet North American Vertical Datum of 1988 (NAVD 88)

DTW = Depth to water in feet below TOC

NAPL = Non-aqueous phase liquid thickness in feet

GWE = Groundwater elevation in feet NAVD 88

GRO = Total petroleum hydrocarbons - gasoline range organics

DRO = Total petroleum hydrocarbons - diesel range organics

HO = Total petroleum hydrocarbons - heavy oil range organics

MTBE = Methyl tertiary butyl ether

EDB = Ethylene dibromide

EDC = 1,2-Dichloroethane

800/1,000 = GRO MTCA Method A CUL with benzene present is 800 µg/L and without is 1,000 µg/L

-- = Not analyzed/not applicable

< = Analytical result is less than reporting limit shown

NS = Not sampled

LF/LFP = Low flow (purge) sample

DUP = Duplicate sample

J = estimated value – The result is greater than or equal to the Method Detection Limit (MDL) and less than the Limit of Quantitation (LOQ)

P = Purge sample

NP = No purge sample

a = Drawdown greater than 3 feet observed during sampling.

Wells were resurveyed in 2010 and are referenced to vertical datum NAVD 88 and horizontal datum NAD 83/98

If NAPL is present, the GWE is corrected according to the following formula (TOC elevation - depth to water) + (0.8 x NAPL thickness)

Table 1
Groundwater Gauging Data and Select Analytical Results
WA-00217 (05377)

13131 Bothell Everett Hwy, Everett, WA 98208

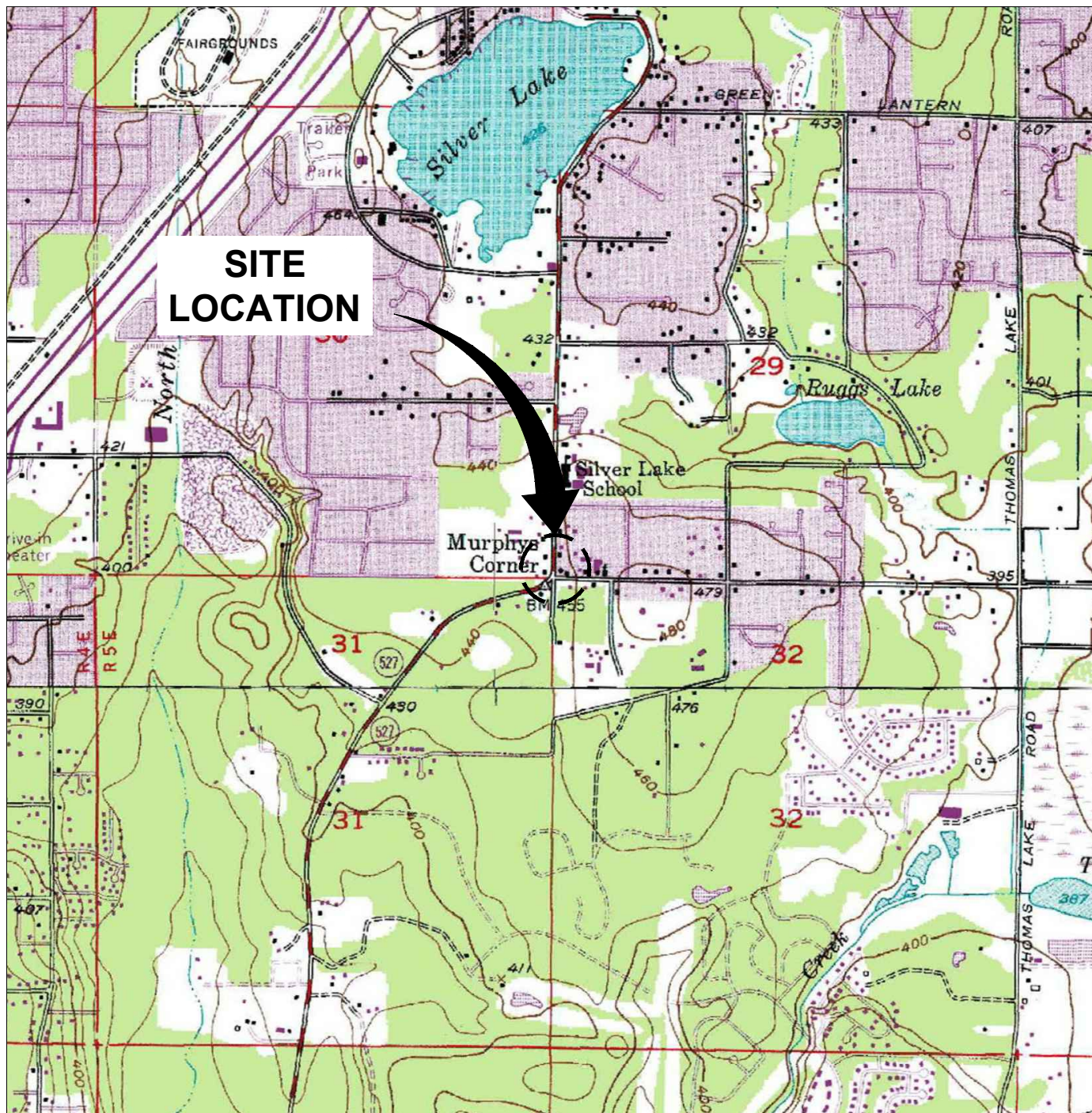
All analytical results are presented in micrograms per liter (µg/L)

Data collected prior to 2010 have been provided by previous consultants and are included as historical reference only
GRO, DRO, HO analyzed by Ecology Northwest Methods; Benzene, toluene, ethylbenzene, and total xylenes (BTEX), MTBE, and EDB by 8260B; Lead by U.S. Environmental Protection Agency (EPA) 6000/7000 Series; EDC by EPA 8011

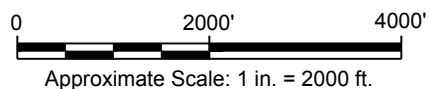
BOLD constituent detected above MTCA Cleanup Levels

FIGURES



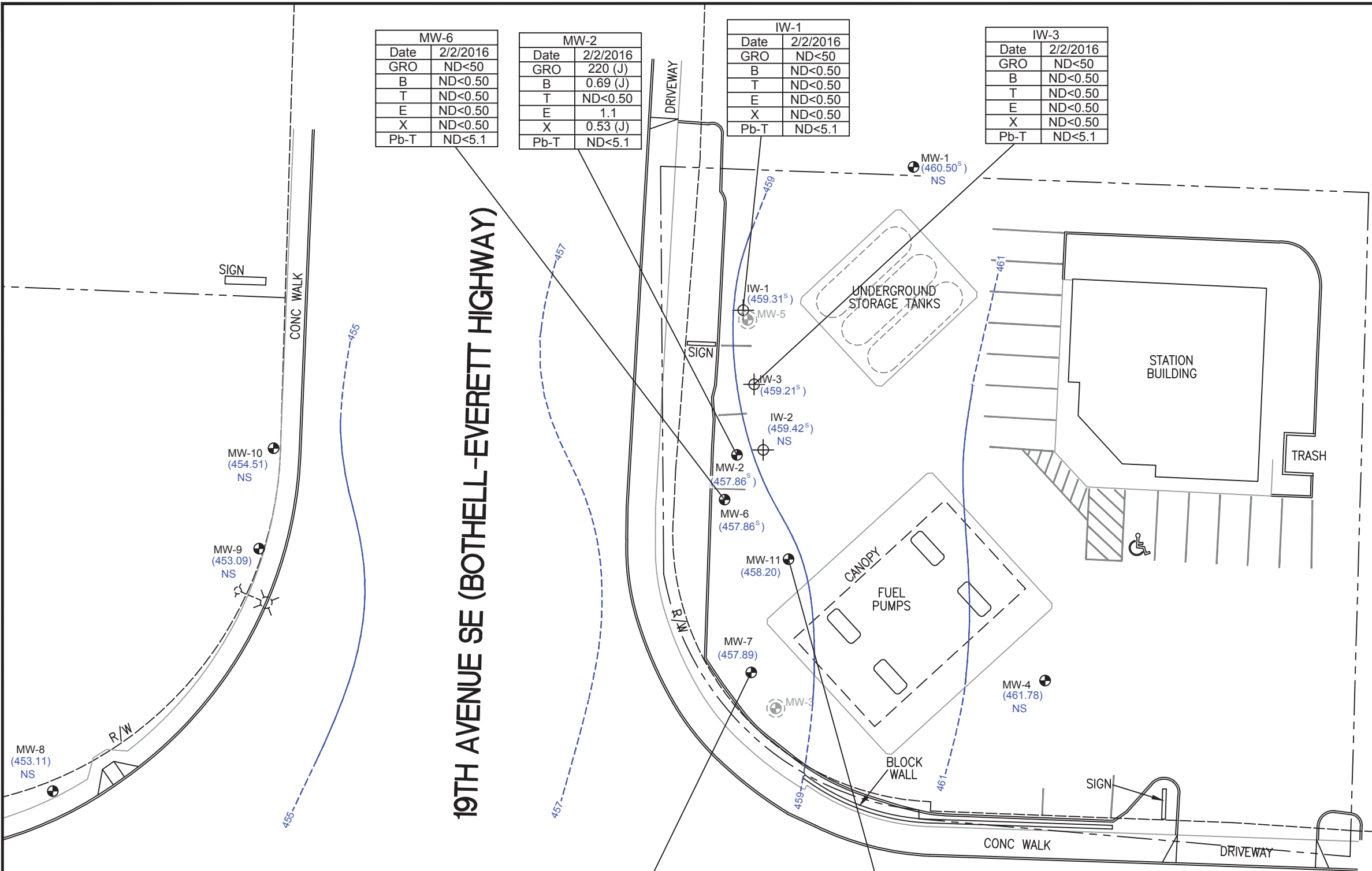


REFERENCE: BASE MAP USGS 7.5. MIN. TOPO. QUAD., EVERETT AND BOTHELL, WA, 1991.



BP WEST COAST PRODUCTS, LLC.
ARCO STATION NO. 00217 (5377)
13131 BOTHELL EVERETT HIGHWAY, EVERETT, WASHINGTON
2016 ANNUAL SITE STATUS REPORT

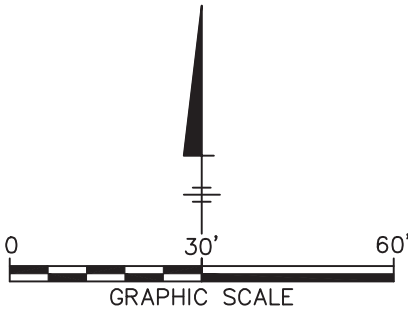
SITE LOCATION MAP



SAMPLE ID	
Date	Sample Collection Date
GRO	Total Petroleum Hydrocarbons - 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)]

BOLD CONSTITUENT DETECTED ABOVE MODEL TOXICS CONTROL ACT METHOD A CLEANUP LEVELS

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



BP WEST COAST PRODUCTS LLC.
FORMER ARCO STATION NO. 00217 (5377)
13131 BOTHELL EVERETT HIGHWAY, EVERETT, WASHINGTON
2016 ANNUAL SITE STATUS REPORT

**GROUNDWATER ELEVATION CONTOUR
AND ANALYTICAL SUMMARY MAP
FEBRUARY 2, 2016**

CITY: (Rev'd) DIV: (GROUP: (Rev'd) DB: (Rev'd) LD: (Opt) PIC: (Opt) PM: (Rev'd) TM: (Opt) LYR: (Opt) ON: "OFF" = "REF" C:\Users\slm0022\Desktop\WA00217\previous quarters\06-01-2017\WA-217 (5377) 02 2016-FIGURE 3.dwg LAYOUT: 3 SAVED: 2/22/2017 4:30 PM ACADVER: 19.1S (LMS TECH) PAGES: 19 PLOT: 2/22/2017 4:37 PM BY: SUMA MUDUGERE

MW-6	
Date	5/25/2016
GRO	ND<50
B	ND<0.50
T	ND<0.50
E	ND<0.50
X	ND<0.50
Pb-T	ND<5.1
Pb-D	NA

MW-2	
Date	5/25/2016
GRO	590
B	1.2
T	ND<0.50
E	12
X	1.6
Pb-T	ND<5.1
Pb-D	NA

IW-1	
Date	5/25/2016
GRO	58 (J)
B	ND<0.50
T	ND<0.50
E	ND<0.50
X	ND<0.50
Pb-T	ND<5.1
Pb-D	NA

IW-3	
Date	5/25/2016
GRO	ND<50
B	ND<0.50
T	ND<0.50
E	ND<0.50
X	ND<0.50
Pb-T	ND<5.1
Pb-D	NA

- LEGEND:
- APPROXIMATE PROPERTY BOUNDARY
 - MW-2 GROUNDWATER MONITORING WELL LOCATION
 - MW-3 ABANDONED GROUNDWATER MONITORING WELL LOCATION
 - IW-1 INJECTION WELL LOCATION
 - NAVD 88 NORTH AMERICAN VERTICAL DATUM 1988
 - 458 GROUNDWATER ELEVATION CONTOUR DASHED WHERE INFERRED (FEET ABOVE NAVD 88)
 - NG NOT GAUGED
 - NS NOT SAMPLED
 - NA NOT ANALYZED
 - ND < NOT DETECTED, VALUE SHOWN IS THE DETECTION LIMIT
 - (459.39) GROUNDWATER ELEVATION (FEET ABOVE NAVD 88)
 - µg/L MICROGRAMS PER LITER
 - (J) ESTIMATED VALUE, THE RESULT IS GREATER THAN OR EQUAL TO THE METHOD DETECTION LIMIT AND LESS THAN THE LIMIT OF QUANTITATION

SAMPLE ID	
Date	Sample Collection Date
GRO	Total Petroleum Hydrocarbons - 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)]

BOLD CONSTITUENT DETECTED ABOVE MODEL TOXICS CONTROL ACT METHOD A CLEANUP LEVELS

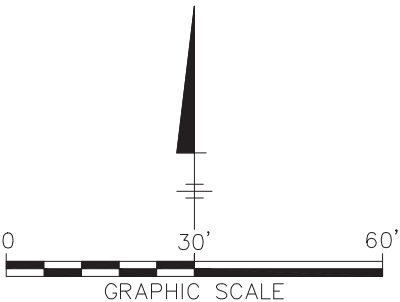
NOTE:
1. THIS MAP WAS PREPARED FROM A FIELD SURVEY PERFORMED BY OTAK IN 2010 AND UPDATED IN 2014 AND 2016.

BP WEST COAST PRODUCTS LLC.
ARCO STATION NO. 00217 (5377)
13131 BOTHELL EVERETT HIGHWAY, EVERETT, WASHINGTON
2016 ANNUAL SITE STATUS REPORT

**GROUNDWATER ELEVATION CONTOUR
AND ANALYTICAL SUMMARY MAP
MAY 25, 2016**



FIGURE
3



MW-12	
Date	5/25/2016
GRO	190 (J)
B	0.62 (J)
T	ND<0.50
E	1.4
X	0.68 (J)
Pb-T	38.7
Pb-D	ND<5.1

MW-7	
Date	5/25/2016
GRO	170 (J)
B	ND<0.50
T	ND<0.50
E	ND<0.50
X	ND<0.50
Pb-T	ND<5.1
Pb-D	NA

MW-11	
Date	5/25/2016
GRO	4,300 / [4,200]
B	58 / [62]
T	7.2 / [7.1]
E	32 / [33]
X	22 / [22]
Pb-T	ND<5.1 / [NA]
Pb-D	NA / [NA]

CITY\\Read - DIV\\GROUP\\Read - DB\\Read - LD\\Opt - PIC\\Opt - PM\\Read - TM\\Opt - Lyr\\Opt\\N+OFF+REF - C:\\Users\\siml00822\\Desktop\\PROJECT\\13131\\WA00217\\06-01-2017\\WA-217 (5377) Q3 2016\\FIGURE-2.dwg LAYOUT: 3 - SAVED: 1/6/2017 3:53 PM ACADVER: 19.15 (LMS TECH) PAGES: 3 PLOT: 1/6/2017 3:54 PM BY: SUMA MUDDIGERE

MW-6	
Date	8/23/2016
GRO	ND<50
B	ND<0.50
T	ND<0.50
E	ND<0.50
X	ND<0.50
Pb-T	ND<6.2

MW-2	
Date	8/23/2016
GRO	990
B	1.8
T	ND<0.50
E	0.66(J)
X	ND<0.50
Pb-T	ND<6.2

IW-1	
Date	8/23/2016
GRO	500
B	0.54(J)
T	ND<0.50
E	ND<0.50
X	ND<0.50
Pb-T	ND<6.2

IW-3	
Date	8/23/2016
GRO	1,100
B	ND<0.50
T	ND<0.50
E	73
X	28
Pb-T	ND<6.2

MW-12	
Date	8/23/2016
GRO	180(J)
B	1.5
T	ND<0.50
E	1.9
X	1.4
Pb-T	8.4(J)

MW-11	
Date	8/23/2016
GRO	5,000 / [5,000]
B	140 / [140]
T	3.9 / [3.8]
E	23 / [23]
X	9.2 / [9.3]
Pb-T	ND<6.2 / [NA]

MW-7	
Date	8/23/2016
GRO	ND<50
B	ND<0.50
T	ND<0.50
E	ND<0.50
X	ND<0.50
Pb-T	NA

- LEGEND:
- APPROXIMATE PROPERTY BOUNDARY
 - MW-2 GROUNDWATER MONITORING WELL LOCATION
 - MW-3 ABANDONED GROUNDWATER MONITORING WELL LOCATION
 - IW-1 INJECTION WELL LOCATION
 - NAVD 88 NORTH AMERICAN VERTICAL DATUM 1988
 - 456 GROUNDWATER ELEVATION CONTOUR DASHED WHERE INFERRED (FEET ABOVE NAVD 88)
 - NG NOT GAUGED
 - NS NOT SAMPLED
 - NA NOT ANALYZED
 - ND < NOT DETECTED, VALUE SHOWN IS THE DETECTION LIMIT
 - (456.59) GROUNDWATER ELEVATION (FEET ABOVE NAVD 88)
 - µg/L MICROGRAMS PER LITER
 - (J) ESTIMATED VALUE, THE RESULT IS GREATER THAN OR EQUAL TO THE METHOD DETECTION LIMIT AND LESS THAN THE LIMIT OF QUANTITATION

SAMPLE ID	
Date	Sample Collection Date
GRO	Total Petroleum Hydrocarbons - 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)]

BOLD CONSTITUENT DETECTED ABOVE MODEL TOXICS CONTROL ACT METHOD A CLEANUP LEVELS

NOTE:
1. THIS MAP WAS PREPARED FROM A FIELD SURVEY PERFORMED BY OTAK IN 2010 AND UPDATED IN 2014 AND 2016.

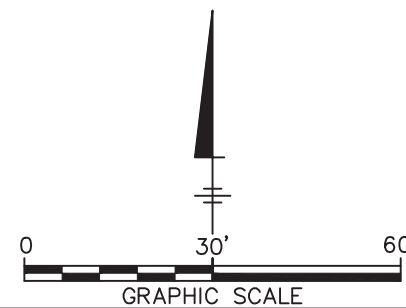
BP WEST COAST PRODUCTS LLC.
ARCO STATION NO. 00217 (5377)
13131 BOTHELL EVERETT HIGHWAY, EVERETT, WASHINGTON
2016 ANNUAL SITE STATUS REPORT

GROUNDWATER ELEVATION CONTOUR AND ANALYTICAL SUMMARY MAP AUGUST 23, 2016



FIGURE

4



CITY:(Reqd) DIV/GROUP:(Reqd) DB:(Reqd) LD:(Opt) PIC:(Opt) PM:(Reqd) TM:(Opt) L.YR:(Opt)ON="OFF="REF" \\hc-uk-bf-bf-10\BL_Proj\Environment - Arcadis\ARCADIS USA PROJECTS\BP FoxgloveBP Washington\WA-002172016 SSR\E-Drawings\WA-217 CAD\O edit\WA-217 (6377) Q4 2016-FIGURE-2.dwg LAYOUT: 3 SAVED: 2/16/2017 9:49 AM ACADVER: 19.1s (LMS TECH) PAGES: 1 OF 1 PLOTSTYLETABLE: ARCADIS.CTB PLOTTED: 2/16/2017 9:50 AM BY: SUMA MUDUGERE

MW-6	
Date	11/30/2016
GRO	ND<50
B	ND<0.50
T	ND<0.50
E	ND<0.50
X	ND<0.50
Pb-T	ND<6.2

MW-2	
Date	11/30/2016
GRO	260
B	ND<0.50
T	ND<0.50
E	3.5
X	ND<0.50
Pb-T	ND<6.2

IW-1	
Date	11/30/2016
GRO	ND<50
B	ND<0.50
T	ND<0.50
E	ND<0.50
X	ND<0.50
Pb-T	ND<6.2

IW-3	
Date	11/30/2016
GRO	ND<50
B	ND<0.50
T	ND<0.50
E	ND<0.50
X	ND<0.50
Pb-T	ND<6.2

MW-12	
Date	11/30/2016
GRO	ND<50
B	ND<0.50
T	ND<0.50
E	ND<0.50
X	ND<0.50
Pb-T	9.3(J)

MW-11	
Date	11/30/2016
GRO	3,800 / [3,800]
B	130 / [130]
T	2.4 / [2.5]
E	66 / [68]
X	12 / [12]
Pb-T	ND<6.2 / [NA]

MW-7	
Date	11/30/2016
GRO	ND<50
B	ND<0.50
T	ND<0.50
E	ND<0.50
X	ND<0.50
Pb-T	ND<6.2

- LEGEND:
- APPROXIMATE PROPERTY BOUNDARY
 - MW-2 GROUNDWATER MONITORING WELL LOCATION
 - MW-3 ABANDONED GROUNDWATER MONITORING WELL LOCATION
 - IW-1 INJECTION WELL LOCATION
 - NAVD 88 NORTH AMERICAN VERTICAL DATUM 1988
 - 460 GROUNDWATER ELEVATION CONTOUR DASHED WHERE INFERRED (FEET ABOVE NAVD 88)
 - NG NOT GAUGED
 - NS NOT SAMPLED
 - NA NOT ANALYZED
 - ND < NOT DETECTED, VALUE SHOWN IS THE DETECTION LIMIT
 - (460.61) GROUNDWATER ELEVATION (FEET ABOVE NAVD 88)
 - µg/L MICROGRAMS PER LITER
 - (J) ESTIMATED VALUE, THE RESULT IS GREATER THAN OR EQUAL TO THE METHOD DETECTION LIMIT AND LESS THAN THE LIMIT OF QUANTITATION
 - s SUBMERGED SCREEN FOR THIS EVENT

SAMPLE ID	
Date	Sample Collection Date
GRO	Total Petroleum Hydrocarbons - 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)]

BOLD CONSTITUENT DETECTED ABOVE MODEL TOXICS CONTROL ACT METHOD A CLEANUP LEVELS

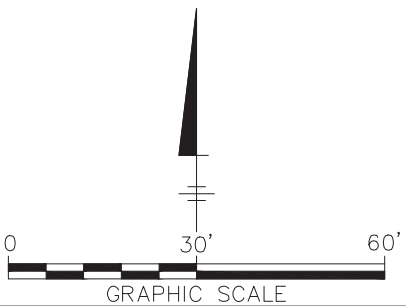
NOTE:
1. THIS MAP WAS PREPARED FROM A FIELD SURVEY PERFORMED BY OTAK IN 2010 AND UPDATED IN 2014 AND 2016.

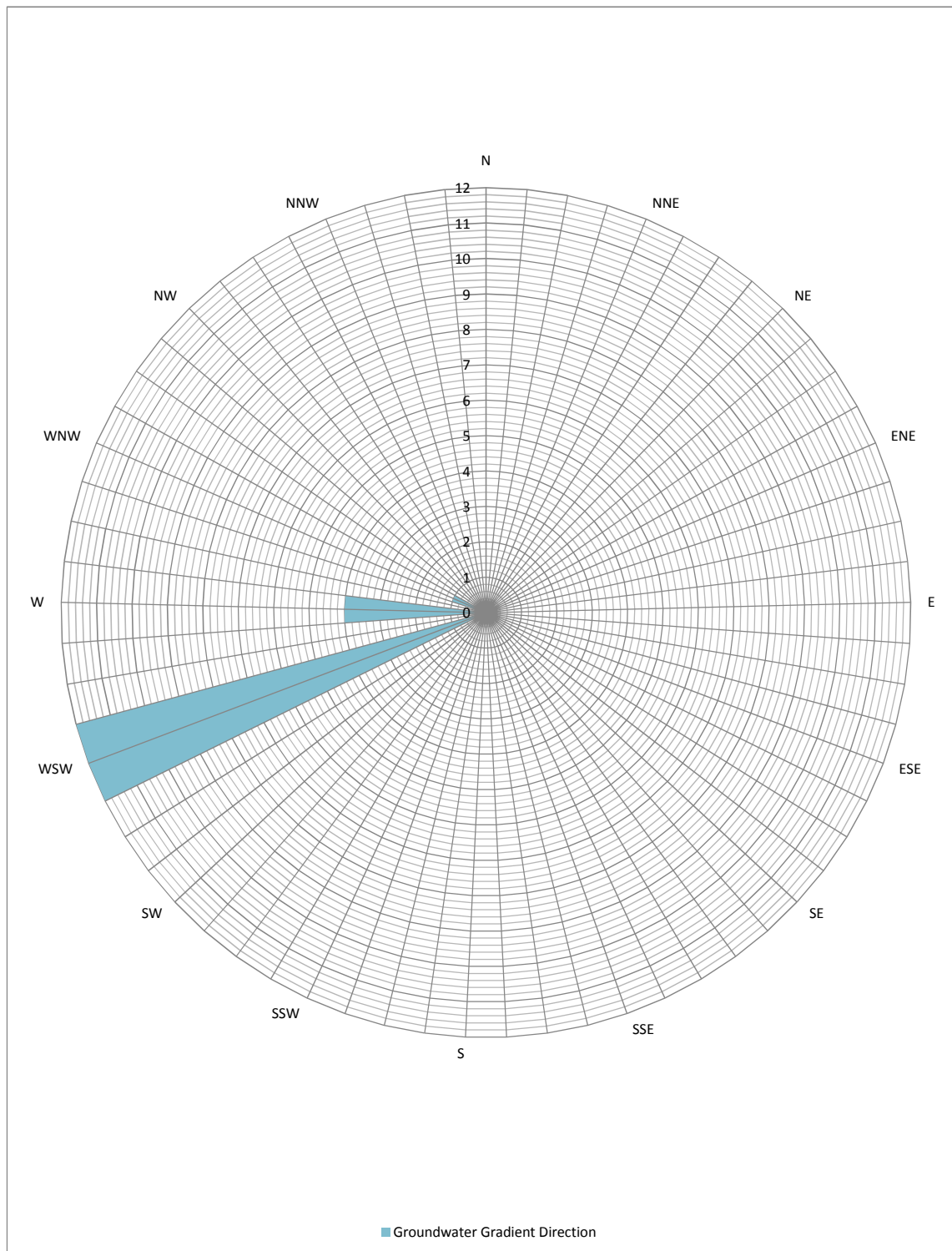
BP WEST COAST PRODUCTS LLC.
ARCO STATION NO. 00217 (5377)
13131 BOTHELL EVERETT HIGHWAY, EVERETT, WASHINGTON
2016 ANNUAL SITE STATUS REPORT

GROUNDWATER ELEVATION CONTOUR AND ANALYTICAL SUMMARY MAP
NOVEMBER 30, 2016

ARCADIS Design & Consultancy for natural and built assets

FIGURE
5





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

Note

Rose diagram based on gradient direction from groundwater monitoring events conducted by ARCADIS since top of casing survey in June 2010.

Number of Events Observed = 17

ATLANTIC RICHFIELD COMPANY
 ARCO FACILITY NO. 00217 (5377)
 13131 BOTHELL-EVERETT HIGHWAY, EVERETT, WASHINGTON
2016 ANNUAL SITE STATUS REPORT

HISTORICAL GROUNDWATER GRADIENT DIRECTION ROSE DIAGRAM



FIGURE

6

ATTACHMENT A

Groundwater Monitoring Field Data Sheets



WELL GAUGING DATA

Project # 16 0202- LBJ Date 2/2/16 Client AREACOS

Site 13131 BOTHELL EVERETT HWY, EVERETT, WA

Well ID	Time	Well Size (in.)	Sheen / Odor	Depth to Immiscible Liquid (ft.)	of Immiscible Liquid (ft.)	Volume of Immiscible s Removed (ml)	Depth to water (ft.)	Depth to well bottom (ft.)	Water/ SPH Meter	PID
MW-1	0854	2					4.18	18.00	*	0.0
MW-2	0834	2					4.49	16.64	*	0.0
MW-4	0810	2					4.96	23.68	*	0.0
MW-6	0827	1					4.43	13.99	*	0.0
MW-7	0823	1					5.48	13.96	*	0.0
MW-8	0756	1					4.80	13.73	*	0.0
MW-9	0800	1					6.31	14.19	*	0.0
MW-10	0804	1					4.77	14.27	*	0.0
MW-11	0900	2					5.60	14.05	*	0.0
DW-1	0848	4					3.21	14.36	*	0.0
DW-2	0839	4					3.38	14.48	*	0.0
DW-3	0844	4					3.32	14.35	*	0.0

Instruments Used: Durham Geoslope Water Level Indicator* GeoTech Oil/Water Interface Probe** Other: _____

Survey Point - Top of casing at all wells

LOW FLOW WELL MONITORING DATA SHEET

Project #: <u>160202-LB1</u>	Client: <u>ARCADES</u>
Sampler: <u>LB</u>	Gauging Date: <u>2/2/16</u>
Well I.D.: <u>MW-2</u>	Well Diameter (in.): <u>Ø</u> 3 4 6 8 <u> </u>
Total Well Depth (ft.): <u>16.64</u>	Depth to Water (ft.): <u>4.49</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PYD</u> Grade	Flow Cell Type: <u>YSE 556</u>

Purge Method: 2" Grundfos Pump Peristaltic Pump Bladder Pump
 Sampling Method: Dedicated Casing New Tubing Other _____
 Start Purge Time: 1002 Flow Rate: 200 mL/MIN Pump Depth: 11'

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.)
1005	12.10	6.48	536	17	1.51	136.4	600	4.51
1008	12.08	6.49	540	11	1.69	135.2	1200	4.51
1011	12.07	6.52	541	11	1.67	131.6	1800	4.51
1014	12.06	6.51	542	10	1.65	129.4	2400	4.51
1017	12.07	6.50	544	11	1.64	128.6	3000	4.51

Did well dewater? Yes <u>NO</u>	Amount actually evacuated: <u>3L</u>
Sampling Time: <u>1018</u>	Sampling Date: <u>2/2/16</u>
Sample I.D.: <u>MW-2-02022016</u>	Laboratory: <u>LANCASTER</u>
Analyzed for: <u>TPH-G</u> <u>PTX</u> MTBE TPH-D	Other: <u>SEE COC</u>
Equipment Blank I.D.: <u>@</u> Time	Duplicate I.D.: <u> </u>

LOW FLOW WELL MONITORING DATA SHEET

Project #: 160202-LB1	Client: ARCADES
Sampler: LB	Gauging Date: 2/2/16
Well I.D.: MW-6	Well Diameter (in.): 2 3 4 6 8 <u>10</u>
Total Well Depth (ft.): 13.99	Depth to Water (ft.): 4.43
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PTG</u> Grade	Flow Cell Type: <u>VSE 656</u>

Purge Method: 2" Grundfos Pump Peristaltic Pump Bladder Pump
 Sampling Method: Dedicated G Tubing New Tubing Other _____
 Start Purge Time: 0936 Flow Rate: 200 mL/MIN Pump Depth: 9.5'

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.)
0939	10.64	6.26	410	41	1.84	128.3	600	4.68
0942	10.74	6.19	417	18	1.77	118.3	1200	4.68
0945	10.81	6.16	420	8	1.76	117.3	1800	4.68
0948	10.83	6.15	418	7	1.75	116.2	2400	4.68
0951	10.84	6.14	417	8	1.74	115.8	3000	4.68

Did well dewater? Yes <u>NO</u>	Amount actually evacuated: 3L
Sampling Time: 0952	Sampling Date: 2/2/16
Sample I.D.: MW-6-02022016	Laboratory: LANCASTER
Analyzed for: TPH-G <u>PTG</u> BTEX MTBE TPH-D	Other <u>SEE COC</u>
Equipment Blank I.D.: @	Duplicate I.D.:

LOW FLOW WELL MONITORING DATA SHEET

Project #: <u>160202-LB1</u>	Client: <u>ARCADIS</u>
Sampler: <u>LB</u>	Gauging Date: <u>2/2/16</u>
Well I.D.: <u>MW-7</u>	Well Diameter (in.): 2 3 4 6 8 <u>①</u>
Total Well Depth (ft.): <u>13.96</u>	Depth to Water (ft.): <u>5.48</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PW</u> Grade	Flow Cell Type: <u>YSI 550</u>

Purge Method: 2" Grundfos Pump Peristaltic Pump Bladder Pump
 Sampling Method: Dedicated Tubing New Tubing Other _____
 Start Purge Time: 0907 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.)
0910	11.35	6.74	996	95	1.76	33.0	600	5.66
0913	11.31	6.67	997	94	1.72	32.3	1200	5.68
0916	11.33	6.68	995	97	1.70	30.5	1800	5.68
0919	11.34	6.65	994	96	1.69	29.4	2400	5.68
0922	11.36	6.64	992	95	1.68	28.3	3000	5.68

Did well dewater? Yes <u>NO</u>	Amount actually evacuated: <u>3L</u>
Sampling Time: <u>0923</u>	Sampling Date: <u>2/2/16</u>
Sample I.D.: <u>MW-7-02022016</u>	Laboratory: <u>LANCASTER</u>
Analyzed for: <u>TPH-G</u> <u>BTEX</u> MTBE TPH-D	Other: <u>SEE COC</u>
Equipment Blank I.D.: <u>@</u> Time	Duplicate I.D.:

LOW FLOW WELL MONITORING DATA SHEET

Project #: <u>160202-LB1</u>	Client: <u>ARCADIS</u>
Sampler: <u>LB</u>	Gauging Date: <u>2/2/16</u>
Well I.D.: <u>MW-11</u>	Well Diameter (in.): <u>23</u> 3 4 6 8
Total Well Depth (ft.): <u>14.05</u>	Depth to Water (ft.): <u>5.60</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVO</u> Grade	Flow Cell Type: <u>YSE 556</u>

Purge Method: 2" Grundfos Pump Peristaltic Pump Bladder Pump
 Sampling Method: Dedicated Tubing New Tubing Other _____
 Start Purge Time: 1125 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.)
1128	11.80	6.15	624	15	1.55	119.1	600	5.65
1131	11.42	6.18	630	11	1.51	105.6	1200	5.65
1134	11.38	6.16	637	12	1.50	103.2	1800	5.65
1137	11.36	6.15	638	11	1.49	102.6	2400	5.65
1140	11.35	6.14	639	10	1.48	101.1	3000	5.65

Did well dewater? Yes ☐ No ☒	Amount actually evacuated: <u>3L</u>
Sampling Time: <u>1141</u>	Sampling Date: <u>2/2/16</u>
Sample I.D.: <u>MW-11-02022016</u>	Laboratory: <u>LANCASTER</u>
Analyzed for: TPH-G ☒ BTEX ☒ MTBE ☐ TPH-D ☐ Other ☒ <u>SEE COC</u>	
Equipment Blank I.D.: <u>@</u> Time	Duplicate I.D.: <u>BD-217-02022016</u>

LOW FLOW WELL MONITORING DATA SHEET

Project #: <u>160202-LB1</u>	Client: <u>ARCADES</u>
Sampler: <u>LB</u>	Gauging Date: <u>2/2/16</u>
Well I.D.: <u>1W-1</u>	Well Diameter (in.): 2 3 <u>4</u> 6 8 <u> </u>
Total Well Depth (ft.): <u>14.36</u>	Depth to Water (ft.): <u>3.21</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PCE</u> Grade	Flow Cell Type: <u>YSE 556</u>

Purge Method: 2" Grundfos Pump Peristaltic ☒ Pump Bladder Pump
 Sampling Method: Dedicated ☒ Tubing New Tubing Other _____
 Start Purge Time: 1055 Flow Rate: 200 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.)
1058	10.51	6.22	304	36	1.39	118.0	600	3.22
1101	10.67	6.17	304	13	1.32	120.6	1200	3.22
1104	10.73	6.14	305	11	1.30	119.3	1800	3.22
1107	10.75	6.13	306	10	1.29	118.1	2400	3.22
1110	10.76	6.12	307	11	1.28	117.2	3000	3.22

Did well dewater? Yes ☒	Amount actually evacuated: <u>3L</u>
Sampling Time: <u>1111</u>	Sampling Date: <u>2/2/16</u>
Sample I.D.: <u>1W-1- 62022016</u>	Laboratory: <u>LANCASTER</u>
Analyzed for: ☒ TPH-G ☒ RTEX MTBE TPH-D	Other: <u>SEE COC</u>
Equipment Blank I.D.: <u> </u> @ <u> </u> Time	Duplicate I.D.: <u> </u>

LOW FLOW WELL MONITORING DATA SHEET

Project #: <u>160202-LB1</u>	Client: <u>ARCADES</u>
Sampler: <u>LB</u>	Gauging Date: <u>2/2/16</u>
Well I.D.: <u>DW-3</u>	Well Diameter (in.): 2 3 <u>4</u> 6 8 <u> </u>
Total Well Depth (ft.): <u>14.35</u>	Depth to Water (ft.): <u>3.32</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>POE</u> Grade	Flow Cell Type: <u>YSL 556</u>

Purge Method: 2" Grundfos Pump Peristaltic Pump Bladder Pump
 Sampling Method: Dedicated Tubing New Tubing Other
 Start Purge Time: 1029 Flow Rate: 200 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.)
1032	11.19	6.35	433	25	1.58	126.3	600	3.33
1035	11.18	6.31	440	15	1.49	118.2	1200	3.33
1038	11.18	6.29	442	10	1.48	115.3	1800	3.33
1041	11.20	6.28	443	9	1.47	114.4	2400	3.33
1044	11.21	6.27	444	8	1.46	113.1	3000	3.33

Did well dewater? Yes <u>NO</u>	Amount actually evacuated: <u>3 L</u>
Sampling Time: <u>1045</u>	Sampling Date: <u>2/2/16</u>
Sample I.D.: <u>DW-3-02022016</u>	Laboratory: <u>LANCASTER</u>
Analyzed for: <u>TPH-G</u> <u>BTEX</u> MTBE TPH-D	Other: <u>SEE COC</u>
Equipment Blank I.D.: <u>@</u> Time	Duplicate I.D.: <u> </u>

Gauging Data

Date 05/25/2016

Sampler Alex Pink

Well	Date/Time	Depth To Water (ft)	Well Depth (ft)	Depth to LNAPL (ft)	Remarks
IW-1	05/25/2016 13:11	4.79	14.55		
IW-2	05/25/2016 13:12	6.16	14.63		
IW-3	05/25/2016 18:16	5.36	14.59		
MW-1	05/25/2016 21:22	5.29	18.01		
MW-2	05/25/2016 17:36	5.94	19.75		
MW-4	05/25/2016 21:31	7.44	23.68		
MW-6	05/25/2016 16:28	5.96	11.41		
MW-7	05/25/2016 15:48	6.91	14.16		
MW-8	05/25/2016 21:32	7.24	13.83		
MW-9	05/25/2016 21:33	7.97	14.32		
MW-10	05/25/2016 21:30				Unable to locate well in dense foliage
MW-11	05/25/2016 20:04	7.20	14.29		
MW-12	05/25/2016 14:44	6.69	12.99		HCLO



Sampler: Alex Pink

IW-1

Date	05/25/2016	Weather Conditions	Sunny	Depth to Water (ft bmp)	4.79
Project Number	GP09BPNA.WA01	Water Quality Meter	YSI	Measured Well Depth	14.55
Location	13131 Bothell Everett Hwy, Everett, WA98208	Sampler	Alex Pink	(ft bmp)	
Purge Method	Low Flow - Peristaltic Pump	Casing Material	PVC	Water Column in Well	9.76
Purge Volume Units	MI	Casing Diameter (in)	4	Gallons in Well	6.37
Sampling Type	Low Flow - Peristaltic Pump	Pump Intake Depth (ft bmp)	12	Total Volume to Remove	
Comments		Casing Volume to Remove			

Field Parameters

Time	Flow Rate (ml/min)	Cumulative Vol Purged	Temperature °C	pH	Conductivity (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)
13:11	200	400	17.2	7.55	294.7	98.0	0.70		4.92
18:37	200	800	17.1	7.53	290.7	102.6	0.58		4.99
18:39	200	1200	17.2	7.52	288.1	105.7	0.57		5.05
18:40	200	1600	17.1	7.52	284.7	108.1	0.55		5.11

Sampling Summary

Did Well Dewater?	No	Alkalinity	
Sample Time	18:50	Ferrous Iron	
Sample ID	WA-0217-IW-1(2Q16)	MS/MSD Sample Time	
Duplicate Sample ID		MS/MSD Sample ID	
Dup Sample Time		EB Time	
Color	Clear	EB Sample ID	
Odor	No	Remarks	
Appearance	Brown particulates		

Well Integrity Checklist

Item	Yes	No	NA	Notes
Well Inspected ? No corrective action required	X			
Well is Securable by Design	X			
Well ID is Clearly Marked	X			
Water bailed from wellbox		X		
Well Pad in Good Condition		X		
Wellbox Components Cleaned		X		
Cap Replaced		X		
Lock Replaced		X		
Other Action Taken (explain)		X		
Well Not Inspected (explain)		X		
Repair Order submitted (explain)		X		
Picture Taken of Well?		X		

IW-3

Date	05/25/2016	Weather Conditions	Partly Cloudy	Depth to Water (ft bmp)	5.36
Project Number	GP09BPNA.WA01	Water Quality Meter	YSI	Measured Well Depth (ft bmp)	14.59
Location	13131 Bothell Everett Hwy, Everett, WA98208	Sampler	Alex Pink	Water Column in Well	9.59
Purge Method	Low Flow - Peristaltic Pump	Casing Material	PVC	Gallons in Well	6.26
Purge Volume Units	ML	Casing Diameter (in)	4	Total Volume to Remove	
Sampling Type	Low Flow - Peristaltic Pump	Pump Intake Depth (ft bmp)	12		
Comments		Casing Volume to Remove			

Field Parameters

Time	Flow Rate (ml/min)	Cumulative Vol Purged	Temperature °C	pH	Conductivity (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)
17:45	250	750	15.8	7.51	368.7	80.5	1.22		5.56
17:48	250	1250	15.8	7.49	368.0	86.8	0.97		5.65
17:50	250	1750	15.7	7.48	368.0	91.6	0.86		5.72
17:52	250	2250	15.7	7.47	367.7	94.3	0.79		5.77
17:53	250	2750	15.8	7.46	367.1	96.7	0.76		5.84

Sampling Summary

Did Well Dewater?	No	Alkalinity	
Sample Time	18:00	Ferrous Iron	
Sample ID	WA-0217-IW-3(2Q16)	MS/MSD Sample Time	
Duplicate Sample ID		MS/MSD Sample ID	
Dup Sample Time		EB Time	
Color	Clear	EB Sample ID	
Odor	No	Remarks	
Appearance	Some brown particulates		

Well Integrity Checklist

Item	Yes	No	NA	Notes
Well Inspected ? No corrective action required	X			
Well is Securable by Design	X			
Well ID is Clearly Marked	X			
Water bailed from wellbox		X		
Well Pad in Good Condition		X		
Wellbox Components Cleaned		X		
Cap Replaced		X		
Lock Replaced		X		
Other Action Taken (explain)		X		
Well Not Inspected (explain)		X		
Repair Order submitted (explain)		X		
Picture Taken of Well?		X		

MW-2

Date	05/25/2016	Weather Conditions	Partly Cloudy	Depth to Water (ft bmp)	5.94
Project Number	GP09BPNA.WA01	Water Quality Meter	YSI	Measured Well Depth	19.75
Location	13131 Bothell Everett Hwy, Everett, WA98208	Sampler	Alex Pink	(ft bmp)	
Purge Method	Low Flow - Peristaltic Pump	Casing Material	PVC	Water Column in Well	13.81
Purge Volume Units	MI	Casing Diameter (in)	2	Gallons in Well	2.25
Sampling Type	Low Flow - Peristaltic Pump	Pump Intake Depth (ft bmp)	12	Total Volume to Remove	
Comments		Casing Volume to Remove			

Field Parameters

Time	Flow Rate (ml/min)	Cumulative Vol Purged	Temperature °C	pH	Conductivity (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)
16:57	200	600	15.5	7.48	420.2	-107.3	0.85		6.04
17:01	200	1000	15.7	7.46	421.5	-110.1	0.58		6.04
17:02	200	1400	15.6	7.45	420.8	-111.7	0.48		6.05
17:04	200	1800	15.6	7.44	422.5	-112.8	0.42		6.06

Sampling Summary

Did Well Dewater?	No	Alkalinity	
Sample Time	17:10	Ferrous Iron	
Sample ID	WA-0217-MW-2(2Q16)	MS/MSD Sample Time	
Duplicate Sample ID		MS/MSD Sample ID	
Dup Sample Time		EB Time	
Color	Clear	EB Sample ID	
Odor	No	Remarks	
Appearance	Clear		

Well Integrity Checklist

Item	Yes	No	NA	Notes
Well Inspected ? No corrective action required	X			
Well is Securable by Design	X			
Well ID is Clearly Marked	X			
Water bailed from wellbox	X			
Well Pad in Good Condition	X			
Wellbox Components Cleaned		X		
Cap Replaced		X		
Lock Replaced		X		
Other Action Taken (explain)		X		
Well Not Inspected (explain)		X		
Repair Order submitted (explain)		X		
Picture Taken of Well?		X		

MW-6

Date	05/25/2016	Weather Conditions	Cloudy	Depth to Water (ft bmp)	5.96
Project Number	GP09BPNA.WA01	Water Quality Meter	YSI	Measured Well Depth	11.41
Location	13131 Bothell Everett Hwy, Everett, WA98208	Sampler	Alex Pink	(ft bmp)	
Purge Method	Low Flow - Peristaltic Pump	Casing Material	PVC	Water Column in Well	5.45
Purge Volume Units	ML	Casing Diameter (in)	1	Gallons in Well	0.22
Sampling Type	Low Flow - Peristaltic Pump	Pump Intake Depth (ft bmp)	9	Total Volume to Remove	
Comments		Casing Volume to Remove			

Field Parameters

Time	Flow Rate (ml/min)	Cumulative Vol Purged	Temperature °C	pH	Conductivity (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)
15:59	200	400	15.6	7.41	348.0	77.9	0.63		6.35
16:03	200	800	15.4	7.40	347.1	89.2	0.50		6.35
16:04	200	1200	15.4	7.39	346.8	94.8	0.44		6.35
16:06	200	1600	15.4	7.39	346.6	98.6	0.40		6.36

Sampling Summary

Did Well Dewater?	No	Alkalinity	
Sample Time	16:15	Ferrous Iron	
Sample ID	WA-0217-MW-6(2Q16)	MS/MSD Sample Time	
Duplicate Sample ID		MS/MSD Sample ID	
Dup Sample Time		EB Time	
Color	Clear	EB Sample ID	
Odor	No	Remarks	
Appearance	Clear		

Well Integrity Checklist

Item	Yes	No	NA	Notes
Well Inspected ? No corrective action required	X			
Well is Securable by Design	X			
Well ID is Clearly Marked	X			
Water bailed from wellbox	X			
Well Pad in Good Condition	X			
Wellbox Components Cleaned		X		
Cap Replaced		X		
Lock Replaced		X		
Other Action Taken (explain)		X		
Well Not Inspected (explain)		X		
Repair Order submitted (explain)		X		
Picture Taken of Well?		X		

MW-7

Date	05/25/2016	Weather Conditions	Cloudy	Depth to Water (ft bmp)	6.91
Project Number	GP09BPNA.WA01	Water Quality Meter	YSI	Measured Well Depth (ft bmp)	14.16
Location	13131 Bothell Everett Hwy, Everett, WA98208	Sampler	Alex Pink	Water Column in Well	7.25
Purge Method	Low Flow - Peristaltic Pump	Casing Material	PVC	Gallons in Well	0.30
Purge Volume Units	MI	Casing Diameter (in)	1	Total Volume to Remove	
Sampling Type	Low Flow - Peristaltic Pump	Pump Intake Depth (ft bmp)	12		
Comments		Casing Volume to Remove			

Field Parameters

Time	Flow Rate (ml/min)	Cuml Vol Purged	Temperature °C	pH	Conductivity (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)
15:07	150	450	16.5	7.30	795	-108.5	1.03		7.75
15:11	150	750	16.5	7.30	792	-110.5	0.80		7.89
15:12	150	1050	16.5	7.30	786	-111.9	0.66		7.98
15:13	150	1350	16.5	7.29	783	-113.6	0.58		8.13
15:14	150	1650	16.4	7.29	778	-114.9	0.52		8.22

Sampling Summary

Did Well Dewater?	No	Alkalinity	
Sample Time	15:20	Ferrous Iron	
Sample ID	WA-0217-MW-7(2Q16)	MS/MSD Sample Time	
Duplicate Sample ID		MS/MSD Sample ID	
Dup Sample Time		EB Time	
Color	Light grey	EB Sample ID	
Odor	No	Remarks	
Appearance	Slightly cloudy		

Well Integrity Checklist

Item	Yes	No	NA	Notes
Well Inspected ? No corrective action required	X			
Well is Securable by Design	X			
Well ID is Clearly Marked	X			
Water bailed from wellbox	X			
Well Pad in Good Condition	X			
Wellbox Components Cleaned		X		
Cap Replaced		X		
Lock Replaced		X		
Other Action Taken (explain)		X		
Well Not Inspected (explain)		X		
Repair Order submitted (explain)		X		
Picture Taken of Well?		X		

MW-11

Date	05/25/2016	Weather Conditions	Sunny	Depth to Water (ft bmp)	7.20
Project Number	GP09BPNA.WA01	Water Quality Meter	YSI	Measured Well Depth (ft bmp)	14.29
Location	13131 Bothell Everett Hwy, Everett, WA98208	Sampler	Alex Pink	Water Column in Well	7.09
Purge Method	Low Flow - Peristaltic Pump	Casing Material	PVC	Gallons in Well	1.16
Purge Volume Units	MI	Casing Diameter (in)	2	Total Volume to Remove	
Sampling Type	Low Flow - Peristaltic Pump	Pump Intake Depth (ft bmp)	11		
Comments		Casing Volume to Remove			

Field Parameters

Time	Flow Rate (ml/min)	Cumulative Vol Purged	Temperature °C	pH	Conductivity (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)
19:16	250	500	15.5	7.44	553.4	-87.0	0.76		7.44
19:19	250	1000	15.6	7.40	548.5	-88.4	0.56		7.50
19:21	250	1500	15.6	7.38	547.1	-90.7	0.44		7.56
19:23	250	2000	15.7	7.36	549.6	-93.1	0.37		7.62
19:24	250	2500	15.7	7.37	553.3	-96.0	0.33		7.67

Sampling Summary

Did Well Dewater?	No	Alkalinity	
Sample Time	19:30	Ferrous Iron	
Sample ID	WA-0217-MW-11(2Q16)	MS/MSD Sample Time	
Duplicate Sample ID	DUP -1	MS/MSD Sample ID	
Dup Sample Time	19:30	EB Time	
Color	Clear	EB Sample ID	
Odor	No	Remarks	
Appearance	Clear		

Well Integrity Checklist

Item	Yes	No	NA	Notes
Well Inspected ? No corrective action required	X			
Well is Securable by Design	X			
Well ID is Clearly Marked	X			
Water bailed from wellbox		X		
Well Pad in Good Condition	X			
Wellbox Components Cleaned		X		
Cap Replaced		X		
Lock Replaced		X		
Other Action Taken (explain)		X		
Well Not Inspected (explain)		X		
Repair Order submitted (explain)		X		
Picture Taken of Well?		X		

MW-12

Date	05/25/2016	Weather Conditions	Cloudy	Depth to Water (ft bmp)	6.69
Project Number	GP09BPNA.WA01	Water Quality Meter	YSI	Measured Well Depth	12.99
Location	13131 Bothell Everett Hwy, Everett, WA98208	Sampler	Alex Pink	(ft bmp)	
Purge Method	Low Flow - Peristaltic Pump	Casing Material	PVC	Water Column in Well	6.30
Purge Volume Units	MI	Casing Diameter (in)	2	Gallons in Well	1.03
Sampling Type	Low Flow - Peristaltic Pump	Pump Intake Depth (ft bmp)	10	Total Volume to Remove	
Comments		Casing Volume to Remove			

Field Parameters

Time	Flow Rate (ml/min)	Cumulative Vol Purged	Temperature °C	pH	Conductivity (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)
14:07	200	600	15.4	7.28	1080	-163.8	0.51		8.35
14:11	200	1000	15.5	7.26	1071	-154.6	0.50		8.71
14:12	200	1400	15.6	7.25	1061	-139.3	0.49		9.01
14:13	200	1800	15.8	7.24	1053	-119.3	0.48		9.50

Sampling Summary

Did Well Dewater?	No	Alkalinity	
Sample Time	14:25	Ferrous Iron	
Sample ID	WA-0217-MW-12(2Q16)	MS/MSD Sample Time	
Duplicate Sample ID		MS/MSD Sample ID	
Dup Sample Time		EB Time	
Color	Light brown	EB Sample ID	
Odor	HCLO (in well)	Remarks	ORP did not stabilize
Appearance	Clear		

Well Integrity Checklist

Item	Yes	No	NA	Notes
Well Inspected ? No corrective action required	X			
Well is Securable by Design	X			
Well ID is Clearly Marked	X			
Water bailed from wellbox		X		
Well Pad in Good Condition	X			
Wellbox Components Cleaned		X		
Cap Replaced		X		
Lock Replaced		X		
Other Action Taken (explain)		X		
Well Not Inspected (explain)		X		
Repair Order submitted (explain)		X		
Picture Taken of Well?		X		

Gauging Data

Date 08/23/2016
Sampler Alexander Pink

Well	Date/Time	Depth To Water (ft)	Well Depth (ft)	Depth to LNAPL (ft)	PID (ppmv)	Remarks
IW-1	08/23/2016 11:54	7.47	14.55		0.3	LFP
IW-2	08/23/2016 11:38	8.87	14.62		0.2	NS
IW-3	08/23/2016 11:46	8.05	14.49		0.0	LFP
MW-1	08/23/2016 12:01	8.14	18.00		0.0	NS
MW-2	08/23/2016 11:29	8.63	19.59		4.7	LFP
MW-4	08/23/2016 10:47	10.15	23.68		0.0	NS
MW-6	08/23/2016 11:19	8.67	11.41		2.0	LFP
MW-7	08/23/2016 10:57	9.80	14.18		0.0	P
MW-8	08/23/2016 12:17	9.71	13.84		0.0	NS
MW-9	08/23/2016 12:29	9.97	14.31		0.0	NS
MW-10	08/23/2016 22:07					Unable to locate well
MW-11	08/23/2016 11:11	9.98	13.94		45.2	LFP
MW-12	08/23/2016 11:05	9.59	12.99		4.1	P

Alex Pink

Sampler: Alex Pink

IW-1

Date	08/23/2016	Weather Conditions	Sunny	Depth to Water (ft bmp)	7.47
Project Number	GP09BPNA.WA01	Water Quality Meter	YSI	Measured Well Depth (ft bmp)	14.55
Address	13131 Bothell Everett Hwy, Everett, WA98208	Casing Material	PVC	Water Column in Well	7.08
Purge Method	Low Flow - Peristaltic Pump	Casing Diameter (in)	4	Gallons in Well	4.62
Purge Volume Units	MI	Pump Intake Depth (ft bmp)	10	Total Volume to Remove	0.0
Sampling Type	Low Flow	Casing Volume to Remove			
Comments	LFP				

Field Parameters

Time	Cuml Vol Purged	Temp °C	pH	Conductivity (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Remarks
19:56	400	20.4	7.56	347.5	-3.0	0.36		7.63	
19:59	800	20.3	7.53	347.4	-7.5	0.33		7.66	
20:00	1200	20.4	7.52	347.5	-10.7	0.30		7.71	

Sampling Summary

Sample Date	08/23/2016	Odor	No
Sample Time	20:05	Analysis	SW8260B,NWTPH-Gx,SW6010B
Sample ID	IW-1-Q316	COC	
Duplicate Sample ID		Bottles	BTEX 3x of 40 ml - HCL,Gx 3x 40 ml - HCL,Lead 1x 250 ml poly HNO3,Dissolved Lead 1x 250 ml poly unpreserved
Dup Sample Time		Remarks	LFP

Sampler: Alex Pink



Well Integrity Checklist

Item	Yes	No	NA	Notes
Type of well head				Round 12"
Well is Securable by Design	X			
Is Well ID Visible?	X			
Water in the well box		X		
Sleeve around the well box in good condition	X			
Any cleanup performed (explain)		X		No
Any repairs/replacement (explain)		X		No
Remarks				

IW-3

Date	08/23/2016	Weather Conditions	Sunny	Depth to Water (ft bmp)	8.05
Project Number	GP09BPNA.WA01	Water Quality Meter	YSI	Measured Well Depth	14.49
Address	13131 Bothell Everett Hwy, Everett, WA98208	Casing Material	PVC	(ft bmp)	
Purge Method	Low Flow - Peristaltic Pump	Casing Diameter (in)	4	Water Column in Well	6.44
Purge Volume Units	MI	Pump Intake Depth (ft bmp)	11	Gallons in Well	4.2
Sampling Type	Low Flow	Casing Volume to Remove		Total Volume to Remove	0.0
Comments	LFP				

Field Parameters

Time	Cuml Vol Purged	Temp °C	pH	Conductivity (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Remarks
16:34	800	19.3	7.47	388.5	3.5	0.31		8.32	
16:36	1200	19.3	7.47	388.3	1.4	0.30		8.37	
16:37	1600	19.3	7.47	388.0	-0.1	0.29		8.40	

Sampling Summary

Sample Date	08/23/2016	Odor	No
Sample Time	16:45	Analysis	SW8260B,SW6010B,NWTPH-Gx
Sample ID	IW-3-Q316	COC	
Duplicate Sample ID		Bottles	Gx 3x 40 ml - HCL,BTEX 3x of 40 ml - HCL,Lead 1x 250 ml poly HNO3,Dissolved Lead 1x 250 ml poly unpreserved
Dup Sample Time		Remarks	LFP

Sampler: Alex Pink



Well Integrity Checklist

Item	Yes	No	NA	Notes
Type of well head				Round 12"
Well is Securable by Design	X			
Is Well ID Visible?	X			
Water in the well box		X		
Sleeve around the well box in good condition	X			
Any cleanup performed (explain)		X		No
Any repairs/replacement (explain)		X		No
Remarks				

MW-2

Date	08/23/2016	Weather Conditions	Sunny	Depth to Water (ft bmp)	8.63
Project Number	GP09BPNA.WA01	Water Quality Meter	YSI	Measured Well Depth (ft bmp)	19.59
Address	13131 Bothell Everett Hwy, Everett, WA98208	Casing Material	PVC	Water Column in Well	10.96
Purge Method	Low Flow - Peristaltic Pump	Casing Diameter (in)	2	Gallons in Well	1.79
Purge Volume Units	MI	Pump Intake Depth (ft bmp)		Total Volume to Remove	0.0
Sampling Type	Low Flow	Casing Volume to Remove			
Comments	LFP				

Field Parameters

Time	Cuml Vol Purged	Temp °C	pH	Conductivity (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Remarks
15:23	150	18.9	7.52	382.5	-63.6	1.18		8.73	
15:29	450	18.9	7.49	381.2	-68.0	1.03		8.75	
15:30	750	18.8	7.47	381.1	-70.9	0.97		8.75	
15:31	1050	18.8	7.46	380.8	-72.9	0.95		8.76	

Sampling Summary

Sample Date	08/23/2016	Odor	No
Sample Time	15:40	Analysis	SW8260B,SW6010B,NWTPH-Gx
Sample ID	MW-2-Q316	COC	
Duplicate Sample ID		Bottles	Gx 3x 40 ml - HCL,BTEX 3x of 40 ml - HCL,Lead 1x 250 ml poly HNO3,Dissolved Lead 1x 250 ml poly unpreserved
Dup Sample Time		Remarks	LFP

Sampler: Alex Pink



Well Integrity Checklist

Item	Yes	No	NA	Notes
Type of well head				Round 12"
Well is Securable by Design	X			
Is Well ID Visible?	X			
Water in the well box	X			
Sleeve around the well box in good condition	X			
Any cleanup performed (explain)		X		No
Any repairs/replacement (explain)		X		No
Remarks				

MW-6

Date	08/23/2016	Weather Conditions	Sunny	Depth to Water (ft bmp)	8.67
Project Number	GP09BPNA.WA01	Water Quality Meter	YSI	Measured Well Depth (ft bmp)	11.41
Address	13131 Bothell Everett Hwy, Everett, WA98208	Casing Material	PVC	Water Column in Well	2.74
Purge Method	Low Flow - Peristaltic Pump	Casing Diameter (in)	1	Gallons in Well	0.11
Purge Volume Units	MI	Pump Intake Depth (ft bmp)	11	Total Volume to Remove	0.0
Sampling Type	Low Flow	Casing Volume to Remove			
Comments	LFP				

Field Parameters

Time	Cuml Vol Purged	Temp °C	pH	Conductivity (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Remarks
17:21	1200	19.5	7.49	404.5	70.4	0.44		9.01	
17:23	1600	19.5	7.46	404.5	72.5	0.37		9.01	
17:24	2000	19.5	7.45	404.1	74.0	0.33		9.02	

Sampling Summary

Sample Date	08/23/2016	Odor	No
Sample Time	17:30	Analysis	SW8260B,NWTPH-Gx,SW6010B
Sample ID	MW-6-Q316	COC	
Duplicate Sample ID		Bottles	BTEX 3x of 40 ml - HCL,Gx 3x 40 ml - HCL,Lead 1x 250 ml poly HNO3,Dissolved Lead 1x 250 ml poly unpreserved
Dup Sample Time		Remarks	LFP

Sampler: Alex Pink



Well Integrity Checklist

Item	Yes	No	NA	Notes
Type of well head				Round 6"
Well is Securable by Design	X			
Is Well ID Visible?	X			
Water in the well box	X			
Sleeve around the well box in good condition	X			
Any cleanup performed (explain)		X		No
Any repairs/replacement (explain)		X		No
Remarks				

MW-7

Date	08/23/2016	Weather Conditions	Sunny	Depth to Water (ft bmp)	9.80
Project Number	GP09BPNA.WA01	Water Quality Meter	YSI	Measured Well Depth	14.18
Address	13131 Bothell Everett Hwy, Everett, WA98208	Casing Material	PVC	(ft bmp)	
Purge Method	Low Flow - Peristaltic Pump	Casing Diameter (in)	1	Water Column in Well	4.38
Purge Volume Units	ML	Pump Intake Depth (ft bmp)	13.8	Gallons in Well	0.18
Sampling Type	Purge	Casing Volume to Remove		Total Volume to Remove	0.0
Comments	P				

Field Parameters

Time	Cuml Vol Purged	Temp °C	pH	Conductivity (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Remarks
14:39	150	20.6	7.35	500.1	-69.9	0.36		12.40	
14:47	450								

Sampling Summary

Sample Date	08/23/2016	Odor	No
Sample Time	19:25	Analysis	SW8260B,SW6010B,NWTPH-Gx
Sample ID	MW-7-Q316	COC	
Duplicate Sample ID		Bottles	BTEX 3x of 40 ml - HCL,Gx 3x 40 ml - HCL,Lead 1x 250 ml poly HNO3,Dissolved Lead 1x 250 ml poly unpreserved
Dup Sample Time		Remarks	P

Sampler: Alex Pink



Well Integrity Checklist

Item	Yes	No	NA	Notes
Type of well head				Round 6"
Well is Securable by Design	X			
Is Well ID Visible?	X			
Water in the well box	X			
Sleeve around the well box in good condition	X			
Any cleanup performed (explain)		X		No
Any repairs/replacement (explain)		X		No
Remarks				

MW-11

Date	08/23/2016	Weather Conditions	Sunny	Depth to Water (ft bmp)	9.98
Project Number	GP09BPNA.WA01	Water Quality Meter	YSI	Measured Well Depth	13.94
Address	13131 Bothell Everett Hwy, Everett, WA98208	Casing Material	PVC	(ft bmp)	
Purge Method	Low Flow - Peristaltic Pump	Casing Diameter (in)	2	Water Column in Well	3.96
Purge Volume Units	MI	Pump Intake Depth (ft bmp)	13	Gallons in Well	0.65
Sampling Type	Low Flow	Casing Volume to Remove		Total Volume to Remove	0.0
Comments	LFP				

Field Parameters

Time	Cuml Vol Purged	Temp °C	pH	Conductivity (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Remarks
18:00	600	19.4	7.42	534.1	-56.0	0.43		10.18	
18:04	1000	19.4	7.40	532.2	-59.2	0.39		10.20	
18:05	1400	19.5	7.39	529.7	-61.9	0.37		10.23	

Sampling Summary

Sample Date	08/23/2016	Odor	No
Sample Time	18:15	Analysis	SW8260B,SW6010B,NWTPH-Gx
Sample ID	MW-11-Q316	COC	
Duplicate Sample ID	DUP-1	Bottles	BTEX 3x of 40 ml - HCL,Gx 3x 40 ml - HCL,Lead 1x 250 ml poly HNO3,Dissolved Lead 1x 250 ml poly unpreserved
Dup Sample Time	18:15	Remarks	LFP

Sampler: Alex Pink



Well Integrity Checklist

Item	Yes	No	NA	Notes
Type of well head				Round 12"
Well is Securable by Design	X			
Is Well ID Visible?	X			
Water in the well box		X		
Sleeve around the well box in good condition	X			
Any cleanup performed (explain)		X		No
Any repairs/replacement (explain)		X		No
Remarks				

MW-12

Date	08/23/2016	Weather Conditions	Sunny	Depth to Water (ft bmp)	9.59
Project Number	GP09BPNA.WA01	Water Quality Meter	YSI	Measured Well Depth (ft bmp)	12.99
Address	13131 Bothell Everett Hwy, Everett, WA98208	Casing Material	PVC	Water Column in Well	3.4
Purge Method	Low Flow - Peristaltic Pump	Casing Diameter (in)	2	Gallons in Well	0.55
Purge Volume Units	MI	Pump Intake Depth (ft bmp)	11	Total Volume to Remove	0.0
Sampling Type	Purge	Casing Volume to Remove			
Comments	P				

Field Parameters

Time	Cumulative Vol Purged	Temp °C	pH	Conductivity (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Remarks
13:56	800	19.6	7.26	992	-129.6	0.35		12.50	
14:01	1100	19.9	7.27	997	-131.9	0.30		12.85	
14:02	1400	19.8	7.28	1006	-133.9	0.26		12.99	Well dry after second reading

Sampling Summary

Sample Date	08/23/2016	Odor	No
Sample Time	18:50	Analysis	SW8260B, SW6010B, NWTPH-Gx
Sample ID	MW-12-Q316	COC	
Duplicate Sample ID		Bottles	Gx 3x 40 ml - HCL, BTEX 3x of 40 ml - HCL, Lead 1x 250 ml poly HNO3, Dissolved Lead 1x 250 ml poly unpreserved
Duplicate Sample Time		Remarks	P

Sampler: Alex Pink



Well Integrity Checklist

Item	Yes	No	NA	Notes
Type of well head				Round 12"
Well is Securable by Design	X			
Is Well ID Visible?	X			
Water in the well box		X		
Sleeve around the well box in good condition	X			
Any cleanup performed (explain)		X		No
Any repairs/replacement (explain)		X		No
Remarks				

Gauging Data

Date 11/30/2016
 Sampler Eric Krueger

Well	Date/Time	Depth To Water (ft)	Well Depth (ft)	Depth to LNAPL (ft)	PID (ppmv)	Remarks
IW-1	11/30/2016 09:07	3.40	14.24		10.6	
IW-2	11/30/2016 09:18	4.52	14.44		23.7	
IW-3	11/30/2016 09:13	3.78	14.48		4.4	
MW-1	11/30/2016 09:00	4.07	17.99		0.1	
MW-10	11/30/2016 15:24					Could not find the well. looked for 30 min with shovel and still didnt find it.
MW-11	11/30/2016 09:38	5.61	14.36		15.2	
MW-12	11/30/2016 09:45	5.25	13.00		0.0	
MW-2	11/30/2016 09:25	4.42	19.64		0.0	
MW-4	11/30/2016 09:59	6.49	23.88		0.0	
MW-6	11/30/2016 09:33	4.41	11.35		0.3	
MW-7	11/30/2016 09:53	5.34	14.15		0.3	
MW-8	11/30/2016 10:06	4.19	13.76		0.0	
MW-9	11/30/2016 10:15	5.02	14.53		0.0	

The resource of this report item is not reachable.

 Sampler: Eric Krueger

IW-1

Date	11/30/2016	Weather Conditions	Cloudy	Depth to Water (ft bmp)	3.40
Project Number	GP09BPNA.WA01	Water Quality Meter	YSI	Measured Well Depth (ft bmp)	14.24
Address	13131 Bothell Everett Hwy, Everett, WA98208	Casing Material	PVC	Water Column in Well	10.84
Purge Method	Low Flow - Peristaltic Pump	Casing Diameter (in)	4	Gallons in Well	7.07
Purge Volume Units	ml	Pump Intake Depth (ft bmp)	8.00	Total Volume to Remove	0.0
Sampling Type	Low Flow	Casing Volume to Remove			
Comments					

Field Parameters

Time	Cuml Vol Purged	Temp °C	pH	Conductivity (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Remarks
14:08	600	14.5	7.65	331.6	135.8	0.44		3.42	
14:11	1200	14.8	7.63	332.6	134.2	0.27		3.49	
14:14	1800	14.7	7.63	334.4	131.1	0.25		3.54	
14:16	2200	14.7	7.64	334.6	129.9	0.24		3.59	

Sampling Summary

Sample Date	11/30/2016	Odor	No
Sample Time	14:20	Analysis	SW8260B,SW6010B,NWTPH-Gx
Sample ID	IW-1-Q416	COC	
Duplicate Sample ID		Bottles	BTEX 3x of 40 ml - HCL,Gx 3x 40 ml - HCL,Lead 1x 250 ml poly HNO3,Dissolved Lead 1x 250 ml poly unpreserved
Dup Sample Time		Remarks	

The resource of this report item is not reachable.
 Sampler: Eric Krueger

Well Integrity Checklist

Item	Yes	No	NA	Notes
Type of well head				Round 12"
Well Secured on initial inspection	X			
Is Well ID Visible?	X			
Water in the well box		X		
Sleeve around the well box in good condition	X			
Any cleanup performed (explain)		X		No
Any repairs/replacement (explain)		X		No
Remarks		X		No

Photos and Drawings

IW-2

Date	11/30/2016	Weather Conditions		Depth to Water (ft bmp)	
Project Number	GP09BPNA.WA01	Water Quality Meter		Measured Well Depth (ft bmp)	
Address	13131 Bothell Everett Hwy, Everett, WA98208	Casing Material		Water Column in Well	0.0
Purge Method		Casing Diameter (in)		Gallons in Well	0.0
Purge Volume Units		Pump Intake Depth (ft bmp)		Total Volume to Remove	0.0
Sampling Type		Casing Volume to Remove			
Comments	NS				

Field Parameters

Time	Cuml Vol Purged	Temp °C	pH	Conductivity (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Remarks
15:21									NS

Sampling Summary

Sample Date		Odor	
Sample Time		Analysis	
Sample ID		COC	
Duplicate Sample ID		Bottles	
Dup Sample Time		Remarks	NS

The resource of this report item is not reachable.
 Sampler: Eric Krueger

Well Integrity Checklist

Item	Yes	No	NA	Notes
Type of well head				Round 12"
Well Secured on initial inspection	X			
Is Well ID Visible?	X			
Water in the well box	X			
Sleeve around the well box in good condition	X			
Any cleanup performed (explain)		X		No
Any repairs/replacement (explain)		X		No
Remarks		X		No

Photos and Drawings

IW-3

Date	11/30/2016	Weather Conditions	Cloudy	Depth to Water (ft bmp)	3.78
Project Number	GP09BPNA.WA01	Water Quality Meter	YSI	Measured Well Depth (ft bmp)	14.48
Address	13131 Bothell Everett Hwy, Everett, WA98208	Casing Material	PVC	Water Column in Well	10.7
Purge Method	Low Flow - Peristaltic Pump	Casing Diameter (in)	4	Gallons in Well	6.98
Purge Volume Units	ml	Pump Intake Depth (ft bmp)	7.0	Total Volume to Remove	0.0
Sampling Type	Low Flow	Casing Volume to Remove			
Comments					

Field Parameters

Time	Cuml Vol Purged	Temp °C	pH	Conductivity (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Remarks
13:38	600	14.8	7.63	411.3	67.2	2.61		3.80	
13:41	1200	14.9	7.60	414.6	70.0	2.20		4.07	
13:44	1800	14.7	7.58	416.3	72.8	2.15		4.16	
13:46	2200	14.7	7.58	416.6	74.8	2.12		4.21	

Sampling Summary

Sample Date	11/30/2016	Odor	No
Sample Time	13:50	Analysis	SW8260B,SW6010B,NWTPH-Gx
Sample ID	IW-3-Q416	COC	
Duplicate Sample ID		Bottles	BTEX 3x of 40 ml - HCL,Gx 3x 40 ml - HCL,Lead 1x 250 ml poly HNO3,Dissolved Lead 1x 250 ml poly unpreserved
Dup Sample Time		Remarks	

The resource of this report item is not reachable.
 Sampler: Eric Krueger

Well Integrity Checklist

Item	Yes	No	NA	Notes
Type of well head				Round 12"
Well Secured on initial inspection	X			
Is Well ID Visible?	X			
Water in the well box		X		
Sleeve around the well box in good condition	X			
Any cleanup performed (explain)		X		No
Any repairs/replacement (explain)		X		No
Remarks		X		No

Photos and Drawings

MW-1

Date	11/30/2016	Weather Conditions		Depth to Water (ft bmp)	
Project Number	GP09BPNA.WA01	Water Quality Meter		Measured Well Depth (ft bmp)	
Address	13131 Bothell Everett Hwy, Everett, WA98208	Casing Material		Water Column in Well	0.0
Purge Method		Casing Diameter (in)		Gallons in Well	0.0
Purge Volume Units		Pump Intake Depth (ft bmp)		Total Volume to Remove	0.0
Sampling Type		Casing Volume to Remove			
Comments	NS				

Field Parameters

Time	Cuml Vol Purged	Temp °C	pH	Conductivity (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Remarks
15:22									NS

Sampling Summary

Sample Date		Odor	
Sample Time		Analysis	
Sample ID		COC	
Duplicate Sample ID		Bottles	
Dup Sample Time		Remarks	NS

The resource of this report item is not reachable.
 Sampler: Eric Krueger

Well Integrity Checklist

Item	Yes	No	NA	Notes
Type of well head				Round 12"
Well Secured on initial inspection	X			
Is Well ID Visible?	X			
Water in the well box	X			
Sleeve around the well box in good condition	X			
Any cleanup performed (explain)		X		No
Any repairs/replacement (explain)		X		No
Remarks		X		No

Photos and Drawings

MW-2

Date	11/30/2016	Weather Conditions	Cloudy	Depth to Water (ft bmp)	4.42
Project Number	GP09BPNA.WA01	Water Quality Meter	YSI	Measured Well Depth (ft bmp)	19.64
Address	13131 Bothell Everett Hwy, Everett, WA98208	Casing Material	PVC	Water Column in Well	15.22
Purge Method	Low Flow - Peristaltic Pump	Casing Diameter (in)	2	Gallons in Well	2.48
Purge Volume Units	ml	Pump Intake Depth (ft bmp)	11.0	Total Volume to Remove	0.0
Sampling Type	Low Flow	Casing Volume to Remove			
Comments					

Field Parameters

Time	Cuml Vol Purged	Temp °C	pH	Conductivity (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Remarks
13:00	600	15.0	7.66	480.3	130.6	0.43		4.46	
13:01	1200	14.9	7.63	486.4	95.6	0.26		4.49	
13:04	1800	14.8	7.62	489.4	90.6	0.24		4.59	
13:06	2200	14.9	7.61	487.8	89.3	0.23		4.63	

Sampling Summary

Sample Date	11/30/2016	Odor	No
Sample Time	13:10	Analysis	SW8260B,SW6010B,NWTPH-Gx
Sample ID	MW-2-Q416	COC	
Duplicate Sample ID		Bottles	BTEX 3x of 40 ml - HCL,Gx 3x 40 ml - HCL,Lead 1x 250 ml poly HNO3,Dissolved Lead 1x 250 ml poly unpreserved
Dup Sample Time		Remarks	

The resource of this report item is not reachable.
 Sampler: Eric Krueger

Well Integrity Checklist

Item	Yes	No	NA	Notes
Type of well head				Round 12"
Well Secured on initial inspection	X			
Is Well ID Visible?	X			
Water in the well box	X			
Sleeve around the well box in good condition	X			
Any cleanup performed (explain)		X		No
Any repairs/replacement (explain)		X		No
Remarks		X		No

Photos and Drawings

MW-4

Date	11/30/2016	Weather Conditions		Depth to Water (ft bmp)	
Project Number	GP09BPNA.WA01	Water Quality Meter		Measured Well Depth (ft bmp)	
Address	13131 Bothell Everett Hwy, Everett, WA98208	Casing Material		Water Column in Well	0.0
Purge Method		Casing Diameter (in)		Gallons in Well	0.0
Purge Volume Units		Pump Intake Depth (ft bmp)		Total Volume to Remove	0.0
Sampling Type		Casing Volume to Remove			
Comments	NS				

Field Parameters

Time	Cuml Vol Purged	Temp °C	pH	Conductivity (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Remarks
15:26									NS

Sampling Summary

Sample Date		Odor	
Sample Time		Analysis	
Sample ID		COC	
Duplicate Sample ID		Bottles	
Dup Sample Time		Remarks	NS

The resource of this report item is not reachable.
 Sampler: Eric Krueger

Well Integrity Checklist

Item	Yes	No	NA	Notes
Type of well head				Round 12"
Well Secured on initial inspection	X			
Is Well ID Visible?	X			
Water in the well box	X			
Sleeve around the well box in good condition	X			
Any cleanup performed (explain)		X		No
Any repairs/replacement (explain)		X		No
Remarks		X		No

Photos and Drawings

MW-6

Date	11/30/2016	Weather Conditions	Cloudy	Depth to Water (ft bmp)	4.41
Project Number	GP09BPNA.WA01	Water Quality Meter	YSI	Measured Well Depth (ft bmp)	11.35
Address	13131 Bothell Everett Hwy, Everett, WA98208	Casing Material	PVC	Water Column in Well	6.94
Purge Method	Low Flow - Peristaltic Pump	Casing Diameter (in)	1	Gallons in Well	0.28
Purge Volume Units	ml	Pump Intake Depth (ft bmp)	8.0	Total Volume to Remove	0.0
Sampling Type	Low Flow	Casing Volume to Remove			
Comments					

Field Parameters

Time	Cuml Vol Purged	Temp °C	pH	Conductivity (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Remarks
12:26	600	13.5	7.54	458.5	35.3	0.73		4.43	
12:27	1200	14.4	7.55	459.3	36.7	0.50		4.48	
12:28	1400	14.8	7.55	459.0	38.1	0.48		4.55	
12:29	1600	14.9	7.55	460.2	39.1	0.46		4.58	

Sampling Summary

Sample Date	11/30/2016	Odor	No
Sample Time	12:30	Analysis	SW8260B,SW6010B,NWTPH-Gx
Sample ID	MW-6-Q416	COC	
Duplicate Sample ID		Bottles	BTEX 3x of 40 ml - HCL,Gx 3x 40 ml - HCL,Lead 1x 250 ml poly HNO3,Dissolved Lead 1x 250 ml poly unpreserved
Dup Sample Time		Remarks	

Sampler: Eric Krueger The resource of this report item is not reachable.

Well Integrity Checklist

Item	Yes	No	NA	Notes
Type of well head				4inch round
Well Secured on initial inspection	X			
Is Well ID Visible?	X			
Water in the well box	X			
Sleeve around the well box in good condition	X			
Any cleanup performed (explain)		X		No
Any repairs/replacement (explain)		X		No
Remarks		X		No

Photos and Drawings

MW-7

Date	11/30/2016	Weather Conditions	Cloudy	Depth to Water (ft bmp)	5.34
Project Number	GP09BPNA.WA01	Water Quality Meter	YSI	Measured Well Depth (ft bmp)	14.15
Address	13131 Bothell Everett Hwy, Everett, WA98208	Casing Material	PVC	Water Column in Well	8.81
Purge Method	Low Flow - Peristaltic Pump	Casing Diameter (in)	1	Gallons in Well	0.36
Purge Volume Units	ml	Pump Intake Depth (ft bmp)	9.0	Total Volume to Remove	0.0
Sampling Type	Low Flow	Casing Volume to Remove			
Comments					

Field Parameters

Time	Cumulative Vol Purged	Temp °C	pH	Conductivity (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Remarks
11:43	600	15.6	7.50	706	55.6	1.48		5.38	
11:46	1200	15.2	7.49	708	36.6	0.88		5.45	
11:47	1800	15.4	7.49	703	30.5	0.84		5.50	
11:48	2400	15.3	7.49	703	30.1	0.82		5.59	

Sampling Summary

Sample Date	11/30/2016	Odor	No
Sample Time	11:50	Analysis	SW8260B,SW6010B,NWTPH-Gx
Sample ID	MW-7-Q416	COC	
Duplicate Sample ID		Bottles	BTEX 3x of 40 ml - HCL,Gx 3x 40 ml - HCL,Lead 1x 250 ml poly HNO3,Dissolved Lead 1x 250 ml poly unpreserved
Dup Sample Time		Remarks	

The resource of this report item is not reachable.
 Sampler: Eric Krueger

Well Integrity Checklist

Item	Yes	No	NA	Notes
Type of well head				4 inch round
Well Secured on initial inspection	X			
Is Well ID Visible?	X			
Water in the well box	X			
Sleeve around the well box in good condition	X			
Any cleanup performed (explain)		X		No
Any repairs/replacement (explain)		X		No
Remarks				1inch casing

Photos and Drawings

MW-8

Date	11/30/2016	Weather Conditions		Depth to Water (ft bmp)	
Project Number	GP09BPNA.WA01	Water Quality Meter		Measured Well Depth (ft bmp)	
Address	13131 Bothell Everett Hwy, Everett, WA98208	Casing Material		Water Column in Well	0.0
Purge Method		Casing Diameter (in)		Gallons in Well	0.0
Purge Volume Units		Pump Intake Depth (ft bmp)		Total Volume to Remove	0.0
Sampling Type		Casing Volume to Remove			
Comments	NS				

Field Parameters

Time	Cuml Vol Purged	Temp °C	pH	Conductivity (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Remarks
15:27									NS

Sampling Summary

Sample Date		Odor	
Sample Time		Analysis	
Sample ID		COC	
Duplicate Sample ID		Bottles	
Dup Sample Time		Remarks	NS

The resource of this report item is not reachable.
 Sampler: Eric Krueger

Well Integrity Checklist

Item	Yes	No	NA	Notes
Type of well head				Round 12"
Well Secured on initial inspection	X			
Is Well ID Visible?	X			
Water in the well box		X		
Sleeve around the well box in good condition	X			
Any cleanup performed (explain)		X		No
Any repairs/replacement (explain)		X		No
Remarks		X		No

Photos and Drawings

MW-9

Date	11/30/2016	Weather Conditions		Depth to Water (ft bmp)	
Project Number	GP09BPNA.WA01	Water Quality Meter		Measured Well Depth (ft bmp)	
Address	13131 Bothell Everett Hwy, Everett, WA98208	Casing Material		Water Column in Well	0.0
Purge Method		Casing Diameter (in)		Gallons in Well	0.0
Purge Volume Units		Pump Intake Depth (ft bmp)		Total Volume to Remove	0.0
Sampling Type		Casing Volume to Remove			
Comments	NS				

Field Parameters

Time	Cuml Vol Purged	Temp °C	pH	Conductivity (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Remarks
15:30									NS

Sampling Summary

Sample Date		Odor	
Sample Time		Analysis	
Sample ID		COC	
Duplicate Sample ID		Bottles	
Dup Sample Time		Remarks	NS

The resource of this report item is not reachable.
 Sampler: Eric Krueger

Well Integrity Checklist

Item	Yes	No	NA	Notes
Type of well head				Round 12"
Well Secured on initial inspection	X			
Is Well ID Visible?	X			
Water in the well box		X		
Sleeve around the well box in good condition	X			
Any cleanup performed (explain)		X		No
Any repairs/replacement (explain)		X		No
Remarks		X		No

Photos and Drawings

MW-10

Date	11/30/2016	Weather Conditions		Depth to Water (ft bmp)	
Project Number	GP09BPNA.WA01	Water Quality Meter		Measured Well Depth (ft bmp)	
Address	13131 Bothell Everett Hwy, Everett, WA98208	Casing Material		Water Column in Well	0.0
Purge Method		Casing Diameter (in)		Gallons in Well	0.0
Purge Volume Units		Pump Intake Depth (ft bmp)		Total Volume to Remove	0.0
Sampling Type		Casing Volume to Remove			
Comments	NS				

Field Parameters

Time	Cuml Vol Purged	Temp °C	pH	Conductivity (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Remarks
15:24									NS

Sampling Summary

Sample Date		Odor	
Sample Time		Analysis	
Sample ID		COC	
Duplicate Sample ID		Bottles	
Dup Sample Time		Remarks	NS

The resource of this report item is not reachable.
 Sampler: Eric Krueger

Well Integrity Checklist

Item	Yes	No	NA	Notes
Any cleanup performed (explain)				
Any repairs/replacement (explain)				
Remarks				Could not find the well. looked for 30 min with shovel and still didnt find it.

Photos and Drawings

MW-11

Date	11/30/2016	Weather Conditions	Cloudy	Depth to Water (ft bmp)	5.61
Project Number	GP09BPNA.WA01	Water Quality Meter	YSI	Measured Well Depth (ft bmp)	14.36
Address	13131 Bothell Everett Hwy, Everett, WA98208	Casing Material	PVC	Water Column in Well	8.75
Purge Method	Low Flow - Peristaltic Pump	Casing Diameter (in)	2	Gallons in Well	1.43
Purge Volume Units	ml	Pump Intake Depth (ft bmp)	10.0	Total Volume to Remove	0.0
Sampling Type	Low Flow	Casing Volume to Remove			
Comments					

Field Parameters

Time	Cuml Vol Purged	Temp °C	pH	Conductivity (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Remarks
14:39	600	15.4	7.65	622	155.8	0.35		5.62	
14:42	1200	15.4	7.62	632	135.8	0.30		5.80	
14:45	1800	15.0	7.61	641	131.9	0.27		5.89	
14:47	2200	15.1	7.60	640	126.6	0.25		5.98	

Sampling Summary

Sample Date	11/30/2016	Odor	HCLO
Sample Time	14:50	Analysis	SW8260B,SW6010B,NWTPH-Gx
Sample ID	MW-11-Q416	COC	
Duplicate Sample ID	DUP-1	Bottles	BTEX 3x of 40 ml - HCL,Gx 3x 40 ml - HCL,Lead 1x 250 ml poly HNO3,Dissolved Lead 1x 250 ml poly unpreserved
Dup Sample Time	14:50	Remarks	

Sampler: Eric Krueger
 The resource of this report item is not reachable.

Well Integrity Checklist

Item	Yes	No	NA	Notes
Type of well head				Round 12"
Well Secured on initial inspection	X			
Is Well ID Visible?	X			
Water in the well box		X		
Sleeve around the well box in good condition	X			
Any cleanup performed (explain)		X		No
Any repairs/replacement (explain)		X		No
Remarks		X		No

Photos and Drawings

MW-12

Date	11/30/2016	Weather Conditions	Cloudy	Depth to Water (ft bmp)	5.25
Project Number	GP09BPNA.WA01	Water Quality Meter	YSI	Measured Well Depth (ft bmp)	13.00
Address	13131 Bothell Everett Hwy, Everett, WA98208	Casing Material	PVC	Water Column in Well	7.75
Purge Method	Low Flow - Peristaltic Pump	Casing Diameter (in)	2	Gallons in Well	1.26
Purge Volume Units	ml	Pump Intake Depth (ft bmp)	9.0	Total Volume to Remove	0.0
Sampling Type	Low Flow	Casing Volume to Remove			
Comments					

Field Parameters

Time	Cumulative Vol Purged	Temp °C	pH	Conductivity (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Remarks
11:02	600	14.7	7.59	963	176.3	1.78		5.25	
11:05	1200	14.7	7.51	1002	35.6	1.17		5.61	
11:08	1800	14.5	7.50	1041	2.3	0.92		5.82	
11:11	2400	14.5	7.48	1050	2.3	0.89		5.95	
11:12	3000	14.5	7.48	1053	2.0	0.88		6.06	

Sampling Summary

Sample Date	11/30/2016	Odor	Slight hclo
Sample Time	11:15	Analysis	SW8260B,NWTPH-Gx,SW6010B
Sample ID	MW-12-Q416	COC	
Duplicate Sample ID		Bottles	BTEX 3x of 40 ml - HCL,Gx 3x 40 ml - HCL,Lead 1x 250 ml poly HNO3,Dissolved Lead 1x 250 ml poly unpreserved
Dup Sample Time		Remarks	

The resource of this report item is not reachable.
 Sampler: Eric Krueger

Well Integrity Checklist

Item	Yes	No	NA	Notes
Well Secured on initial inspection	X			
Is Well ID Visible?	X			
Water in the well box		X		
Sleeve around the well box in good condition		X		
Any cleanup performed (explain)		X	No	
Any repairs/replacement (explain)		X	No	
Remarks		X	No	

Photos and Drawings

ATTACHMENT B

Laboratory Report and Chain of Custody Documents



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

February 24, 2016

Project: WA-0217Submittal Date: 02/05/2016
Group Number: 1629380
PO Number: GP09BPNA.WA01
State of Sample Origin: WA

<u>Client Sample Description</u>	<u>Lancaster Labs (LL) #</u>
MW-2-02022016 Grab Water	8232964
MW-6-02022016 Grab Water	8232966
MW-7-02022016 Grab Water	8232968
MW-11-02022016 Grab Water	8232970
IW-1-02022016 Grab Water	8232972
IW-3-02022016 Grab Water	8232974
BD-217-02022016 Grab Water	8232976

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

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our scopes of accreditation can be viewed at <http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/> .

ELECTRONIC COPY TO	Atlantic Richfield c/o ARCADIS	Attn: Ophelie Encelle
ELECTRONIC COPY TO	ARCADIS U.S., Inc.	Attn: Brian Marcum
ELECTRONIC COPY TO	ARCADIS U.S., Inc.	Attn: Richard Rodriguez
ELECTRONIC COPY TO	ARCADIS U.S., Inc.	Attn: Ross LaGrandeur

Respectfully Submitted,



Stacy L. Butt
Specialist

(717) 556-7236

Project Name: WA-0217
LL Group #: 1629380

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 6010B, Metals**

Sample #s: 8232970

Reporting limits were raised due to interference from the sample matrix.

Sample Description: MW-2-02022016 Grab Water
WA-217
13131 Bothell-Everett Highway - Everett, WA

LL Sample # WW 8232964
LL Group # 1629380
Account # 13255

Project Name: WA-0217

Collected: 02/02/2016 10:18

Atlantic Richfield c/o ARCADIS

Submitted: 02/05/2016 09:40

Suite 600

Reported: 02/24/2016 11:16

630 Plaza Drive

Highlands Ranch CO 80129

217-2

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles						
	SW-846 8260B		ug/l	ug/l	ug/l	
10335	Benzene	71-43-2	0.69 J	0.50	1.0	1
10335	Ethylbenzene	100-41-4	1.1	0.50	1.0	1
10335	Toluene	108-88-3	N.D.	0.50	1.0	1
10335	Xylene (Total)	1330-20-7	0.53 J	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.	220 J	50	250	1
Metals						
	SW-846 6010B		ug/l	ug/l	ug/l	
07055	Lead	7439-92-1	N.D.	5.1	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	N160391AA	02/08/2016 13:27	Nicole S Lamoreaux	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	N160391AA	02/08/2016 13:27	Nicole S Lamoreaux	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	16036D20A	02/08/2016 18:45	Jeremy C Giffin	1
01146	GC VOA Water Prep	SW-846 5030B	1	16036D20A	02/08/2016 18:45	Jeremy C Giffin	1
07055	Lead	SW-846 6010B	1	160361848002	02/09/2016 21:34	Elaine F Stoltzfus	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	160361848002	02/07/2016 22:00	Annamaria Kuhns	1

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

Sample Description: MW-6-02022016 Grab Water
WA-217
13131 Bothell-Everett Highway - Everett, WA

LL Sample # WW 8232966
LL Group # 1629380
Account # 13255

Project Name: WA-0217

Collected: 02/02/2016 09:52

Atlantic Richfield c/o ARCADIS

Submitted: 02/05/2016 09:40

Suite 600

Reported: 02/24/2016 11:16

630 Plaza Drive

Highlands Ranch CO 80129

217-6

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	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.	5.1	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	N160391AA	02/08/2016 13:50	Nicole S Lamoreaux	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	N160391AA	02/08/2016 13:50	Nicole S Lamoreaux	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	16036D20A	02/08/2016 19:12	Jeremy C Giffin	1
01146	GC VOA Water Prep	SW-846 5030B	1	16036D20A	02/08/2016 19:12	Jeremy C Giffin	1
07055	Lead	SW-846 6010B	1	160361848002	02/09/2016 21:38	Elaine F Stoltzfus	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	160361848002	02/07/2016 22:00	Annamaria Kuhns	1

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

Sample Description: MW-7-02022016 Grab Water
WA-217
13131 Bothell-Everett Highway - Everett, WA

LL Sample # WW 8232968
LL Group # 1629380
Account # 13255

Project Name: WA-0217

Collected: 02/02/2016 09:23

Atlantic Richfield c/o ARCADIS

Submitted: 02/05/2016 09:40

Suite 600

Reported: 02/24/2016 11:16

630 Plaza Drive

Highlands Ranch CO 80129

217-7

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	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.	83 J	50	250	1
Metals						
	SW-846 6010B		ug/l	ug/l	ug/l	
07055	Lead	7439-92-1	N.D.	5.1	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	N160391AA	02/08/2016 14:13	Nicole S Lamoreaux	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	N160391AA	02/08/2016 14:13	Nicole S Lamoreaux	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	16036D20A	02/08/2016 20:07	Jeremy C Giffin	1
01146	GC VOA Water Prep	SW-846 5030B	1	16036D20A	02/08/2016 20:07	Jeremy C Giffin	1
07055	Lead	SW-846 6010B	1	160361848002	02/09/2016 21:41	Elaine F Stoltzfus	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	160361848002	02/07/2016 22:00	Annamaria Kuhns	1

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

Sample Description: MW-11-02022016 Grab Water
WA-217
13131 Bothell-Everett Highway - Everett, WA

LL Sample # WW 8232970
LL Group # 1629380
Account # 13255

Project Name: WA-0217

Collected: 02/02/2016 11:41

Atlantic Richfield c/o ARCADIS

Submitted: 02/05/2016 09:40

Suite 600

Reported: 02/24/2016 11:16

630 Plaza Drive

Highlands Ranch CO 80129

21711

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles						
	SW-846 8260B		ug/l	ug/l	ug/l	
10335	Benzene	71-43-2	70	0.50	1.0	1
10335	Ethylbenzene	100-41-4	22	0.50	1.0	1
10335	Toluene	108-88-3	1.9	0.50	1.0	1
10335	Xylene (Total)	1330-20-7	4.3	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.	2,900	250	1,300	5
Metals						
	SW-846 6010B		ug/l	ug/l	ug/l	
07055	Lead	7439-92-1	N.D.	25.5	75.0	5
Reporting limits were raised due to interference from the sample matrix.						

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	N160391AA	02/08/2016 16:09	Nicole S Lamoreaux	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	N160391AA	02/08/2016 16:09	Nicole S Lamoreaux	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	16036D20A	02/08/2016 22:25	Jeremy C Giffin	5
01146	GC VOA Water Prep	SW-846 5030B	1	16036D20A	02/08/2016 22:25	Jeremy C Giffin	5
07055	Lead	SW-846 6010B	1	160361848002	02/10/2016 19:24	Elaine F Stoltzfus	5
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	160361848002	02/07/2016 22:00	Annamaria Kuhns	1

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

Sample Description: IW-1-02022016 Grab Water
WA-217
13131 Bothell-Everett Highway - Everett, WA

LL Sample # WW 8232972
LL Group # 1629380
Account # 13255

Project Name: WA-0217

Collected: 02/02/2016 11:11

Atlantic Richfield c/o ARCADIS

Submitted: 02/05/2016 09:40

Suite 600

Reported: 02/24/2016 11:16

630 Plaza Drive

Highlands Ranch CO 80129

217I1

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	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.	5.1	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	N160391AA	02/08/2016 14:36	Nicole S Lamoreaux	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	N160391AA	02/08/2016 14:36	Nicole S Lamoreaux	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	16036D20A	02/08/2016 20:35	Jeremy C Giffin	1
01146	GC VOA Water Prep	SW-846 5030B	1	16036D20A	02/08/2016 20:35	Jeremy C Giffin	1
07055	Lead	SW-846 6010B	1	160361848002	02/09/2016 21:54	Elaine F Stoltzfus	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	160361848002	02/07/2016 22:00	Annamaria Kuhns	1

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

Sample Description: IW-3-02022016 Grab Water
WA-217
13131 Bothell-Everett Highway - Everett, WA

LL Sample # WW 8232974
LL Group # 1629380
Account # 13255

Project Name: WA-0217

Collected: 02/02/2016 10:45

Atlantic Richfield c/o ARCADIS

Submitted: 02/05/2016 09:40

Suite 600

Reported: 02/24/2016 11:16

630 Plaza Drive

Highlands Ranch CO 80129

217I3

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	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.	5.1	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	N160391AA	02/08/2016 14:59	Nicole S Lamoreaux	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	N160391AA	02/08/2016 14:59	Nicole S Lamoreaux	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	16036D20A	02/08/2016 21:02	Jeremy C Giffin	1
01146	GC VOA Water Prep	SW-846 5030B	1	16036D20A	02/08/2016 21:02	Jeremy C Giffin	1
07055	Lead	SW-846 6010B	1	160361848002	02/09/2016 21:57	Elaine F Stoltzfus	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	160361848002	02/07/2016 22:00	Annamaria Kuhns	1

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

Sample Description: BD-217-02022016 Grab Water
WA-217
13131 Bothell-Everett Highway - Everett, WA

LL Sample # WW 8232976
LL Group # 1629380
Account # 13255

Project Name: WA-0217

Collected: 02/02/2016

Atlantic Richfield c/o ARCADIS

Submitted: 02/05/2016 09:40

Suite 600

Reported: 02/24/2016 11:16

630 Plaza Drive

Highlands Ranch CO 80129

217BD

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles						
	SW-846 8260B		ug/l	ug/l	ug/l	
10335	Benzene	71-43-2	69	0.50	1.0	1
10335	Ethylbenzene	100-41-4	21	0.50	1.0	1
10335	Toluene	108-88-3	1.9	0.50	1.0	1
10335	Xylene (Total)	1330-20-7	4.2	0.50	1.0	1
GC Volatiles						
	ECY 97-602 NWT PH-Gx		ug/l	ug/l	ug/l	
08273	NWT PH-Gx water C7-C12	n.a.	3,200	50	250	1
Metals						
	SW-846 6010B		ug/l	ug/l	ug/l	
07055	Lead	7439-92-1	N.D.	5.1	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	N160391AA	02/08/2016 16:55	Nicole S Lamoreaux	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	N160391AA	02/08/2016 16:55	Nicole S Lamoreaux	1
08273	NWT PH-Gx water C7-C12	ECY 97-602 NWT PH-Gx	1	16036D20A	02/08/2016 21:30	Jeremy C Giffin	1
01146	GC VOA Water Prep	SW-846 5030B	1	16036D20A	02/08/2016 21:30	Jeremy C Giffin	1
07055	Lead	SW-846 6010B	1	160361848002	02/09/2016 22:00	Elaine F Stoltzfus	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	160361848002	02/07/2016 22:00	Annamaria Kuhns	1

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

Quality Control Summary

Client Name: Atlantic Richfield c/o ARCADIS
Reported: 02/24/2016 11:16

Group Number: 1629380

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.

Method Blank

Analysis Name	Result	MDL**	LOQ
	ug/l	ug/l	ug/l
Batch number: N160391AA	Sample number(s): 8232964, 8232966, 8232968, 8232970, 8232972, 8232974, 8232976		
Benzene	N.D.	0.50	1.0
Ethylbenzene	N.D.	0.50	1.0
Toluene	N.D.	0.50	1.0
Xylene (Total)	N.D.	0.50	1.0
Batch number: 16036D20A	Sample number(s): 8232964, 8232966, 8232968, 8232970, 8232972, 8232974, 8232976		
NWTPH-Gx water C7-C12	N.D.	50	250
Batch number: 160361848002	Sample number(s): 8232964, 8232966, 8232968, 8232970, 8232972, 8232974, 8232976		
Lead	N.D.	5.1	15.0

LCS/LCSD

Analysis Name	LCS Spike Added	LCS Conc	LCSD Spike Added	LCSD Conc	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
	ug/l	ug/l	ug/l	ug/l					
Batch number: N160391AA	Sample number(s): 8232964, 8232966, 8232968, 8232970, 8232972, 8232974, 8232976								
Benzene	20	21.53	20	22.13	108	111	78-120	3	30
Ethylbenzene	20	19.49	20	19.89	97	99	78-120	2	30
Toluene	20	19.53	20	20.03	98	100	80-120	3	30
Xylene (Total)	60	57.83	60	59.54	96	99	80-120	3	30
	ug/l	ug/l	ug/l	ug/l					
Batch number: 16036D20A	Sample number(s): 8232964, 8232966, 8232968, 8232970, 8232972, 8232974, 8232976								
NWTPH-Gx water C7-C12	1100	1037.38			94		80-123		
	ug/l	ug/l	ug/l	ug/l					
Batch number: 160361848002	Sample number(s): 8232964, 8232966, 8232968, 8232970, 8232972, 8232974, 8232976								
Lead	150	156.94			105		80-120		

MS/MSD

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

Analysis Name	Unspiked Conc	MS Spike Added	MS Conc	MSD Spike Added	MSD Conc	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
	ug/l	ug/l	ug/l	ug/l	ug/l					
Batch number: 16036D20A	Sample number(s): 8232964, 8232966, 8232968, 8232970, 8232972, 8232974, 8232976 UNSPK: P232911									

*- 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.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Atlantic Richfield c/o ARCADIS
Reported: 02/24/2016 11:16

Group Number: 1629380

Analysis Name	Unspiked Conc ug/l	MS Spike Added ug/l	MS Conc ug/l	MSD Spike Added ug/l	MSD Conc ug/l	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
NWTPH-Gx water C7-C12	N.D.	1100	1137.89	1100	1176.5	103	107	80-123	3	30
	ug/l	ug/l	ug/l	ug/l	ug/l					
Batch number: 160361848002	Sample number(s): 8232964,8232966,8232968,8232970,8232972,8232974,8232976 UNSPK: P230617									
Lead	N.D.	150	157.39	150	158.65	105	106	75-125	1	20

Laboratory Duplicate

Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	BKG Conc ug/l	DUP Conc ug/l	DUP RPD	DUP RPD Max
Batch number: 160361848002	Sample number(s): 8232964,8232966,8232968,8232970,8232972,8232974,8232976 BKG: P230617			
Lead	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: VOCs 8260 BTEX
Batch number: N160391AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8232964	101	100	98	99
8232966	101	101	98	99
8232968	101	100	98	99
8232970	102	102	98	101
8232972	102	100	98	98
8232974	103	102	97	98
8232976	102	102	98	101
Blank	101	100	98	99
LCS	102	101	99	101
LCSD	102	101	99	101
Limits:	80-116	77-113	80-113	78-113

Analysis Name: NWTPH-Gx water C7-C12
Batch number: 16036D20A

	Trifluorotoluene-F
8232964	85
8232966	91
8232968	88
8232970	87
8232972	86
8232974	87
8232976	113

*- 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.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Atlantic Richfield c/o ARCADIS
Reported: 02/24/2016 11:16

Group Number: 1629380

	Trifluorotoluene-F
Blank	86
LCS	100
MS	103
MSD	102
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.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Client: Arcadis**Delivery and Receipt Information**

Delivery Method: SeaTac Arrival Timestamp: 02/05/2016 9:40
Number of Packages: 1 Number of Projects: 1

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	VOA Vial Headspace $\geq$ 6mm:	No
Samples Chilled:	Yes	Total Trip Blank Qty:	4
Paperwork Enclosed:	Yes	Trip Blank Type:	HCL
Samples Intact:	Yes	Air Quality Samples Present:	No
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Timothy Cubberley (6520) at 12:09 on 02/05/2016

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	Elevated Temp?
1	DT131	1.9	DT	Wet	Y	Bagged	N

General Comments: Rec'd missing cooler from yesterday.

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		
>	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.		

Laboratory Data Qualifiers:

- B - Analyte detected in the blank
- C - Result confirmed by reanalysis
- E - Concentration exceeds the calibration range
- J (or G, I, X) - estimated value $\geq$ the Method Detection Limit (MDL or DL) and $<$ the Limit of Quantitation (LOQ or RL)
- P - Concentration difference between the primary and confirmation column $>40\%$. The lower result is reported.
- U - Analyte was not detected at the value indicated
- V - Concentration difference between the primary and confirmation column $>100\%$. The reporting limit is raised due to this disparity and evident interference...

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods. Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) 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.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

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

Report Date: June 23, 2016

Project: WA-0217Submittal Date: 05/27/2016
Group Number: 1666229
PO Number: GP09BPNA.WA01
State of Sample Origin: WAClient Sample Description

	Lancaster Labs (LL) #
MW-2 Water	8401582
MW-6 Water	8401584
MW-11 Water	8401586
MW-12 Water	8401588
MW-12 Filtered Water	8401589
IW-1 Water	8401590
IW-3 Water	8401592
MW-7 Water	8401594
DUP-1 Water	8401596
Trip Blank Water	8401597

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

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our scopes of accreditation can be viewed at <http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/>.

Electronic Copy To	ARCADIS U.S., Inc.	Attn: Ryan Brauchla
Electronic Copy To	Atlantic Richfield c/o ARCADIS	Attn: Ophelie Encelle
Electronic Copy To	ARCADIS U.S., Inc.	Attn: Brian Marcum
Electronic Copy To	ARCADIS U.S., Inc.	Attn: Richard Rodriguez
Electronic Copy To	ARCADIS U.S., Inc.	Attn: Ross LaGrandeur

Respectfully Submitted,


Stacy L. Butt
Specialist

(717) 556-7236

Project Name: WA-0217
LL Group #: 1666229

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 Water
WA-217 COC: R215909
13131 Bothell-Everett Hwy - Everett, WA

LL Sample # WW 8401582
LL Group # 1666229
Account # 13255

Project Name: WA-0217

Collected: 05/25/2016 17:10 by AP

Atlantic Richfield c/o ARCADIS

Submitted: 05/27/2016 09:55

Suite 600

Reported: 06/23/2016 09:11

630 Plaza Drive

Highlands Ranch CO 80129

BEEM2

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/l	ug/l	ug/l	
10335	Benzene	71-43-2	1.2	0.50	1.0	1
10335	Ethylbenzene	100-41-4	12	0.50	1.0	1
10335	Toluene	108-88-3	N.D.	0.50	1.0	1
10335	Xylene (Total)	1330-20-7	1.6	0.50	1.0	1
GC	Volatiles	ECY 97-602 NWT PH-Gx	ug/l	ug/l	ug/l	
08273	NWT PH-Gx water C7-C12	n.a.	590	50	250	1
Metals		SW-846 6010B	ug/l	ug/l	ug/l	
07055	Lead	7439-92-1	N.D.	5.1	15.0	1

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	P161532AA	06/01/2016 16:19	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	P161532AA	06/01/2016 16:19	Daniel H Heller	1
08273	NWT PH-Gx water C7-C12	ECY 97-602	1	16154A53A	06/04/2016 16:38	Marie D	1
		NWT PH-Gx				Beamenderfer	
01146	GC VOA Water Prep	SW-846 5030B	1	16154A53A	06/04/2016 16:38	Marie D	1
						Beamenderfer	
07055	Lead	SW-846 6010B	1	161551848007	06/06/2016 20:46	Cindy M Gehman	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	161551848007	06/06/2016 05:56	James L Mertz	1

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

Sample Description: MW-6 Water
WA-217 COC: R215909
13131 Bothell-Everett Hwy - Everett, WA

LL Sample # WW 8401584
LL Group # 1666229
Account # 13255

Project Name: WA-0217

Collected: 05/25/2016 16:15 by AP

Atlantic Richfield c/o ARCADIS
Suite 600

Submitted: 05/27/2016 09:55

630 Plaza Drive

Reported: 06/23/2016 09:11

Highlands Ranch CO 80129

BEEM6

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	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 NWT PH-Gx	ug/l	ug/l	ug/l	
08273	NWT PH-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.	5.1	15.0	1

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	P161532AA	06/01/2016 16:45	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	P161532AA	06/01/2016 16:45	Daniel H Heller	1
08273	NWT PH-Gx water C7-C12	ECY 97-602	1	16154A53A	06/04/2016 17:05	Marie D Beamenderfer	1
01146	GC VOA Water Prep	NWT PH-Gx					
		SW-846 5030B	1	16154A53A	06/04/2016 17:05	Marie D Beamenderfer	1
07055	Lead	SW-846 6010B	1	161551848007	06/06/2016 20:49	Cindy M Gehman	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	161551848007	06/06/2016 05:56	James L Mertz	1

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

Sample Description: MW-11 Water
WA-217 COC: R215909
13131 Bothell-Everett Hwy - Everett, WA

LL Sample # WW 8401586
LL Group # 1666229
Account # 13255

Project Name: WA-0217

Collected: 05/25/2016 19:30 by AP

Atlantic Richfield c/o ARCADIS

Submitted: 05/27/2016 09:55

Suite 600

Reported: 06/23/2016 09:11

630 Plaza Drive

Highlands Ranch CO 80129

BEE11

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/l	ug/l	ug/l	
10335	Benzene	71-43-2	58	0.50	1.0	1
10335	Ethylbenzene	100-41-4	32	0.50	1.0	1
10335	Toluene	108-88-3	7.2	0.50	1.0	1
10335	Xylene (Total)	1330-20-7	22	0.50	1.0	1
GC	Volatiles	ECY 97-602 NWT PH-Gx	ug/l	ug/l	ug/l	
08273	NWT PH-Gx water C7-C12	n.a.	4,300	50	250	1
Metals		SW-846 6010B	ug/l	ug/l	ug/l	
07055	Lead	7439-92-1	N.D.	5.1	15.0	1

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	P161532AA	06/01/2016 17:11	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	P161532AA	06/01/2016 17:11	Daniel H Heller	1
08273	NWT PH-Gx water C7-C12	ECY 97-602	1	16154A53A	06/04/2016 17:33	Marie D	1
		NWT PH-Gx				Beamenderfer	
01146	GC VOA Water Prep	SW-846 5030B	1	16154A53A	06/04/2016 17:33	Marie D	1
						Beamenderfer	
07055	Lead	SW-846 6010B	1	161551848007	06/06/2016 19:46	Cindy M Gehman	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	161551848007	06/06/2016 05:56	James L Mertz	1

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

Sample Description: MW-12 Water
WA-217 COC: R215909
13131 Bothell-Everett Hwy - Everett, WA

LL Sample # WW 8401588
LL Group # 1666229
Account # 13255

Project Name: WA-0217

Collected: 05/25/2016 14:25 by AP

Atlantic Richfield c/o ARCADIS
Suite 600

Submitted: 05/27/2016 09:55

630 Plaza Drive

Reported: 06/23/2016 09:11

Highlands Ranch CO 80129

BEE12

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/l	ug/l	ug/l	
10335	Benzene	71-43-2	0.62 J	0.50	1.0	1
10335	Ethylbenzene	100-41-4	1.4	0.50	1.0	1
10335	Toluene	108-88-3	N.D.	0.50	1.0	1
10335	Xylene (Total)	1330-20-7	0.68 J	0.50	1.0	1
GC	Volatiles	ECY 97-602 NWT PH-Gx	ug/l	ug/l	ug/l	
08273	NWT PH-Gx water C7-C12	n.a.	190 J	50	250	1
Metals	SW-846 6010B	ug/l	ug/l	ug/l		
07055	Lead	7439-92-1	38.7	5.1	15.0	1

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	P161532AA	06/01/2016 17:38	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	P161532AA	06/01/2016 17:38	Daniel H Heller	1
08273	NWT PH-Gx water C7-C12	ECY 97-602	1	16154A53A	06/04/2016 18:00	Marie D Beamenderfer	1
01146	GC VOA Water Prep	NWT PH-Gx					
		SW-846 5030B	1	16154A53A	06/04/2016 18:00	Marie D Beamenderfer	1
07055	Lead	SW-846 6010B	1	161551848007	06/06/2016 20:59	Cindy M Gehman	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	161551848007	06/06/2016 05:56	James L Mertz	1

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

Sample Description: MW-12 Filtered Water
WA-217 COC: R215909
13131 Bothell-Everett Hwy - Everett, WA

LL Sample # WW 8401589
LL Group # 1666229
Account # 13255

Project Name: WA-0217

Collected: 05/25/2016 14:25 by AP

Atlantic Richfield c/o ARCADIS

Suite 600

Submitted: 05/27/2016 09:55

630 Plaza Drive

Reported: 06/23/2016 09:11

Highlands Ranch CO 80129

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
Metals Dissolved						
07055	Lead	SW-846 6010B 7439-92-1	ug/l N.D.	ug/l 5.1	ug/l 15.0	1

Sample Comments

State of Washington Lab Certification No. C457
This sample was filtered in the lab 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	161741848001	06/23/2016 07:04	Joanne M Gates	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	161741848001	06/22/2016 22:30	Annamaria Kuhns	1

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

Sample Description: IW-1 Water
WA-217 COC: R215909
13131 Bothell-Everett Hwy - Everett, WA

LL Sample # WW 8401590
LL Group # 1666229
Account # 13255

Project Name: WA-0217

Collected: 05/25/2016 18:50 by AP

Atlantic Richfield c/o ARCADIS

Submitted: 05/27/2016 09:55

Suite 600

Reported: 06/23/2016 09:11

630 Plaza Drive

Highlands Ranch CO 80129

BEEI1

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	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 NWT PH-Gx	ug/l	ug/l	ug/l	
08273	NWT PH-Gx water C7-C12	n.a.	58 J	50	250	1
Metals	SW-846 6010B	ug/l	ug/l	ug/l		
07055	Lead	7439-92-1	N.D.	5.1	15.0	1

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	P161532AA	06/01/2016 18:04	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	P161532AA	06/01/2016 18:04	Daniel H Heller	1
08273	NWT PH-Gx water C7-C12	ECY 97-602	1	16154A53A	06/04/2016 18:28	Marie D Beamenderfer	1
01146	GC VOA Water Prep	NWT PH-Gx					
		SW-846 5030B	1	16154A53A	06/04/2016 18:28	Marie D Beamenderfer	1
07055	Lead	SW-846 6010B	1	161551848007	06/06/2016 21:02	Cindy M Gehman	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	161551848007	06/06/2016 05:56	James L Mertz	1

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

Sample Description: IW-3 Water
WA-217 COC: R215909
13131 Bothell-Everett Hwy - Everett, WA

LL Sample # WW 8401592
LL Group # 1666229
Account # 13255

Project Name: WA-0217

Collected: 05/25/2016 18:00 by AP

Atlantic Richfield c/o ARCADIS

Suite 600

Submitted: 05/27/2016 09:55

630 Plaza Drive

Reported: 06/23/2016 09:11

Highlands Ranch CO 80129

BEEI3

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	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 NWT PH-Gx	ug/l	ug/l	ug/l	
08273	NWT PH-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.	5.1	15.0	1

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	P161532AA	06/01/2016 18:30	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	P161532AA	06/01/2016 18:30	Daniel H Heller	1
08273	NWT PH-Gx water C7-C12	ECY 97-602	1	16154A53A	06/04/2016 18:55	Marie D Beamenderfer	1
01146	GC VOA Water Prep	NWT PH-Gx					
		SW-846 5030B	1	16154A53A	06/04/2016 18:55	Marie D Beamenderfer	1
07055	Lead	SW-846 6010B	1	161551848007	06/06/2016 21:06	Cindy M Gehman	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	161551848007	06/06/2016 05:56	James L Mertz	1

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

Sample Description: MW-7 Water
WA-217 COC: R215909
13131 Bothell-Everett Hwy - Everett, WA

LL Sample # WW 8401594
LL Group # 1666229
Account # 13255

Project Name: WA-0217

Collected: 05/25/2016 15:20 by AP

Atlantic Richfield c/o ARCADIS
Suite 600

Submitted: 05/27/2016 09:55

630 Plaza Drive

Reported: 06/23/2016 09:11

Highlands Ranch CO 80129

BEEM7

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	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 NWT PH-Gx	ug/l	ug/l	ug/l	
08273	NWT PH-Gx water C7-C12	n.a.	170 J	50	250	1
Metals		SW-846 6010B	ug/l	ug/l	ug/l	
07055	Lead	7439-92-1	N.D.	5.1	15.0	1

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	P161531AA	06/01/2016 11:17	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	P161531AA	06/01/2016 11:17	Daniel H Heller	1
08273	NWT PH-Gx water C7-C12	ECY 97-602	1	16154A53A	06/04/2016 19:23	Marie D Beamenderfer	1
01146	GC VOA Water Prep	NWT PH-Gx					
		SW-846 5030B	1	16154A53A	06/04/2016 19:23	Marie D Beamenderfer	1
07055	Lead	SW-846 6010B	1	161551848007	06/06/2016 21:09	Cindy M Gehman	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	161551848007	06/06/2016 05:56	James L Mertz	1

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

Sample Description: DUP-1 Water
WA-217 COC: R215909
13131 Bothell-Everett Hwy - Everett, WA

LL Sample # WW 8401596
LL Group # 1666229
Account # 13255

Project Name: WA-0217

Collected: 05/25/2016 by AP

Atlantic Richfield c/o ARCADIS

Submitted: 05/27/2016 09:55

Suite 600

Reported: 06/23/2016 09:11

630 Plaza Drive

Highlands Ranch CO 80129

BEEFD

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/l	ug/l	ug/l	
10335	Benzene	71-43-2	62	0.50	1.0	1
10335	Ethylbenzene	100-41-4	33	0.50	1.0	1
10335	Toluene	108-88-3	7.1	0.50	1.0	1
10335	Xylene (Total)	1330-20-7	22	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

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	P161531AA	06/01/2016 11:43	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	P161531AA	06/01/2016 11:43	Daniel H Heller	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	16154A53A	06/04/2016 19:51	Marie D Beamenderfer	1
01146	GC VOA Water Prep	SW-846 5030B	1	16154A53A	06/04/2016 19:51	Marie D Beamenderfer	1

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

Sample Description: Trip Blank Water
WA-217 COC: R215909
13131 Bothell-Everett Hwy - Everett, WA

LL Sample # WW 8401597
LL Group # 1666229
Account # 13255

Project Name: WA-0217

Collected: 05/25/2016

Atlantic Richfield c/o ARCADIS

Submitted: 05/27/2016 09:55

Suite 600

Reported: 06/23/2016 09:11

630 Plaza Drive

Highlands Ranch CO 80129

BEETB

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC Volatiles						
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx n.a.	ug/l N.D.	ug/l 50	ug/l 250	1

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
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	16154A53A	06/04/2016 12:29	Jeremy C Giffin	1
01146	GC VOA Water Prep	SW-846 5030B	1	16154A53A	06/04/2016 12:29	Jeremy C Giffin	1

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

Quality Control Summary

Client Name: Atlantic Richfield c/o ARCADIS
Reported: 06/23/2016 09:11

Group Number: 1666229

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.

Method Blank

Analysis Name	Result	MDL**	LOQ
	ug/l	ug/l	ug/l
Batch number: P161531AA	Sample number(s): 8401594,8401596		
Benzene	N.D.	0.50	1.0
Ethylbenzene	N.D.	0.50	1.0
Toluene	N.D.	0.50	1.0
Xylene (Total)	N.D.	0.50	1.0
Batch number: P161532AA	Sample number(s): 8401582,8401584,8401586,8401588,8401590,8401592		
Benzene	N.D.	0.50	1.0
Ethylbenzene	N.D.	0.50	1.0
Toluene	N.D.	0.50	1.0
Xylene (Total)	N.D.	0.50	1.0
Batch number: 16154A53A	Sample number(s):		
	8401582,8401584,8401586,8401588,8401590,8401592,8401594,8401596-8401597		
NWTPH-Gx water C7-C12	N.D.	50	250
Batch number: 161551848007	Sample number(s): 8401582,8401584,8401586,8401588,8401590,8401592,8401594		
Lead	N.D.	5.1	15.0
Batch number: 161741848001	Sample number(s): 8401589		
Lead	N.D.	5.1	15.0

LCS/LCSD

Analysis Name	LCS Spike Added	LCS Conc	LCSD Spike Added	LCSD Conc	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
	ug/l	ug/l	ug/l	ug/l					
Batch number: P161531AA	Sample number(s): 8401594,8401596								
Benzene	20	18.98			95		78-120		
Ethylbenzene	20	18.28			91		78-120		
Toluene	20	19.08			95		80-120		
Xylene (Total)	60	56.86			95		80-120		
Batch number: P161532AA	Sample number(s): 8401582,8401584,8401586,8401588,8401590,8401592								
Benzene	20	19.76			99		78-120		
Ethylbenzene	20	18.98			95		78-120		
Toluene	20	19.86			99		80-120		
Xylene (Total)	60	58.46			97		80-120		
	ug/l	ug/l	ug/l	ug/l					
Batch number: 16154A53A	Sample number(s):								
	8401582,8401584,8401586,8401588,8401590,8401592,8401594,8401596-8401597								

*- 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.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Atlantic Richfield c/o ARCADIS
Reported: 06/23/2016 09:11

Group Number: 1666229

LCS/LCSD (continued)

Analysis Name	LCS Spike Added ug/l	LCS Conc ug/l	LCSD Spike Added ug/l	LCSD Conc ug/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
NWTPH-Gx water C7-C12	1100	1008.28			92		79-120		
	ug/l	ug/l	ug/l	ug/l					
Batch number: 161551848007	Sample number(s): 8401582,8401584,8401586,8401588,8401590,8401592,8401594								
Lead	150	160.36			107		80-120		
Batch number: 161741848001	Sample number(s): 8401589								
Lead	150	147.35			98		80-120		

MS/MSD

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

Analysis Name	Unspiked Conc ug/l	MS Spike Added ug/l	MS Conc ug/l	MSD Spike Added ug/l	MSD Conc ug/l	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Batch number: P161531AA	Sample number(s): 8401594,8401596 UNSPK: 8401596									
Benzene	62.01	20	81.96	20	82.12	100	101	78-120	0	30
Ethylbenzene	33.18	20	50.84	20	51.63	88	92	78-120	2	30
Toluene	7.07	20	27.28	20	27.45	101	102	80-120	1	30
Xylene (Total)	22.46	60	83.43	60	84.1	102	103	80-120	1	30
Batch number: P161532AA	Sample number(s): 8401582,8401584,8401586,8401588,8401590,8401592 UNSPK: P399126									
Benzene	N.D.	20	21.74	20	20.5	109	102	78-120	6	30
Ethylbenzene	N.D.	20	20.99	20	20.59	105	103	78-120	2	30
Toluene	N.D.	20	21.93	20	20.84	110	104	80-120	5	30
Xylene (Total)	N.D.	60	65.03	60	63.46	108	106	80-120	2	30
	ug/l	ug/l	ug/l	ug/l	ug/l					
Batch number: 16154A53A	Sample number(s): 8401582,8401584,8401586,8401588,8401590,8401592,8401594,8401596-8401597 UNSPK: P405703									
NWTPH-Gx water C7-C12	N.D.	1100	1264.79	1100	1224.34	115	111	79-120	3	30
	ug/l	ug/l	ug/l	ug/l	ug/l					
Batch number: 161551848007	Sample number(s): 8401582,8401584,8401586,8401588,8401590,8401592,8401594 UNSPK: 8401586									
Lead	N.D.	150	160.07	150	158.47	107	106	75-125	1	20
Batch number: 161741848001	Sample number(s): 8401589 UNSPK: P437175									
Lead	N.D.	150	136.61	150	136.47	91	91	75-125	0	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.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Atlantic Richfield c/o ARCADIS
Reported: 06/23/2016 09:11

Group Number: 1666229

Laboratory Duplicate

Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	BKG Conc ug/l	DUP Conc ug/l	DUP RPD	DUP RPD Max
Batch number: 161551848007	Sample number(s): 8401582,8401584,8401586,8401588,8401590,8401592,8401594 BKG: 8401586			
Lead	N.D.	N.D.	0 (1)	20
Batch number: 161741848001	Sample number(s): 8401589 BKG: P437175			
Lead	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: VOCs 8260 BTEX
Batch number: P161531AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8401594	98	102	103	104
8401596	97	101	104	105
Blank	96	101	104	102
LCS	98	100	98	96
MS	97	104	96	98
MSD	97	102	98	98
Limits:	80-116	77-113	80-113	78-113

Analysis Name: VOCs 8260 BTEX
Batch number: P161532AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8401582	95	103	103	103
8401584	95	101	103	103
8401586	96	103	103	105
8401588	94	104	103	102
8401590	96	100	104	102
8401592	96	101	103	102
Blank	96	101	104	102
LCS	98	103	97	95
MS	96	104	95	95
MSD	96	106	96	95
Limits:	80-116	77-113	80-113	78-113

Analysis Name: NWTPH-Gx water C7-C12
Batch number: 16154A53A

	Trifluorotoluene-F
8401582	102
8401584	107
8401586	130

*- 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.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control SummaryClient Name: Atlantic Richfield c/o ARCADIS
Reported: 06/23/2016 09:11

Group Number: 1666229

Surrogate Quality Control (continued)

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

	Trifluorotoluene-F
8401588	99
8401590	100
8401592	100
8401594	101
8401596	128
8401597	110
Blank	114
LCS	112
MS	117
MSD	118

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.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.



13255 | 1666229 | 840582-97

Laboratory Management Program LaMP Chain of Custody Record

R215909

Page 1 of 1

BP Site Node Path: _____

Req Due Date (mm/dd/yy): STAT

Rush TAT: Yes ___ No ☒

BP Facility No: 217

Lab Work Order Number: _____

Lab Name: EuroFins Lancaster Labs Envr	Facility Address: 13131 Bothell Everett Hwy.	Consultant/Contractor: Arcadis
Lab Address: 2425 New Holland Pike Lancaster, PA 17601	City, State, ZIP Code: Everett, WA, 98208	Consultant/Contractor Project No: GPO9BPNA.WA01
Lab PM: Stacy Hess	Lead Regulatory Agency: Ecology	Address: 1100 Olive Way Ste. 800, Seattle, WA
Lab Phone: 717-556-7236	California Global ID No.:	Consultant/Contractor PM: Brian MacCann 2801
Lab Shipping Acct:	Enfos Proposal No:	Phone: 503-220-8206 Email: brian.maccann@arcadis.com
Lab Bottle Order No:	Accounting Mode: Provision ___ OOC-BU ___ OOC-RM ___	Email EDD To: ryan.brachle@arcadis.com and to lab.enfosdoc@bp.com
Other Info:	Stage: Activity:	Invoice To: BP ___ Contractor ☒

BP Project Manager (PM):				Matrix				No. Containers / Preservative						Requested Analyses										Report Type & QC Level	
BP PM Phone:				Soil / Solid	Water / Liquid	Air / Vapor	Is this location a well?	Total Number of Container:	Unpreserved	H2SO4	HNO3	HCl	Methanol	GRO by NWTPH-G	BTX by 8260	Total Lead by 6010	Dissolved Lead by 6010							Standard ☒	Full Data Package ☐
BP PM Email:																									
Lab No.	Sample Description	Date	Time																						Comments
	MW-2	5/25	1710	X		Y	8	1		1	6			X	X	X	X								
	MW-6		1615	X		Y	8	1		1	6			X	X	X	X								
	MW-11		1930	X		Y	8	1		1	6			X	X	X	X								
	MW-12		1425	X		Y	8	1		1	6			X	X	X	X								
	IW-1		1850	X		Y	8	1		1	6			X	X	X	X								
	IW-3		1800	X		Y	8	1		1	6			X	X	X	X								
	MW-7		1520	X		Y	8	1		1	6			X	X	X									
	DVP-1		—	X		Y	6				6			X	X										
	Metals Batch QC		1930	X			2	1		1															
	Trip Blank	—	—	X			2				2			X											

Sampler's Name: Alex Pink	Relinquished By / Affiliation: Ryan Brachle / Arcadis	Date: 5/24/16	Time: 11:30	Accepted By / Affiliation: J. M. / ELLE	Date: 5/26/16	Time: 11:30
Sampler's Company: Arcadis						
Shipment Method: _____	Ship Date: _____					
Shipment Tracking No: _____						

Special Instructions: questions or concerns call Ryan Brachle - 509-438-9828, Dissolved Lead submitted by hold
THIS LINE - LAB USE ONLY: Custody Seals In Place ☒ Yes / No Temp Blank ☒ Yes / No Cooler Temp on Receipt: 4.6 °C Trip Blank ☒ Yes / No MS/MSD Sample Submitted: Yes / ☒ No

Client: Arcadis

Delivery and Receipt Information

Delivery Method:	<u>SeaTac</u>	Arrival Timestamp:	<u>05/27/2016 9:55</u>
Number of Packages:	<u>1</u>	Number of Projects:	<u>1</u>
State/Province of Origin:	<u>WA</u>		

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	VOA Vial Headspace $\geq$ 6mm:	No
Samples Chilled:	Yes	Total Trip Blank Qty:	2
Paperwork Enclosed:	Yes	Trip Blank Type:	HCL
Samples Intact:	Yes	Air Quality Samples Present:	No
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Joseph Huber (7831) at 10:48 on 05/27/2016

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	Elevated Temp?
1	DT121	4.6	DT	Wet	Y	Bagged	N

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		
>	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.		

Laboratory Data Qualifiers:

- B - Analyte detected in the blank
- C - Result confirmed by reanalysis
- E - Concentration exceeds the calibration range
- J (or G, I, X) - estimated value $\geq$ the Method Detection Limit (MDL or DL) and $<$ the Limit of Quantitation (LOQ or RL)
- P - Concentration difference between the primary and confirmation column $>40\%$. The lower result is reported.
- U - Analyte was not detected at the value indicated
- V - Concentration difference between the primary and confirmation column $>100\%$. The reporting limit is raised due to this disparity and evident interference...

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods. Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) 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.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

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

Report Date: September 16, 2016

Project: WA-0217Submittal Date: 08/25/2016
Group Number: 1699592
PO Number: GP09BPNA.WA01
State of Sample Origin: WAClient Sample Description

	Lancaster Labs (LL) #
MW-2 Water	8548450
MW-6 Water	8548452
MW-7 Water	8548454
MW-11 Water	8548455
MW-12 Water	8548457
IW-1 Water	8548459
IW-3 Water	8548461
DUP-1 Water	8548463

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

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our scopes of accreditation can be viewed at <http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/>.

Electronic Copy To	ARCADIS U.S., Inc.	Attn: Ryan Brauchla
Electronic Copy To	Atlantic Richfield c/o ARCADIS	Attn: Ophelie Encelle
Electronic Copy To	ARCADIS U.S., Inc.	Attn: Brian Marcum
Electronic Copy To	ARCADIS U.S., Inc.	Attn: Richard Rodriguez
Electronic Copy To	ARCADIS U.S., Inc.	Attn: Ross LaGrandeur

Respectfully Submitted,


Stacy L. Hess
Project Manager

(717) 556-7236

Project Name: WA-0217
LL Group #: 1699592

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 Water
WA-0217 COC: R215944
13131 Bothell-Everett Hwy - Everett, WA

LL Sample # WW 8548450
LL Group # 1699592
Account # 13255

Project Name: WA-0217

Collected: 08/23/2016 15:40 by AP

Atlantic Richfield c/o ARCADIS

Submitted: 08/25/2016 09:30

Suite 600

Reported: 09/16/2016 14:15

630 Plaza Drive

Highlands Ranch CO 80129

EVE02

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles						
	SW-846 8260B		ug/l	ug/l	ug/l	
10335	Benzene	71-43-2	1.8	0.50	1.0	1
10335	Ethylbenzene	100-41-4	0.66 J	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 NWT PH-Gx		ug/l	ug/l	ug/l	
08273	NWT PH-Gx water C7-C12	n.a.	990	50	250	1
Metals						
	SW-846 6010B		ug/l	ug/l	ug/l	
07055	Lead	7439-92-1	N.D.	6.2	15.0	1

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	P162441AA	08/31/2016 15:23	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	P162441AA	08/31/2016 15:23	Daniel H Heller	1
08273	NWT PH-Gx water C7-C12	ECY 97-602	1	16241B20A	08/30/2016 21:25	Jeremy C Giffin	1
		NWT PH-Gx					
01146	GC VOA Water Prep	SW-846 5030B	1	16241B20A	08/30/2016 21:25	Jeremy C Giffin	1
07055	Lead	SW-846 6010B	1	162501848002	09/07/2016 15:05	Eric L Eby	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	162501848002	09/07/2016 07:35	Lisa J Cooke	1

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

Sample Description: MW-6 Water
WA-0217 COC: R215944
13131 Bothell-Everett Hwy - Everett, WA

LL Sample # WW 8548452
LL Group # 1699592
Account # 13255

Project Name: WA-0217

Collected: 08/23/2016 17:30 by AP

Atlantic Richfield c/o ARCADIS

Submitted: 08/25/2016 09:30

Suite 600

Reported: 09/16/2016 14:15

630 Plaza Drive

Highlands Ranch CO 80129

EVE06

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	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 NWT PH-Gx	ug/l	ug/l	ug/l	
08273	NWT PH-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.	6.2	15.0	1

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	P162422AA	08/29/2016 14:49	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	P162422AA	08/29/2016 14:49	Daniel H Heller	1
08273	NWT PH-Gx water C7-C12	ECY 97-602	1	16241B20A	08/30/2016 22:20	Jeremy C Giffin	1
01146	GC VOA Water Prep	NWT PH-Gx					
07055	Lead	SW-846 5030B	1	16241B20A	08/30/2016 22:20	Jeremy C Giffin	1
07055	Lead	SW-846 6010B	1	162501848002	09/07/2016 15:08	Eric L Eby	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	162501848002	09/07/2016 07:35	Lisa J Cooke	1

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

Sample Description: MW-7 Water
WA-0217 COC: R215944
13131 Bothell-Everett Hwy - Everett, WA

LL Sample # WW 8548454
LL Group # 1699592
Account # 13255

Project Name: WA-0217

Collected: 08/23/2016 19:25 by AP

Atlantic Richfield c/o ARCADIS
Suite 600

Submitted: 08/25/2016 09:30

630 Plaza Drive

Reported: 09/16/2016 14:15

Highlands Ranch CO 80129

EVE07

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	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

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	P162422AA	08/29/2016 16:33	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	P162422AA	08/29/2016 16:33	Daniel H Heller	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	16241B20A	08/30/2016 22:48	Jeremy C Giffin	1
01146	GC VOA Water Prep	SW-846 5030B	1	16241B20A	08/30/2016 22:48	Jeremy C Giffin	1

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

Sample Description: MW-11 Water
WA-0217 COC: R215944
13131 Bothell-Everett Hwy - Everett, WA

LL Sample # WW 8548455
LL Group # 1699592
Account # 13255

Project Name: WA-0217

Collected: 08/23/2016 18:15 by AP

Atlantic Richfield c/o ARCADIS

Submitted: 08/25/2016 09:30

Suite 600

Reported: 09/16/2016 14:15

630 Plaza Drive

Highlands Ranch CO 80129

EVE11

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/l	ug/l	ug/l	
10335	Benzene	71-43-2	140	0.50	1.0	1
10335	Ethylbenzene	100-41-4	23	0.50	1.0	1
10335	Toluene	108-88-3	3.9	0.50	1.0	1
10335	Xylene (Total)	1330-20-7	9.2	0.50	1.0	1
GC	Volatiles	ECY 97-602 NWT PH-Gx	ug/l	ug/l	ug/l	
08273	NWT PH-Gx water C7-C12	n.a.	5,000	250	1,300	5
Metals		SW-846 6010B	ug/l	ug/l	ug/l	
07055	Lead	7439-92-1	N.D.	6.2	15.0	1

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	P162441AA	08/31/2016 15:49	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	P162441AA	08/31/2016 15:49	Daniel H Heller	1
08273	NWT PH-Gx water C7-C12	ECY 97-602 NWT PH-Gx	1	16243B20A	09/01/2016 21:37	Jeremy C Giffin	5
01146	GC VOA Water Prep	SW-846 5030B	1	16243B20A	09/01/2016 21:37	Jeremy C Giffin	5
07055	Lead	SW-846 6010B	1	162501848002	09/07/2016 13:50	Eric L Eby	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	162501848002	09/07/2016 07:35	Lisa J Cooke	1

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

Sample Description: MW-12 Water
WA-0217 COC: R215944
13131 Bothell-Everett Hwy - Everett, WA

LL Sample # WW 8548457
LL Group # 1699592
Account # 13255

Project Name: WA-0217

Collected: 08/23/2016 18:50 by AP

Atlantic Richfield c/o ARCADIS

Submitted: 08/25/2016 09:30

Suite 600

Reported: 09/16/2016 14:15

630 Plaza Drive

Highlands Ranch CO 80129

EVE12

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/l	ug/l	ug/l	
10335	Benzene	71-43-2	1.5	0.50	1.0	1
10335	Ethylbenzene	100-41-4	1.9	0.50	1.0	1
10335	Toluene	108-88-3	N.D.	0.50	1.0	1
10335	Xylene (Total)	1330-20-7	1.4	0.50	1.0	1
GC	Volatiles	ECY 97-602 NWT PH-Gx	ug/l	ug/l	ug/l	
08273	NWT PH-Gx water C7-C12	n.a.	180 J	50	250	1
Metals	SW-846 6010B	ug/l	ug/l	ug/l		
07055	Lead	7439-92-1	8.4 J	6.2	15.0	1

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	P162422AA	08/29/2016 17:24	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	P162422AA	08/29/2016 17:24	Daniel H Heller	1
08273	NWT PH-Gx water C7-C12	ECY 97-602	1	16243B20A	09/01/2016 15:11	Jeremy C Giffin	1
01146	GC VOA Water Prep	NWT PH-Gx					
07055	Lead	SW-846 5030B	1	16243B20A	09/01/2016 15:11	Jeremy C Giffin	1
07055	Lead	SW-846 6010B	1	162501848002	09/07/2016 15:11	Eric L Eby	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	162501848002	09/07/2016 07:35	Lisa J Cooke	1

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

Sample Description: IW-1 Water
WA-0217 COC: R215944
13131 Bothell-Everett Hwy - Everett, WA

LL Sample # WW 8548459
LL Group # 1699592
Account # 13255

Project Name: WA-0217

Collected: 08/23/2016 20:05 by AP

Atlantic Richfield c/o ARCADIS
Suite 600

Submitted: 08/25/2016 09:30

630 Plaza Drive

Reported: 09/16/2016 14:15

Highlands Ranch CO 80129

EVEI1

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/l	ug/l	ug/l	
10335	Benzene	71-43-2	0.54 J	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 NWT PH-Gx	ug/l	ug/l	ug/l	
08273	NWT PH-Gx water C7-C12	n.a.	500	50	250	1
Metals		SW-846 6010B	ug/l	ug/l	ug/l	
07055	Lead	7439-92-1	N.D.	6.2	15.0	1

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	P162422AA	08/29/2016 17:50	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	P162422AA	08/29/2016 17:50	Daniel H Heller	1
08273	NWT PH-Gx water C7-C12	ECY 97-602	1	16243B20A	09/01/2016 15:39	Jeremy C Giffin	1
01146	GC VOA Water Prep	NWT PH-Gx					
07055	Lead	SW-846 5030B	1	16243B20A	09/01/2016 15:39	Jeremy C Giffin	1
07055	Lead	SW-846 6010B	1	162501848002	09/07/2016 15:14	Eric L Eby	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	162501848002	09/07/2016 07:35	Lisa J Cooke	1

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

Sample Description: IW-3 Water
WA-0217 COC: R215944
13131 Bothell-Everett Hwy - Everett, WA

LL Sample # WW 8548461
LL Group # 1699592
Account # 13255

Project Name: WA-0217

Collected: 08/23/2016 16:45 by AP

Atlantic Richfield c/o ARCADIS

Submitted: 08/25/2016 09:30

Suite 600

Reported: 09/16/2016 14:15

630 Plaza Drive

Highlands Ranch CO 80129

EVEI3

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	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	73	0.50	1.0	1
10335	Toluene	108-88-3	N.D.	0.50	1.0	1
10335	Xylene (Total)	1330-20-7	28	0.50	1.0	1
GC	Volatiles	ECY 97-602 NWT PH-Gx	ug/l	ug/l	ug/l	
08273	NWT PH-Gx water C7-C12	n.a.	1,100	50	250	1
Metals		SW-846 6010B	ug/l	ug/l	ug/l	
07055	Lead	7439-92-1	N.D.	6.2	15.0	1

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	P162422AA	08/29/2016 18:16	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	P162422AA	08/29/2016 18:16	Daniel H Heller	1
08273	NWT PH-Gx water C7-C12	ECY 97-602 NWT PH-Gx	1	16243B20A	09/01/2016 16:06	Jeremy C Giffin	1
01146	GC VOA Water Prep	SW-846 5030B	1	16243B20A	09/01/2016 16:06	Jeremy C Giffin	1
07055	Lead	SW-846 6010B	1	162501848002	09/07/2016 15:17	Eric L Eby	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	162501848002	09/07/2016 07:35	Lisa J Cooke	1

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

Sample Description: DUP-1 Water
WA-0217 COC: R215944
13131 Bothell-Everett Hwy - Everett, WA

LL Sample # WW 8548463
LL Group # 1699592
Account # 13255

Project Name: WA-0217

Collected: 08/23/2016 by AP

Atlantic Richfield c/o ARCADIS

Submitted: 08/25/2016 09:30

Suite 600

Reported: 09/16/2016 14:15

630 Plaza Drive

Highlands Ranch CO 80129

EVEFD

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/l	ug/l	ug/l	
10335	Benzene	71-43-2	140	0.50	1.0	1
10335	Ethylbenzene	100-41-4	23	0.50	1.0	1
10335	Toluene	108-88-3	3.8	0.50	1.0	1
10335	Xylene (Total)	1330-20-7	9.3	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.	5,000	250	1,300	5

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	P162441AA	08/31/2016 16:15	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	P162441AA	08/31/2016 16:15	Daniel H Heller	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	16243B20A	09/01/2016 22:32	Jeremy C Giffin	5
01146	GC VOA Water Prep	SW-846 5030B	1	16243B20A	09/01/2016 22:32	Jeremy C Giffin	5

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

Quality Control Summary

Client Name: Atlantic Richfield c/o ARCADIS
Reported: 09/16/2016 14:15

Group Number: 1699592

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.

Method Blank

Analysis Name	Result	MDL**	LOQ
	ug/l	ug/l	ug/l
Batch number: P162422AA	Sample number(s): 8548452,8548454,8548457,8548459,8548461		
Benzene	N.D.	0.50	1.0
Ethylbenzene	N.D.	0.50	1.0
Toluene	N.D.	0.50	1.0
Xylene (Total)	N.D.	0.50	1.0
Batch number: P162441AA	Sample number(s): 8548450,8548455,8548463		
Benzene	N.D.	0.50	1.0
Ethylbenzene	N.D.	0.50	1.0
Toluene	N.D.	0.50	1.0
Xylene (Total)	N.D.	0.50	1.0
Batch number: 16241B20A	Sample number(s): 8548450,8548452,8548454		
NWTPH-Gx water C7-C12	N.D.	50	250
Batch number: 16243B20A	Sample number(s): 8548455,8548457,8548459,8548461,8548463		
NWTPH-Gx water C7-C12	N.D.	50	250
Batch number: 162501848002	Sample number(s): 8548450,8548452,8548455,8548457,8548459,8548461		
Lead	N.D.	6.2	15.0

LCS/LCSD

Analysis Name	LCS Spike Added	LCS Conc	LCSD Spike Added	LCSD Conc	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
	ug/l	ug/l	ug/l	ug/l					
Batch number: P162422AA	Sample number(s): 8548452,8548454,8548457,8548459,8548461								
Benzene	20	20.65			103		78-120		
Ethylbenzene	20	18.95			95		78-120		
Toluene	20	20.34			102		80-120		
Xylene (Total)	60	58.78			98		80-120		
Batch number: P162441AA	Sample number(s): 8548450,8548455,8548463								
Benzene	20	20.33	20	20.58	102	103	78-120	1	30
Ethylbenzene	20	19.28	20	19.18	96	96	78-120	1	30
Toluene	20	20.2	20	20.12	101	101	80-120	0	30
Xylene (Total)	60	59.39	60	58.68	99	98	80-120	1	30
	ug/l	ug/l	ug/l	ug/l					
Batch number: 16241B20A	Sample number(s): 8548450,8548452,8548454								
NWTPH-Gx water C7-C12	1100	1017.91			93		79-120		

*- 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.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Atlantic Richfield c/o ARCADIS
Reported: 09/16/2016 14:15

Group Number: 1699592

LCS/LCSD (continued)

Analysis Name	LCS Spike Added ug/l	LCS Conc ug/l	LCSD Spike Added ug/l	LCSD Conc ug/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 16243B20A NWTPH-Gx water C7-C12	Sample number(s): 8548455, 8548457, 8548459, 8548461, 8548463								
	1100	1114.21	1100	1100.44	101	100	79-120	1	30
	ug/l	ug/l	ug/l	ug/l					
Batch number: 162501848002 Lead	Sample number(s): 8548450, 8548452, 8548455, 8548457, 8548459, 8548461								
	150	151.47			101		80-120		

MS/MSD

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

Analysis Name	Unspiked Conc ug/l	MS Spike Added ug/l	MS Conc ug/l	MSD Spike Added ug/l	MSD Conc ug/l	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Batch number: P162422AA	Sample number(s): 8548452, 8548454, 8548457, 8548459, 8548461 UNSPK: 8548452									
Benzene	N.D.	20	22.97	20	22.59	115	113	78-120	2	30
Ethylbenzene	N.D.	20	21.25	20	20.53	106	103	78-120	3	30
Toluene	N.D.	20	21.84	20	21.88	109	109	80-120	0	30
Xylene (Total)	N.D.	60	64.58	60	63.37	108	106	80-120	2	30
	ug/l	ug/l	ug/l	ug/l	ug/l					
Batch number: 16241B20A NWTPH-Gx water C7-C12	Sample number(s): 8548450, 8548452, 8548454 UNSPK: P546410									
	N.D.	1100	1151.35	1100	1152.16	105	105	79-120	0	30
	ug/l	ug/l	ug/l	ug/l	ug/l					
Batch number: 162501848002 Lead	Sample number(s): 8548450, 8548452, 8548455, 8548457, 8548459, 8548461 UNSPK: 8548455									
	N.D.	150	149.97	150	148.26	100	99	75-125	1	20

Laboratory Duplicate

Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	BKG Conc ug/l	DUP Conc ug/l	DUP RPD	DUP RPD Max
Batch number: 162501848002 Lead	Sample number(s): 8548450, 8548452, 8548455, 8548457, 8548459, 8548461 BKG: 8548455			
	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.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Atlantic Richfield c/o ARCADIS
Reported: 09/16/2016 14:15

Group Number: 1699592

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: VOCs 8260 BTEX

Batch number: P162422AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8548452	99	108	107	106
8548454	100	107	106	106
8548457	99	106	107	108
8548459	98	106	107	107
8548461	99	103	108	108
Blank	100	104	106	106
LCS	98	108	99	102
MS	99	109	100	102
MSD	99	109	99	101
Limits:	80-116	77-113	80-113	78-113

Analysis Name: VOCs 8260 BTEX

Batch number: P162441AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8548450	100	105	110	111
8548455	97	104	109	112
8548463	96	102	107	106
Blank	98	102	108	108
LCS	97	103	102	104
LCSD	100	109	101	102
Limits:	80-116	77-113	80-113	78-113

Analysis Name: NWTPH-Gx water C7-C12

Batch number: 16241B20A

	Trifluorotoluene-F
8548450	96
8548452	91
8548454	88
Blank	89
LCS	98
MS	99
MSD	99
Limits:	63-135

Analysis Name: NWTPH-Gx water C7-C12

Batch number: 16243B20A

	Trifluorotoluene-F
8548455	91
8548457	85
8548459	90
8548461	90
8548463	92
Blank	88
LCS	97

*- 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.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control SummaryClient Name: Atlantic Richfield c/o ARCADIS
Reported: 09/16/2016 14:15

Group Number: 1699592

Surrogate Quality Control (continued)

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

	Trifluorotoluene-F
LCSD	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.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.



Laboratory Management Program LaMP Chain of Custody Record

R215944

Page ____ of ____

BP Site Node Path: _____

Req Due Date (mm/dd/yy): STATRush TAT: Yes ____ No XBP Facility No: 217

Lab Work Order Number: _____

Lab Name: <u>Eurofins Lancaster Labs Env.</u>				Facility Address: <u>13131 Bothell-Everett Hwy.</u>				Consultant/Contractor: <u>Arcadis</u>											
Lab Address: <u>2425 New Holland Pike</u>				City, State, ZIP Code: <u>Everett, WA</u>				Consultant/Contractor Project No: <u>GPO13PNA.WA01</u>											
Lab PM: <u>Stacy Hess</u> <u>Lancaster PA 17601</u>				Lead Regulatory Agency: <u>Ecology</u>				Address: <u>1100 Olive Way, Suite 800, Seattle WA 98101</u>											
Lab Phone: <u>717-656-2300</u>				California Global ID No.: _____				Consultant/Contractor PM: <u>Brian Marcum</u>											
Lab Shipping Acct: _____				Enfos Proposal No: _____				Phone: <u>503-220-8201</u> Email: <u>brian.marcum@arcadis.com</u>											
Lab Bottle Order No: _____				Accounting Mode: Provision ____ OOC-BU ____ OOC-RM ____				Email EDD To: <u>ryan.brauchle@arcadis.com</u> and to <u>lab.enfosdoc@bp.com</u> <u>richard.rodriguez@arcadis.com</u>											
Other Info: _____				Stage: _____ Activity: _____				Invoice To: BP ____ Contractor <u>✓</u>											
BP Project Manager (PM): _____				Matrix				No. Containers / Preservative				Requested Analyses				Report Type & QC Level			
BP PM Phone: _____																Standard <u>✓</u>			
BP PM Email: _____																Full Data Package ____			
Lab No.	Sample Description	Date	Time	Soil / Solid	Water / Liquid	Air / Vapor	Is this location a well?	Total Number of Containers	Unpreserved	H2SO4	HNO3	HCl	Methanol	GRO by NWT/PA	Total Lead by EDD	Dissolved Lead by EDD	BTEX by EDD	Comments	
	MW-2	8/23/16	1540	X	Y	8	1	1	6					X	X	X	X		
	MW-6	1	1730	X	Y	8	1	1	6					X	X	X	X		
	MW-7	1	1925	X	Y	6			6					X			X		
	MW-11	1	1815	X	Y	8	1	1	6					X	X	X	X	Metals Batch QC taken from MW-11	
	MW-12	1	1850	X	Y	8	1	1	6					X	X	X	X		
	IW-1	1	2005	X	Y	8	1	1	6					X	X	X	X		
	IW-3	1	1645	X	Y	8	1	1	6					X	X	X	X	2 Trip Blanks included	
	DUP-1	1		X	Y	6			6					X			X		
Sampler's Name: <u>Alex Pink</u>				Relinquished By / Affiliation: <u>[Signature]</u>				Date: <u>8/24/16</u>		Time: <u>12:00</u>		Accepted By / Affiliation: <u>[Signature]</u>				Date: <u>8/24/16</u>		Time: <u>12:00</u>	
Sampler's Company: <u>Arcadis</u>																			
Shipment Method: _____ Ship Date: _____																			
Shipment Tracking No: _____																			
Special Instructions: <u>questions or concerns call Alex Pink - 906-440-8394; Dissolved Lead submitted on hold</u>																			
THIS LINE - LAB USE ONLY: Custody Seals In Place: Yes / No ____ Temp Blank: Yes / No ____ Cooler Temp on Receipt: <u>0.8 °C</u> Trip Blank: Yes / No ____ MS/MSD Sample Submitted: Yes / No ____																			



Sample Administration Receipt Documentation Log

Doc Log ID: 160222
Group Number(s): 699592

Client: BP

Delivery and Receipt Information

Delivery Method: SeaTac Arrival Timestamp: 08/25/2016 9:30
Number of Packages: 1 Number of Projects: 1

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	VOA Vial Headspace $\geq$ 6mm:	No
Samples Chilled:	Yes	Total Trip Blank Qty:	2
Paperwork Enclosed:	Yes	Trip Blank Type:	HCL
Samples Intact:	Yes	Air Quality Samples Present:	No
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Krista Abel (3058) at 12:42 on 08/25/2016

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	Elevated Temp?
1	DT146	0.8	DT	Wet	Y	Bagged	N

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 <u>limit of quantitation</u> , the smallest amount of analyte which can be reliably determined using this specific test.		
>	greater than		
J	estimated value – The result is $\geq$ the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ).		
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 of gas 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.		

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers		Inorganic Qualifiers	
A	TIC is a possible aldol-condensation product	B	Value is $<$ CRDL, but $\geq$ 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.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL LANCASTER LABORATORIES BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF LANCASTER LABORATORIES AND (B) WHETHER LANCASTER LABORATORIES HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Lancaster Laboratories which includes any conditions that vary from the Standard Terms and Conditions, and Lancaster hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

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

Report Date: December 29, 2016

Project: WA-0217Submittal Date: 12/02/2016
Group Number: 1739722
PO Number: GP09BPNA.WA01
State of Sample Origin: WAClient Sample DescriptionMW-12 Water
MW-7 Water
MW-6 Water
MW-2 Water
IW-3 Water
IW-1 Water
MW-11 Water
DUP-1 Water
Trip Blank Water

Lancaster Labs

(LL) #

8724876
8724878
8724880
8724882
8724884
8724886
8724888
8724890
8724891

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

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our current scopes of accreditation can be viewed at <http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/>. To request copies of prior scopes of accreditation, contact your project manager.

Electronic Copy To Atlantic Richfield c/o ARCADIS
Electronic Copy To ARCADIS U.S., Inc.
Electronic Copy To ARCADIS U.S., Inc.
Electronic Copy To ARCADIS U.S., Inc.
Electronic Copy To ARCADIS U.S., Inc.Attn: Ophelie Encelle
Attn: Richard Rodriguez
Attn: Brian Marcum
Attn: Ross LaGrandeur
Attn: Ryan Brauchla

Respectfully Submitted,



Stacy L. Hess
Project Manager

(717) 556-7236

Project Name: WA-0217
LL Group #: 1739722

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 6010B, Metals**

Batch #: 163401848005 (Sample number(s): 8724876, 8724878 UNSPK: P725133 BKG: P725133)

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

Sample Description: MW-12 Water
WA-0217 COC: R215974
13131 Bothell-Everett Hwy - Everett, WA

LL Sample # WW 8724876
LL Group # 1739722
Account # 13255

Project Name: WA-0217

Collected: 11/30/2016 11:15 by EK

Atlantic Richfield c/o ARCADIS

Submitted: 12/02/2016 11:00

Suite 600

Reported: 12/29/2016 13:34

630 Plaza Drive

Highlands Ranch CO 80129

EVE12

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	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 NWT PH-Gx	ug/l	ug/l	ug/l	
08273	NWT PH-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	9.3 J	6.2	15.0	1

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	P163442AA	12/09/2016 17:29	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	P163442AA	12/09/2016 17:29	Daniel H Heller	1
08273	NWT PH-Gx water C7-C12	ECY 97-602	1	16340B20A	12/05/2016 14:20	Marie D Beamenderfer	1
01146	GC VOA Water Prep	NWT PH-Gx					
		SW-846 5030B	1	16340B20A	12/05/2016 14:20	Marie D Beamenderfer	1
07055	Lead	SW-846 6010B	1	163401848005	12/08/2016 14:03	Joanne M Gates	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	163401848005	12/07/2016 06:50	Lisa J Cooke	1

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

Sample Description: MW-7 Water
WA-0217 COC: R215974
13131 Bothell-Everett Hwy - Everett, WA

LL Sample # WW 8724878
LL Group # 1739722
Account # 13255

Project Name: WA-0217

Collected: 11/30/2016 11:50 by EK

Atlantic Richfield c/o ARCADIS

Submitted: 12/02/2016 11:00

Suite 600

Reported: 12/29/2016 13:34

630 Plaza Drive

Highlands Ranch CO 80129

EVE07

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	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 NWT PH-Gx	ug/l	ug/l	ug/l	
08273	NWT PH-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.	6.2	15.0	1

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	P163442AA	12/09/2016 17:55	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	P163442AA	12/09/2016 17:55	Daniel H Heller	1
08273	NWT PH-Gx water C7-C12	ECY 97-602	1	16340B20A	12/05/2016 15:15	Marie D Beamenderfer	1
01146	GC VOA Water Prep	NWT PH-Gx					
		SW-846 5030B	1	16340B20A	12/05/2016 15:15	Marie D Beamenderfer	1
07055	Lead	SW-846 6010B	1	163401848005	12/08/2016 14:06	Joanne M Gates	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	163401848005	12/07/2016 06:50	Lisa J Cooke	1

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

Sample Description: MW-6 Water
WA-0217 COC: R215974
13131 Bothell-Everett Hwy - Everett, WA

LL Sample # WW 8724880
LL Group # 1739722
Account # 13255

Project Name: WA-0217

Collected: 11/30/2016 12:30 by EK

Atlantic Richfield c/o ARCADIS

Submitted: 12/02/2016 11:00

Suite 600

Reported: 12/29/2016 13:34

630 Plaza Drive

Highlands Ranch CO 80129

EVE06

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	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 NWT PH-Gx	ug/l	ug/l	ug/l	
08273	NWT PH-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.	6.2	15.0	1

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	P163442AA	12/09/2016 18:21	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	P163442AA	12/09/2016 18:21	Daniel H Heller	1
08273	NWT PH-Gx water C7-C12	ECY 97-602	1	16340B20A	12/05/2016 15:42	Marie D Beamenderfer	1
01146	GC VOA Water Prep	NWT PH-Gx					
		SW-846 5030B	1	16340B20A	12/05/2016 15:42	Marie D Beamenderfer	1
07055	Lead	SW-846 6010B	1	163411848001	12/12/2016 10:10	Eric L Eby	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	163411848001	12/06/2016 23:00	Annamaria Kuhns	1

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

Sample Description: MW-2 Water
WA-0217 COC: R215974
13131 Bothell-Everett Hwy - Everett, WA

LL Sample # WW 8724882
LL Group # 1739722
Account # 13255

Project Name: WA-0217

Collected: 11/30/2016 13:10 by EK

Atlantic Richfield c/o ARCADIS

Submitted: 12/02/2016 11:00

Suite 600

Reported: 12/29/2016 13:34

630 Plaza Drive

Highlands Ranch CO 80129

EVE02

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	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	3.5	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.	260	50	250	1
Metals		SW-846 6010B	ug/l	ug/l	ug/l	
07055	Lead	7439-92-1	N.D.	6.2	15.0	1

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	P163442AA	12/09/2016 18:47	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	P163442AA	12/09/2016 18:47	Daniel H Heller	1
08273	NWTPH-Gx water C7-C12	ECY 97-602	1	16340B20A	12/05/2016 16:10	Marie D	1
		NWTPH-Gx				Beamenderfer	
01146	GC VOA Water Prep	SW-846 5030B	1	16340B20A	12/05/2016 16:10	Marie D	1
						Beamenderfer	
07055	Lead	SW-846 6010B	1	163411848001	12/07/2016 08:34	Eric L Eby	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	163411848001	12/06/2016 23:00	Annamaria Kuhns	1

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

Sample Description: IW-3 Water
WA-0217 COC: R215974
13131 Bothell-Everett Hwy - Everett, WA

LL Sample # WW 8724884
LL Group # 1739722
Account # 13255

Project Name: WA-0217

Collected: 11/30/2016 13:50 by EK

Atlantic Richfield c/o ARCADIS

Submitted: 12/02/2016 11:00

Suite 600

Reported: 12/29/2016 13:34

630 Plaza Drive

Highlands Ranch CO 80129

EVEI3

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	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 NWT PH-Gx	ug/l	ug/l	ug/l	
08273	NWT PH-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.	6.2	15.0	1

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	P163442AA	12/09/2016 19:13	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	P163442AA	12/09/2016 19:13	Daniel H Heller	1
08273	NWT PH-Gx water C7-C12	ECY 97-602	1	16340B20A	12/05/2016 16:37	Marie D Beamenderfer	1
01146	GC VOA Water Prep	NWT PH-Gx					
		SW-846 5030B	1	16340B20A	12/05/2016 16:37	Marie D Beamenderfer	1
07055	Lead	SW-846 6010B	1	163411848001	12/12/2016 10:14	Eric L Eby	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	163411848001	12/06/2016 23:00	Annamaria Kuhns	1

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

Sample Description: IW-1 Water
WA-0217 COC: R215974
13131 Bothell-Everett Hwy - Everett, WA

LL Sample # WW 8724886
LL Group # 1739722
Account # 13255

Project Name: WA-0217

Collected: 11/30/2016 14:20 by EK

Atlantic Richfield c/o ARCADIS

Submitted: 12/02/2016 11:00

Suite 600

Reported: 12/29/2016 13:34

630 Plaza Drive

Highlands Ranch CO 80129

EVEI1

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	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.	6.2	15.0	1

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	4163482AA	12/14/2016 00:21	Kevin D Kelly	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	4163482AA	12/14/2016 00:21	Kevin D Kelly	1
08273	NWTPH-Gx water C7-C12	ECY 97-602	1	16340B20A	12/05/2016 17:05	Marie D Beamenderfer	1
01146	GC VOA Water Prep	NWTPH-Gx					
		SW-846 5030B	1	16340B20A	12/05/2016 17:05	Marie D Beamenderfer	1
07055	Lead	SW-846 6010B	1	163411848001	12/12/2016 10:17	Eric L Eby	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	163411848001	12/06/2016 23:00	Annamaria Kuhns	1

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

Sample Description: MW-11 Water
WA-0217 COC: R215974
13131 Bothell-Everett Hwy - Everett, WA

LL Sample # WW 8724888
LL Group # 1739722
Account # 13255

Project Name: WA-0217

Collected: 11/30/2016 14:50 by EK

Atlantic Richfield c/o ARCADIS

Submitted: 12/02/2016 11:00

Suite 600

Reported: 12/29/2016 13:34

630 Plaza Drive

Highlands Ranch CO 80129

EVE11

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/l	ug/l	ug/l	
10335	Benzene	71-43-2	130	0.50	1.0	1
10335	Ethylbenzene	100-41-4	66	0.50	1.0	1
10335	Toluene	108-88-3	2.4	0.50	1.0	1
10335	Xylene (Total)	1330-20-7	12	0.50	1.0	1
GC	Volatiles	ECY 97-602 NWT PH-Gx	ug/l	ug/l	ug/l	
08273	NWT PH-Gx water C7-C12	n.a.	3,800	250	1,300	5
Metals		SW-846 6010B	ug/l	ug/l	ug/l	
07055	Lead	7439-92-1	N.D.	6.2	15.0	1

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	4163482AA	12/14/2016 00:44	Kevin D Kelly	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	4163482AA	12/14/2016 00:44	Kevin D Kelly	1
08273	NWT PH-Gx water C7-C12	ECY 97-602	1	16340B20A	12/05/2016 20:43	Marie D Beamenderfer	5
01146	GC VOA Water Prep	NWT PH-Gx					
		SW-846 5030B	1	16340B20A	12/05/2016 20:43	Marie D Beamenderfer	5
07055	Lead	SW-846 6010B	1	163411848001	12/12/2016 10:21	Eric L Eby	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	163411848001	12/06/2016 23:00	Annamaria Kuhns	1

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

Sample Description: DUP-1 Water
WA-0217 COC: R215974
13131 Bothell-Everett Hwy - Everett, WA

LL Sample # WW 8724890
LL Group # 1739722
Account # 13255

Project Name: WA-0217

Collected: 11/30/2016 by EK

Atlantic Richfield c/o ARCADIS

Submitted: 12/02/2016 11:00

Suite 600

Reported: 12/29/2016 13:34

630 Plaza Drive

Highlands Ranch CO 80129

EVEFD

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/l	ug/l	ug/l	
10335	Benzene	71-43-2	130	0.50	1.0	1
10335	Ethylbenzene	100-41-4	68	0.50	1.0	1
10335	Toluene	108-88-3	2.5	0.50	1.0	1
10335	Xylene (Total)	1330-20-7	12	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.	3,800	250	1,300	5

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	4163482AA	12/14/2016 01:06	Kevin D Kelly	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	4163482AA	12/14/2016 01:06	Kevin D Kelly	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	16340B20A	12/05/2016 21:10	Marie D Beamenderfer	5
01146	GC VOA Water Prep	SW-846 5030B	1	16340B20A	12/05/2016 21:10	Marie D Beamenderfer	5

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

Sample Description: Trip Blank Water
WA-0217 COC: R215974
13131 Bothell-Everett Hwy - Everett, WA

LL Sample # WW 8724891
LL Group # 1739722
Account # 13255

Project Name: WA-0217

Collected: 11/30/2016

Atlantic Richfield c/o ARCADIS

Submitted: 12/02/2016 11:00

Suite 600

Reported: 12/29/2016 13:34

630 Plaza Drive

Highlands Ranch CO 80129

EVETB

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC Volatiles						
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx n.a.	ug/l N.D.	ug/l 50	ug/l 250	1

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
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	16340B20A	12/05/2016 12:03	Marie D Beamenderfer	1
01146	GC VOA Water Prep	SW-846 5030B	1	16340B20A	12/05/2016 12:03	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
Reported: 12/29/2016 13:34

Group Number: 1739722

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.

Method Blank

Analysis Name	Result	MDL**	LOQ
	ug/l	ug/l	ug/l
Batch number: 4163482AA	Sample number(s): 8724886,8724888,8724890		
Benzene	N.D.	0.50	1.0
Ethylbenzene	N.D.	0.50	1.0
Toluene	N.D.	0.50	1.0
Xylene (Total)	N.D.	0.50	1.0
Batch number: P163442AA	Sample number(s): 8724876,8724878,8724880,8724882,8724884		
Benzene	N.D.	0.50	1.0
Ethylbenzene	N.D.	0.50	1.0
Toluene	N.D.	0.50	1.0
Xylene (Total)	N.D.	0.50	1.0
Batch number: 16340B20A	Sample number(s):		
	8724876,8724878,8724880,8724882,8724884,8724886,8724888,8724890-8724891		
NWTPH-Gx water C7-C12	N.D.	50	250
Batch number: 163401848005	Sample number(s): 8724876,8724878		
Lead	N.D.	6.2	15.0
Batch number: 163411848001	Sample number(s): 8724880,8724882,8724884,8724886,8724888		
Lead	N.D.	6.2	15.0

LCS/LCSD

Analysis Name	LCS Spike Added	LCS Conc	LCSD Spike Added	LCSD Conc	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
	ug/l	ug/l	ug/l	ug/l					
Batch number: 4163482AA	Sample number(s): 8724886,8724888,8724890								
Benzene	20	18.22			91		78-120		
Ethylbenzene	20	18.77			94		78-120		
Toluene	20	18.37			92		80-120		
Xylene (Total)	60	56			93		80-120		
Batch number: P163442AA	Sample number(s): 8724876,8724878,8724880,8724882,8724884								
Benzene	20	19.13	20	19.38	96	97	78-120	1	30
Ethylbenzene	20	19.49	20	19.51	97	98	78-120	0	30
Toluene	20	19.22	20	19.12	96	96	80-120	1	30
Xylene (Total)	60	60.01	60	60.36	100	101	80-120	1	30

*- 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.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Atlantic Richfield c/o ARCADIS
Reported: 12/29/2016 13:34

Group Number: 1739722

LCS/LCSD (continued)

Analysis Name	LCS Spike Added ug/l	LCS Conc ug/l	LCSD Spike Added ug/l	LCSD Conc ug/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 16340B20A	Sample number(s): 8724876, 8724878, 8724880, 8724882, 8724884, 8724886, 8724888, 8724890-8724891								
NWTPH-Gx water C7-C12	1100	1096.23	1100	1093.49	100	99	79-120	0	30
	ug/l	ug/l	ug/l	ug/l					
Batch number: 163401848005	Sample number(s): 8724876, 8724878								
Lead	150	159.7			106		80-120		
Batch number: 163411848001	Sample number(s): 8724880, 8724882, 8724884, 8724886, 8724888								
Lead	150	144.14			96		80-120		

MS/MSD

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

Analysis Name	Unspiked Conc ug/l	MS Spike Added ug/l	MS Conc ug/l	MSD Spike Added ug/l	MSD Conc ug/l	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Batch number: 4163482AA	Sample number(s): 8724886, 8724888, 8724890 UNSPK: P727197									
Benzene	N.D.	20	17.43	20	19.1	87	96	78-120	9	30
Ethylbenzene	N.D.	20	18.04	20	20.13	90	101	78-120	11	30
Toluene	N.D.	20	17.5	20	19.58	87	98	80-120	11	30
Xylene (Total)	N.D.	60	54.1	60	59.69	90	99	80-120	10	30
	ug/l	ug/l	ug/l	ug/l	ug/l					
Batch number: 163401848005	Sample number(s): 8724876, 8724878 UNSPK: P725133									
Lead	N.D.	150	152.65	150	153.4	102	102	75-125	0	20
Batch number: 163411848001	Sample number(s): 8724880, 8724882, 8724884, 8724886, 8724888 UNSPK: 8724882									
Lead	N.D.	150	148.7	150	148.69	99	99	75-125	0	20

Laboratory Duplicate

Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	BKG Conc ug/l	DUP Conc ug/l	DUP RPD	DUP RPD Max
Batch number: 163401848005	Sample number(s): 8724876, 8724878 BKG: P725133			
Lead	N.D.	7.91	200* (1)	20
Batch number: 163411848001	Sample number(s): 8724880, 8724882, 8724884, 8724886, 8724888 BKG: 8724882			

*- 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.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Atlantic Richfield c/o ARCADIS
Reported: 12/29/2016 13:34

Group Number: 1739722

Laboratory Duplicate (continued)

Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	BKG Conc ug/l	DUP Conc ug/l	DUP RPD	DUP RPD Max
Lead	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: VOCs 8260 BTEX
Batch number: 4163482AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8724886	106	100	100	98
8724888	103	100	100	102
8724890	104	100	99	102
Blank	107	102	99	98
LCS	105	102	99	102
MS	106	103	99	101
MSD	106	102	100	101
Limits:	80-116	77-113	80-113	78-113

Analysis Name: VOCs 8260 BTEX
Batch number: P163442AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8724876	100	102	106	97
8724878	98	97	106	97
8724880	101	101	106	97
8724882	100	102	107	98
8724884	100	99	107	97
Blank	102	104	103	100
LCS	103	99	97	94
LCSD	104	103	97	94
Limits:	80-116	77-113	80-113	78-113

Analysis Name: NWTPH-Gx water C7-C12
Batch number: 16340B20A

	Trifluorotoluene-F
8724876	84
8724878	88
8724880	88
8724882	88
8724884	79
8724886	89
8724888	91

*- 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.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control SummaryClient Name: Atlantic Richfield c/o ARCADIS
Reported: 12/29/2016 13:34

Group Number: 1739722

Surrogate Quality Control (continued)

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

Analysis Name: NWTPH-Gx water C7-C12

Batch number: 16340B20A

	Trifluorotoluene-F
8724890	85
8724891	88
Blank	82
LCS	100
LCSD	97

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.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.



13255 1739722 8724876-91
Laboratory Management Program LaMP Chain of Custody Record R215974

Page 1 of 1

BP Site Node Path: _____

Req Due Date (mm/dd/yy): STAT

Rush TAT: Yes _____ No ☒

BP Facility No: 217

Lab Work Order Number: _____

Lab Name: Eurofins Lancaster Labs Environmental				Facility Address: 13131 Bothell Everett HWY				Consultant/Contractor: Arcadis											
Lab Address: 2425 New Holland Pike, Lancaster, PA 17601				City, State, ZIP Code: Everett, WA				Consultant/Contractor Project No: GPO9BPNA.WA01											
Lab PM: Stacy Hess				Lead Regulatory Agency: Ecology				Address: 1100 Olive Way, Suite 800, Seattle WA, 98101											
Lab Phone: 717-556-7236				California Global ID No.: _____				Consultant/Contractor PM: Brian Marcum											
Lab Shipping Acct: _____				Enfos Proposal No: _____				Phone: 508-220-8201 x1137 Email: brian.marcum@arcadis.com											
Lab Bottle Order No: _____				Accounting Mode: Provision _____ OOC-BU _____ OOC-RM _____				Email EDD To: ryan.vanducina@arcadis.com and to lab.enfosdoc@bp.com											
Other Info: _____				Stage: _____ Activity: _____				Invoice To: BP _____ Contractor ☒											
BP Project Manager (PM): _____				Matrix		No. Containers / Preservative				Requested Analyses				Report Type & QC Level					
BP PM Phone: _____														Standard ☒					
BP PM Email: _____														Full Data Package _____					
Lab No.	Sample Description	Date	Time	Soil / Solid	Water / Liquid	Air / Vapor	Is this location a well?	Total Number of Container:	Unpreserved	H2SO4	HNO3	HCl	Methanol	GRC by NWTPH-GX	BTEX by 8260B	Total Lead 6010	Dissolved Lead 6010	Comments	
	MW-12	11/30/16	1115	X				8	1		1	6		X	X	X	X		
	MW-7		1150					1	1		1	6		X	X	X	X		
	MW-6		1230					1	1		1	6		X	X	X	X		
	MW-2		1310					1	1		1	6		X	X	X	X	2 Metals Batch QC bottles included	
	1W-3		1350					1	1		1	6		X	X	X	X	From MW-2	
	1W-1		1420					1	1		1	6		X	X	X	X		
	MW-11		1450					1	1		1	6		X	X	X	X		
	DUP-1			X				6				6		X	X	X	X		
	Trip Blank			X				2				2		X					
Sampler's Name: Eric Krueger (EK)				Relinquished By / Affiliation				Date		Time		Accepted By / Affiliation				Date		Time	
Sampler's Company: Arcadis				Alex Pugh				12/1/16		1145		M. BUE				12/1/16		1145	
Shipment Method: _____ Ship Date: _____																SWT		1100	
Shipment Tracking No: _____												Krisdo Abel				12/2/16		1125	
Special Instructions: All dissolved Lead samples submitted on HOLD. contact Eric Krueger w/ question 303.519.7192																			
THIS LINE - LAB USE ONLY: Custody Seals In Place (Yes / No) Temp Blank: (Yes / No) Cooler Temp on Receipt: 2.0 °F/C Trip Blank: (Yes / No) MS/MSD Sample Submitted: Yes (No)																			



Laboratory Management Program LaMP Chain of Custody Record

R215974

Page 1 of 1

BP Site Node Path: _____

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

BP Facility No: 217

Lab Work Order Number: _____

Lab Name: Eurofins Lancaster Labs Environmental				Facility Address: 13131 Bothell Everett Hwy				Consultant/Contractor: Arcadis										
Lab Address: 2425 New Holland Pike, Lancaster, PA 17601				City, State, ZIP Code: Everett, WA				Consultant/Contractor Project No: 6P09BPNA.WA01										
Lab PM: Stacy Hess				Lead Regulatory Agency: Ecology				Address: 1100 Olive Way, Suite 800, Seattle WA 98101										
Lab Phone: 717-556-7236				California Global ID No.:				Consultant/Contractor PM: Brian Marcum										
Lab Shipping Acct:				Enfos Proposal No:				Phone: 503-220-8201x1137 Email: Brian.Marcum@arcadis.com										
Lab Bottle Order No:				Accounting Mode: Provision ___ OOC-BU ___ OOC-RM ___				Email EDD To: ryan.brauch@arcadis.com and to lab.enfosdoc@bp.com										
Other Info:				Stage: Activity:				Invoice To: BP ___ Contractor X										
BP Project Manager (PM):				Matrix		No. Containers / Preservative				Requested Analyses				Report Type & QC Level				
BP PM Phone:														Standard X				
BP PM Email:														Full Data Package ___				
Lab No.	Sample Description	Date	Time	Soil / Solid	Water / Liquid	Air / Vapor	Is this location a well?	Total Number of Container:	Unpreserved	H2SO4	HNO3	HCl	Methanol	GR0 by NUTPH-GX	RTX by 8260B	Total Lead 6010	Dissolved Lead 6010	Comments
	MW-12	11/30/16	1115	X				8	1	1	6			X	X	X	X	
	MW-7		1150					1	1	1	6			X	X	X	X	
	MW-6		1230					1	1	1	6			X	X	X	X	
	MW-2		1310					1	1	1	6			X	X	X	X	2 Metal Batch QC
	1W-3		1350					1	1	1	6			X	X	X	X	Batching included
	1W-1		1420					1	1	1	6			X	X	X	X	From 1W-2
	MW-11		1450					1	1	1	6			X	X	X	X	
	DUP-1			X				6			6			X	X			
	Trip Blank			X				2			2			X				
Sampler's Name: Eric Krueger (EK)				Relinquished By / Affiliation				Date	Time	Accepted By / Affiliation				Date	Time			
Sampler's Company: Arcadis				Alex Pines				12/1/16	1145	Alex Pines				12/1/16	1145			
Shipment Method: Ship Date:														12/1/16	1100			
Shipment Tracking No:														12/1/16	1145			
Special Instructions: All dissolved Lead Samples submitted on HOLD. contact Eric Krueger w/ question 303.519.7192																		
THIS LINE - LAB USE ONLY: Custody Seals In Place: Yes / No Temp Blank: Yes / No Cooler Temp on Receipt: 20 °F/C Trip Blank: Yes / No MS/MSD Sample Submitted: Yes / No																		

Sample Administration
Receipt Documentation Log

Doc Log ID: 169592

Group Number(s): ~~173~~173A722
③ WFN
12/2/16Client: WA Office

BP

Delivery and Receipt Information

Delivery Method:	<u>SeaTac</u>	Arrival Timestamp:	<u>12/02/2016 11:00</u>
Number of Packages:	<u>3</u>	Number of Projects:	<u>2</u>
State/Province of Origin:	<u>WA</u>		

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	VOA Vial Headspace $\geq$ 6mm:	No
Samples Chilled:	Yes	Total Trip Blank Qty:	2
Paperwork Enclosed:	Yes	Trip Blank Type:	HCL
Samples Intact:	Yes	Air Quality Samples Present:	No
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Krista Abel (3058) at 12:33 on 12/02/2016

Samples Chilled Details: BP

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	Elevated Temp?
1	DT146	2.0	DT	Wet	Y	Bagged	N
2	DT146	0.5	DT	Wet	Y	Bagged	N
3	DT146	0.2	DT	Wet	Y	Bagged	N

Explanation of Symbols and Abbreviations

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

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

Laboratory Data Qualifiers:

- C - Result confirmed by reanalysis
- E - Concentration exceeds the calibration range
- J (or G, I, X) - estimated value $\geq$ the Method Detection Limit (MDL or DL) and $<$ the Limit of Quantitation (LOQ or RL)
- P - Concentration difference between the primary and confirmation column $>40\%$. The lower result is reported.
- U - Analyte was not detected at the value indicated
- V - Concentration difference between the primary and confirmation column $>100\%$. The reporting limit is raised due to this disparity and evident interference...
- W - The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods. Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) 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.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

ATTACHMENT C

Additional Site Activities



MEMO

To:

Sonia Fernandez
Washington State Department of Ecology
NW Regional Office
3190 160th Ave SE
Bellevue, WA 98008

Copies:

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1100 Olive Way
Suite 800
Seattle
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From:

Brian Marcum

Date:

February 20, 2017

Arcadis Project No.:

GP09BPNA.WA01

Attachment C - 2016 Additional Site Activities – Former ARCO Station Site 217 (VCP - NW2434)

In addition to the activities summarized in the 2016 Annual Site Status Report, Arcadis conducted one groundwater monitoring well installation and three soil borings at the site.

On April 12, 2016, new groundwater monitoring well MW-12 and soil borings SB-1, SB-2, and SB-3 were advanced and installed at the site. The well and soil borings were advanced and installed by licensed drillers from Holt Services Inc. (Holt). Holt completed well MW-12, SB-1, SB-2, and SB-3 on April 12, 2016. Soil samples were collected at specified intervals. Soil descriptions, field screening details and well construction details are presented on the boring logs. Boring logs, laboratory analytical reports and chain-of-custody documentation are included below. Soil analytical data collected from both the well and soil borings are presented in Table A1 and well and boring locations with select analytical data are presented on Figure A1.

Enclosure:

Attachment C - Table A1: Soil Analytical Data

Attachment C - Figure A1: 2016 Soil Analytical Map

Attachment C - Boring logs

Attachment C - Laboratory Analytical Report and Chain-of-Custody Document

ATTACHMENT C - TABLE



Table A1
Soil Analytical Data
WA-0217

13131 Bothell - Everett Highway Everett, WA

All Concentrations are in milligrams per Kilograms (mg/Kg)

Sample ID	Date	Depth	GRO	DRO	HO	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	EDB	EDC	Lead
MTCA Method A Soil Cleanup Levels			30/100	2,000	2,000	0.03	7.0	6.0	9.0	0.1	0.005	--	250
MW-12-2.5	4/12/2016	2.5	<9.6	11	54	<0.00050	<0.0010	<0.0010	<0.0010	<0.00050	<0.0010	<0.0010	8.59
MW-12-5	4/12/2016	5.0	5.5 J	11	110	<0.00042	0.0024 J	<0.00084	<0.00084	0.0012 J	<0.00084	<0.00084	5.86
MW-12-8	4/12/2016	8.0	2.1 J	<3.3	<11	<0.00079	<0.0016	<0.0016	<0.0016	<0.00079	<0.0016	<0.0016	2.27
MW-12-13	4/12/2016	13.0	< 0.93	<3.3	<11	<0.00075	<0.0015	<0.0015	<0.0015	<0.00075	<0.0015	<0.0015	2.72
SB-1-7	4/12/2016	7.0	5,200	4,300	3,100	0.87 J	61	64	480	<0.33	<0.66	<0.66	5.79
SB-1-9	4/12/2016	9.0	1,100	51	21 J	<0.10	3.0	6.4	35	<0.10	<0.21	<0.21	3.03
DUP-1 (SB-1-9)	4/12/2016	9.0	910	23	<11	<0.021	3.4	5.7	31	<0.021	<0.041	<0.041	2.66
SB-1-14	4/12/2016	14.0	1.2 J	<3.2	<11	<0.00042	0.00095 J	0.00088 J	0.0049	<0.00042	<0.00084	<0.00084	3.36
SB-1-15	4/12/2016	15.0	<0.85	<3.3	<11	<0.00034	<0.00069	<0.00069	0.00080 J	<0.00034	<0.00069	<0.00069	2.39
SB-2-5	4/12/2016	5.0	18	23	110	0.047	0.0026 J	0.019	0.090	<0.00045	<0.00090	<0.00090	28.0
SB-2-8	4/12/2016	8.0	3.9 J	<3.3	<11	0.0026 J	0.0025 J	0.0011 J	0.0028 J	<0.00037	<0.00075	<0.00075	2.62
SB-2-14	4/12/2016	14.0	<0.83	<3.2	<11	<0.00036	<0.00073	<0.00073	<0.00073	<0.00036	<0.00073	<0.00073	2.18
SB-3-6	4/12/2016	6.0	1,700	1,300	<110	<0.045	<0.089	<0.089	0.24 J	<0.045	<0.089	<0.089	7.04
SB-3-8	4/12/2016	8.0	6,200	2,000	240 J	<0.048	<0.095	0.43 J	0.99	<0.048	<0.095	<0.095	2.95
SB-3-14	4/12/2016	14.0	<0.83	<3.2	<11	<0.00044	<0.00088	<0.00088	<0.00088	<0.00044	<0.00088	<0.00088	2.85

Notes:

-- = Not applicable or not analyzed

MTBE = Methyl Tertiary Butyl Ether

EDB = Ethylene dibromide

EDC = 1,2-Dichloroethane

< = Not detected at or above laboratory method detection limit (MDL) fr DUP = Duplicate sample

J = estimated value – The result is greater than or equal to the Method Detection Limit (MDL) and less than the Limit of Quantitation (LOQ)

Depth = Depth of sample in feet below ground surface

GRO = Total petroleum hydrocarbons (TPH) - Gasoline range Organics analyzed by Ecology Method NWTPH-Gx

DRO = TPH - Diesel Range Organics analyzed by Ecology Method NWTPH-Dx

HO = TPH - Heavy Oil Range Organics analyzed by Ecology Method NWTPH-Dx

BTEX = benzene, toluene, ethylbenzene and total xylenes - collectively

Volatile Organic Compounds (BTEX, MTBE, EDB and EDC) analyzed by United States Environmental Protection Agency (USEPA) Method 8260/5035A

Total lead analyzed by USEPA Method 6000/7000

Ecology Model Toxics Control Act (MTCA) Method A Soil Cleanup Levels (CULs) for Unrestricted Land Uses, WAC Chapter 173-340-900, Table 740-1

Soil CUL for gasoline mixtures (GRO) without benzene and the total of toluene, ethylbenzene, and xylenes are less than 1% of the gasoline mixture is 100 mg/kg. For all other gasoline mixtures, the GRO Soil CUL is 30 mg/kg.

BOLD and highlighted values are greater than their respective MTCA Method A CUL

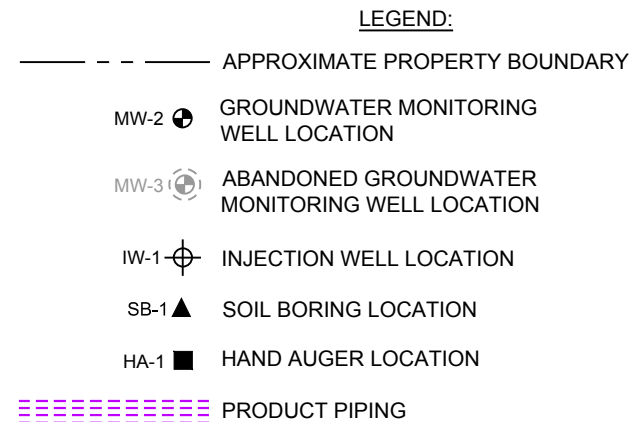
BOLD values are non-detect above the laboratory detection limit where the detection limit is higher than the MTCA Method A CUL

ATTACHMENT C - FIGURE



MW-12				
Date	4/12/2016	4/12/2016	4/12/2016	4/12/2016
Depth	2.5	5	8	13
GRO	<9.6	5.5 J	2.1 J	< 0.93
DRO	11	11	<3.3	<3.3
HO	54	110	<11	<11
B	<0.00050	<0.00042	<0.00079	<0.00075
T	<0.0010	0.0024 J	<0.0016	<0.0015
E	<0.0010	<0.00084	<0.0016	<0.0015
X	<0.0010	<0.00084	<0.0016	<0.0015
MTBE	<0.00050	0.0012 J	<0.00079	<0.00075
EDB	<0.0010	<0.00084	<0.0016	<0.0015
EDC	<0.0010	<0.00084	<0.0016	<0.0015
T-Pb	8.59	5.86	2.27	2.72

SB-3			
Date	4/12/2016	4/12/2016	4/12/2016
Depth	6	8	14
GRO	1,700	6,200	<0.83
DRO	1,300	2,000	<3.2
HO	<110	240 J	<11
B	<0.045	<0.048	<0.00044
T	<0.089	<0.095	<0.00088
E	<0.089	0.43 J	<0.00088
X	0.24 J	0.99	<0.00088
MTBE	<0.045	<0.048	<0.00044
EDB	<0.089	<0.095	<0.00088
EDC	<0.089	<0.095	<0.00088
T-Pb	7.04	2.95	2.85



NOTES:
SOIL BORING AND CONFIRMATION
SAMPLE LOCATION ARE APPROXIMATE.

mg/kg MILLIGRAMS PER KILOGRAM

J ESTIMATED VALUE - THE RESULT IS $\geq$ THE METHOD DETECTION LIMIT (MDL) AND $<$ THE LIMIT OF QUANTITATION (LOQ)

A horizontal graphic scale bar. It is divided into three equal segments. The first segment is white, the second is black, and the third is white. Above the bar, the numbers 0, 30', and 60' are marked at the beginning, middle, and end respectively. Below the bar, the text "GRAPHIC SCALE" is centered.



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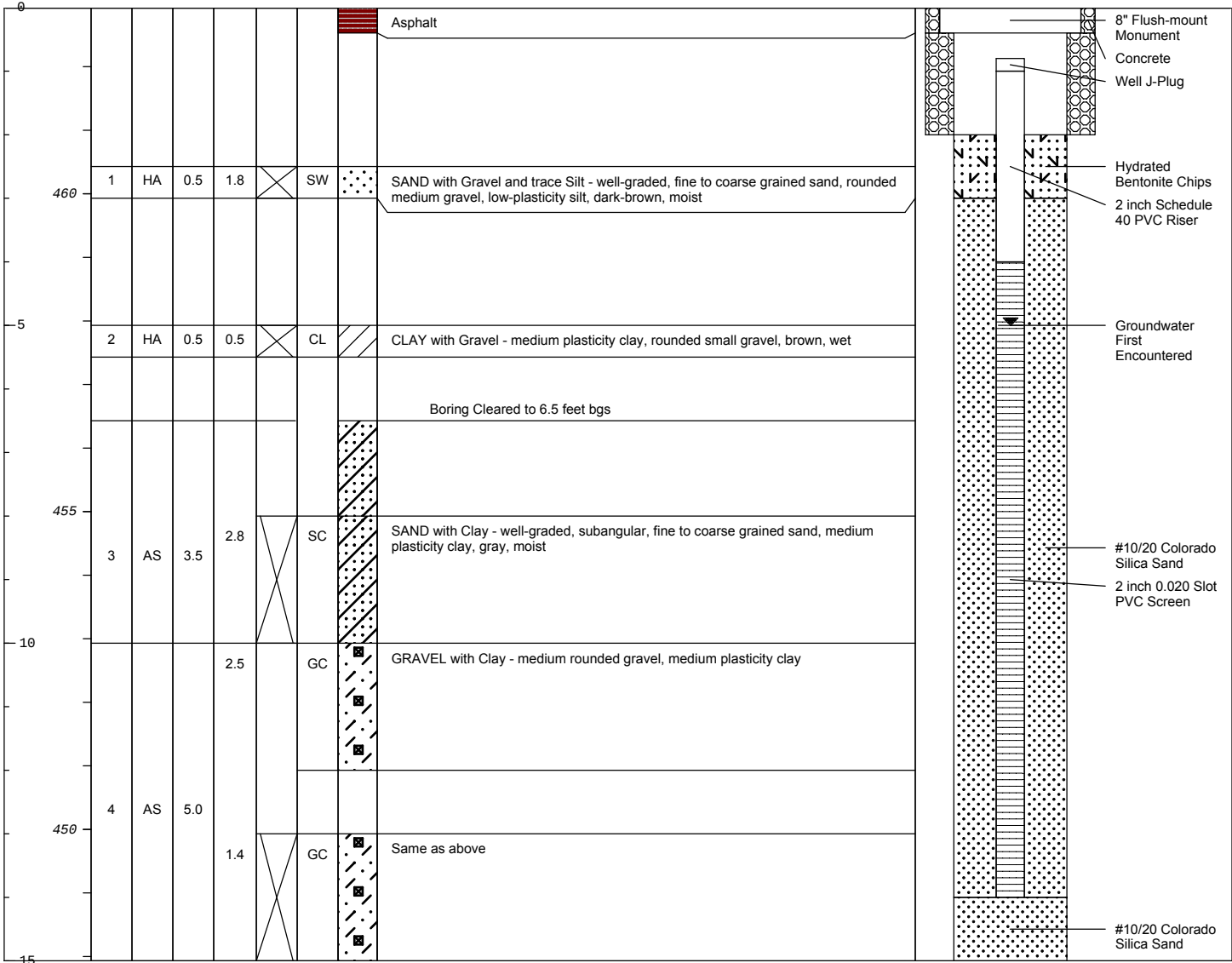
FIGURE
A1

ATTACHMENT C – BORING LOG



Date Start/Finish: 4/12/2016 Drilling Company: HOLT Services, Inc. Driller's Name: Kyle Clerk Drilling Method: Direct Push/Auger Probe Sampling Method: 5 ft Acetate Sleeve/Hand Auger Rig Type: Limited Access Geoprobe Rig	Northing: 323464.23 Easting: 1303445.67 Casing Elevation: 462.93 Borehole Depth: 15 feet bgs Surface Elevation: 463.22 Descriptions By: R.Brauchla	Well/Boring ID: MW-12 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)	PID Headspace (ppm)	Analytical Sample	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
-------	-----------	-------------------	-----------------	-----------------	---------------------	-------------------	-----------	-----------------	---------------------------	--------------------------



	Remarks: bgs = below ground surface; NE = Not Established AS = Acetate Sleeve; HA = Hand Auger; ppm = parts per million; PVC = polyvinyl chloride; ft = feet
--	--

Date Start/Finish: 4/12/2016 Drilling Company: HOLT Services, Inc. Driller's Name: Kyle Clerk Drilling Method: Direct Push Probe Sampling Method: 5 ft Acetate Sleeve/Hand Auger Rig Type: Limited Access Geoprobe Rig	Northing: 323478.49 Easting: 1303499.49 Casing Elevation: N/A Borehole Depth: 16.5 feet bgs Surface Elevation: 465.91 Descriptions By: E. Krueger	Well/Boring ID: SB-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)	PID Headspace (ppm)	Analytical Sample	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
-------	-----------	-------------------	-----------------	-----------------	---------------------	-------------------	-----------	-----------------	---------------------------	--------------------------

									Concrete Surface	
									Pea Gravel	
		1	HA	0.0					No Recovery	
									Pea Gravel	
5	-5	2	HA	0.5	185.5		SC		SAND with Clay and Gravel - poorly-graded sand, medium-plasticity clay, brown, wet, HCLO	
									Boring Cleared to 6.5 feet bgs	
		3	AS	3.5	370.6		SC		SAND with Clay and little Gravel - poorly-graded sand, medium plasticity clay, brown wet, HCLO	
					1,733		SC		SAND with Clay and little Gravel - poorly-graded sand, medium plasticity clay, gray, damp, HCLO	
10	-10				60.2		SC		Same as above	
		4	AS	5.0	82.6		SC		Same as above	
					18.5		SC		Same as above	
15	-15	5	AS	1.5	4.8		SC		Same as above	

Borehole Backfilled with Hydrated Bentonite

	Remarks: bgs = below ground surface; NE = Not Established AS = Acetate Sleeve; HA = Hand Auger; HCLO = Hydrocarbon Like Odor; ppm = parts per million; ft = feet; NA = Not available
--	---

Date Start/Finish: 4/12/2016 Drilling Company: HOLT Services, Inc. Driller's Name: Kyle Clerk Drilling Method: Direct Push Probe Sampling Method: 5 ft Acetate Sleeve/Hand Auger Rig Type: Limited Access Geoprobe Rig	Northing: 323481.47 Easting: 1303479.24 Casing Elevation: NA Borehole Depth: 15 feet bgs Surface Elevation: 464.91 Descriptions By: R. Brauchla	Well/Boring ID: SB-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)	PID Headspace (ppm)	Analytical Sample	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
-------	-----------	-------------------	-----------------	-----------------	---------------------	-------------------	-----------	-----------------	---------------------------	--------------------------

0	0								Concrete	Concrete
		1	HA	0.5	0.2		GW		GRAVEL with Sand - well-graded, rounded, small to medium size gravel, fine to very coarse sand, brown, wet	
5	-5	2	HA	0.5	15.3		CL		CLAY with Sand and Gravel - medium plasticity clay, poorly-graded sand, subrounded medium sized gravel, dark brown, wet	
									Boring Cleared to 6.5 feet bgs	Groundwater first encountered
		3	AS	3.5	31.1		SC		SAND with Clay and little Gravel - poorly-graded, sand, medium plasticity clay, small rounded gravel, very dense, gray-brown, moist	Borehole backfilled with Hydrated Bentonite
10	-10				9.6		SC		SAND with Clay and little Gravel - poorly-graded, fine to medium grained sand, medium plasticity clay, angular gravel, loose, dark-brown, saturated	
		4	AS	5.0	2.1		CL		CLAY with little Sand and Gravel - medium plasticity clay, coarse sand, fine gravel, dense, gray, damp	
15	-15				0.5		CL		Same as above	

	Remarks: bgs = below ground surface; NE = Not Established; AS = Acetate Sleeve; HCLO = Hydrocarbon Like Odor; HA = Hand Auger; ppm = parts per million; ft = feet; NA = Not Available
--	--

Date Start/Finish: 4/12/2016 Drilling Company: HOLT Services, Inc. Driller's Name: Kyle Clerk Drilling Method: Direct Push Probe Sampling Method: 5 ft Acetate Sleeve/Hand Auger Rig Type: Limited Access Geoprobe Rig	Northing: 323429.88 Easting: 1303459.25 Casing Elevation: NA Borehole Depth: 15 feet bgs Surface Elevation: 464.17 Descriptions By: E. Krueger	Well/Boring ID: SB-3 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)	PID Headspace (ppm)	Analytical Sample	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
-------	-----------	-------------------	-----------------	-----------------	---------------------	-------------------	-----------	-----------------	---------------------------	--------------------------

0	0								Concrete	Concrete
		1	HA	0.5	0.2		SP		SAND with little Gravel - poorly-graded sand, small gravel, brown	
									Large Boulder Encountered at 3.5 feet bgs	
5	-5	2	HA	0.5	0.6		SC		SAND with Clay little Gravel and some Organics - well-graded sand, small to medium sized gravel, brown	
					327.2		SP		SAND with little Gravel - poorly-graded sand, brown, HCLO	
		3	AS	4.4	556.3		SC		SAND with Clay and little Gravel - well-graded sand, medium plasticity clay, angular gravel, gray, moist, HCLO	Borehole backfilled with Hydrated Bentonite
10	-10				364.2		SC		SAND with Clay and little Gravel - well-graded sand, medium plasticity clay, angular gravel, gray, moist, HCLO	
		4	AS	5.0	274.5		SC		Same as above	
					1.5		SC		Same as above - dry, increased density	
15	-15									

	Remarks: bgs = below ground surface; NE = Not Established; AS = Acetate Sleeve; HCLO = Hydrocarbon Like Odor HA = Hand Auger; ppm = parts per million; ft = feet; NA = Not Available
--	---

ATTACHMENT C – LABORATORY REPORTS and CHAIN-of-CUSTODY DOCUMENTS



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

Report Date: May 05, 2016

Project: WA-0217Submittal Date: 04/15/2016
Group Number: 1651090
PO Number: GP09BPNA.WA01
State of Sample Origin: WAClient Sample Description

	Lancaster Labs (LL) #
MW-12-2.5 Soil	8335258
MW-12-5 Soil	8335259
MW-12-8 Soil	8335260
MW-12-13 Soil	8335261
SB-1-7 Soil	8335262
SB-1-9 Soil	8335263
SB-1-14 Soil	8335264
SB-1-15 Soil	8335265
SB-2-5 Soil	8335266
SB-2-8 Soil	8335267
SB-2-14 Soil	8335268
SB-3-6 Soil	8335269
SB-3-8 Soil	8335270
SB-3-14 Soil	8335271
DUP-1 Soil	8335272
Trip Blank Water	8335273

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

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our scopes of accreditation can be viewed at <http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/>.

Electronic Copy To ARCADIS U.S., Inc.
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Attn: Ryan Brauchla
Attn: Brian Marcum
Attn: Richard Rodriguez
Attn: Ross LaGrandeur

Respectfully Submitted,


Stacy L. Butt
Specialist

(717) 556-7236

Project Name: WA-0217
LL Group #: 1651090

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**

Sample #s: 8335270

Reporting limits were raised due to interference from the sample matrix.

Sample #s: 8335266

The recovery for the sample internal standard(s) is outside the QC acceptance limits. Sufficient sample was not available to repeat the analysis.

ECY 97-602 NWT PH-GX, GC Volatiles

Sample #s: 8335258

Reporting limits were raised due to sample foaming.

Batch #: 16110A16A (Sample number(s): 8335258-8335259, 8335261-8335262, 8335264, 8335267, 8335271)

The recovery(ies) for one or more surrogates were outside of the QC window for sample(s) 8335262

Batch #: 16112A31A (Sample number(s): 8335260, 8335263, 8335265-8335266, 8335268-8335270, 8335272)

The recovery(ies) for one or more surrogates were outside of the QC window for sample(s) 8335263, 8335269, 8335270, 8335272

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

Sample #s: 8335264, 8335265, 8335266, 8335267, 8335268, 8335269, 8335270, 8335271, 8335272

The holding time was not met. The client was notified and the data reported.

Batch #: 161110017A (Sample number(s): 8335258-8335263 BKG: P339734)

The recovery(ies) for one or more surrogates were outside of the QC window for sample(s) 8335262

Batch #: 161140019A (Sample number(s): 8335264-8335272 BKG: 8335270)

The duplicate RPD for the following analyte(s) exceeded the acceptance window: Diesel Range Organics C12-C24, Heavy Range Organics C24-C40

The recovery(ies) for one or more surrogates were outside of the QC window for sample(s) 8335270

SW-846 6010B, Metals

Batch #: 161125708002 (Sample number(s): 8335269-8335272 UNSPK: 8335269 BKG: 8335269)

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: Lead

The relative percent difference(s) for the following analyte(s) in the MS/MSD were outside outside acceptance windows: Lead

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

Batch #: 161145708002 (Sample number(s): 8335258-8335268 UNSPK: P335223 BKG: P335223)

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: Lead

Sample Description: MW-12-2.5 Soil
WA-0217 COC: R224623
13131 Bothell-Everett Hwy - Everett, WA

LL Sample # SW 8335258
LL Group # 1651090
Account # 13255

Project Name: WA-0217

Collected: 04/12/2016 14:30 by EK

Atlantic Richfield c/o ARCADIS

Suite 600

Submitted: 04/15/2016 09:45

630 Plaza Drive

Reported: 05/05/2016 15:06

Highlands Ranch CO 80129

BE122

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.	0.00050	0.0050	0.89
10237	1,2-Dibromoethane	106-93-4	N.D.	0.0010	0.0050	0.89
10237	1,2-Dichloroethane	107-06-2	N.D.	0.0010	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	N.D.	0.0010	0.0050	0.89
GC	Volatiles	ECY 97-602 NWT PH-Gx	mg/kg	mg/kg	mg/kg	
02005	NWT PH-GX Soil C7-C12	n.a.	N.D.	9.6	48	214.24
Reporting limits were raised due to sample foaming.						
GC	Petroleum	ECY 97-602 NWT PH-Dx	mg/kg	mg/kg	mg/kg	
Hydrocarbons	modified					
08272	Diesel Range Organics C12-C24	n.a.	11	3.3	7.8	1
08272	Heavy Range Organics C24-C40	n.a.	54	11	33	1
Metals	SW-846 6010B	mg/kg	mg/kg	mg/kg		
06955	Lead	7439-92-1	8.59	0.419	1.23	1
Wet Chemistry	SM 2540 G-1997	%	%	%		
00111	Moisture	n.a.	11.1	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.						

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, EDC, EDB	SW-846 8260B	1	X161071AA	04/16/2016 19:36	Jennifer K Howe	0.89
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201610640840	04/12/2016 14:30	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201610640840	04/12/2016 14:30	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201610640840	04/12/2016 14:30	Client Supplied	1
02005	NWT PH-GX Soil C7-C12	ECY 97-602 NWT PH-Gx	1	16110A16A	04/21/2016 03:14	Jeremy C Giffin	214.24

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

Sample Description: MW-12-2.5 Soil
WA-0217 COC: R224623
13131 Bothell-Everett Hwy - Everett, WA

LL Sample # SW 8335258
LL Group # 1651090
Account # 13255

Project Name: WA-0217

Collected: 04/12/2016 14:30 by EK

Atlantic Richfield c/o ARCADIS
Suite 600

Submitted: 04/15/2016 09:45

630 Plaza Drive

Reported: 05/05/2016 15:06

Highlands Ranch CO 80129

BE122

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06647	GC-5g Field Preserved MeOH	SW-846 5035A	1	201610640840	04/12/2016 14:30	Client Supplied	n.a.
08272	NWTPH-Dx soil	ECY 97-602 NWTPH-Dx modified	1	161110017A	04/29/2016 16:16	Thomas C Wildermuth	1
11234	WA DRO NW DX Soils (Non SG)	ECY 97-602 NWTPH-Dx 06/97	1	161110017A	04/21/2016 11:15	Denise L Trimby	1
06955	Lead	SW-846 6010B	1	161145708002	04/26/2016 09:25	Joanne M Gates	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	161145708002	04/25/2016 06:23	James L Mertz	1
00111	Moisture	SM 2540 G-1997	1	16110820009A	04/19/2016 22:17	Scott W Freisher	1

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

Sample Description: MW-12-5 Soil
WA-0217 COC: R224623
13131 Bothell-Everett Hwy - Everett, WA

LL Sample # SW 8335259
LL Group # 1651090
Account # 13255

Project Name: WA-0217

Collected: 04/12/2016 14:40 by EK

Atlantic Richfield c/o ARCADIS

Suite 600

Submitted: 04/15/2016 09:45

630 Plaza Drive

Reported: 05/05/2016 15:06

Highlands Ranch CO 80129

BE125

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.	0.00042	0.0042	0.68
10237	1,2-Dibromoethane	106-93-4	N.D.	0.00084	0.0042	0.68
10237	1,2-Dichloroethane	107-06-2	N.D.	0.00084	0.0042	0.68
10237	Ethylbenzene	100-41-4	N.D.	0.00084	0.0042	0.68
10237	Methyl Tertiary Butyl Ether	1634-04-4	0.0012 J	0.00042	0.0042	0.68
10237	Toluene	108-88-3	0.0024 J	0.00084	0.0042	0.68
10237	Xylene (Total)	1330-20-7	N.D.	0.00084	0.0042	0.68
GC Volatiles						
	ECY 97-602 NWTPH-Gx		mg/kg	mg/kg	mg/kg	
02005	NWTPH-GX Soil C7-C12	n.a.	5.5 J	1.4	6.9	27.85
GC Petroleum Hydrocarbons						
	ECY 97-602 NWTPH-Dx modified		mg/kg	mg/kg	mg/kg	
08272	Diesel Range Organics C12-C24	n.a.	11	3.7	8.6	1
08272	Heavy Range Organics C24-C40	n.a.	110	12	37	1
Metals						
	SW-846 6010B		mg/kg	mg/kg	mg/kg	
06955	Lead	7439-92-1	5.86	0.569	1.67	1
Wet Chemistry						
	SM 2540 G-1997		%	%	%	
00111	Moisture	n.a.	19.2	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.					

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, EDC, EDB	SW-846 8260B	1	X161091AA	04/19/2016 01:36	Sara E Johnson	0.68
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201610640840	04/12/2016 14:40	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201610640840	04/12/2016 14:40	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201610640840	04/12/2016 14:40	Client Supplied	1
02005	NWTPH-GX Soil C7-C12	ECY 97-602 NWTPH-Gx	1	16110A16A	04/21/2016 05:06	Jeremy C Giffin	27.85

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

Sample Description: MW-12-5 Soil
WA-0217 COC: R224623
13131 Bothell-Everett Hwy - Everett, WA

LL Sample # SW 8335259
LL Group # 1651090
Account # 13255

Project Name: WA-0217

Collected: 04/12/2016 14:40 by EK

Atlantic Richfield c/o ARCADIS
Suite 600

Submitted: 04/15/2016 09:45

630 Plaza Drive

Reported: 05/05/2016 15:06

Highlands Ranch CO 80129

BE125

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06647	GC-5g Field Preserved MeOH	SW-846 5035A	1	201610640840	04/12/2016 14:40	Client Supplied	n.a.
08272	NWTPH-Dx soil	ECY 97-602 NWTPH-Dx modified	1	161110017A	04/29/2016 16:36	Thomas C Wildermuth	1
11234	WA DRO NW DX Soils (Non SG)	ECY 97-602 NWTPH-Dx 06/97	1	161110017A	04/21/2016 11:15	Denise L Trimby	1
06955	Lead	SW-846 6010B	1	161145708002	04/26/2016 09:29	Joanne M Gates	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	161145708002	04/25/2016 06:23	James L Mertz	1
00111	Moisture	SM 2540 G-1997	1	16110820009A	04/19/2016 22:17	Scott W Freisher	1

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

Sample Description: MW-12-8 Soil
WA-0217 COC: R224623
13131 Bothell-Everett Hwy - Everett, WA

LL Sample # SW 8335260
LL Group # 1651090
Account # 13255

Project Name: WA-0217

Collected: 04/12/2016 14:45 by EK

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Suite 600

Submitted: 04/15/2016 09:45

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Reported: 05/05/2016 15:06

Highlands Ranch CO 80129

BE128

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.	0.00079	0.0079	1.44
10237	1,2-Dibromoethane	106-93-4	N.D.	0.0016	0.0079	1.44
10237	1,2-Dichloroethane	107-06-2	N.D.	0.0016	0.0079	1.44
10237	Ethylbenzene	100-41-4	N.D.	0.0016	0.0079	1.44
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.00079	0.0079	1.44
10237	Toluene	108-88-3	N.D.	0.0016	0.0079	1.44
10237	Xylene (Total)	1330-20-7	N.D.	0.0016	0.0079	1.44
GC	Volatiles	ECY 97-602 NWTPH-Gx	mg/kg	mg/kg	mg/kg	
02005	NWTPH-GX Soil C7-C12	n.a.	2.1 J	0.97	4.8	21.94
GC Petroleum	ECY 97-602 NWTPH-Dx	mg/kg	mg/kg	mg/kg		
Hydrocarbons	modified					
08272	Diesel Range Organics C12-C24	n.a.	N.D.	3.3	7.6	1
08272	Heavy Range Organics C24-C40	n.a.	N.D.	11	33	1
Metals	SW-846 6010B	mg/kg	mg/kg	mg/kg		
06955	Lead	7439-92-1	2.27	0.377	1.11	1
Wet Chemistry	SM 2540 G-1997	%	%	%		
00111	Moisture	n.a.	9.1	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.						

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, EDC, EDB	SW-846 8260B	1	X161071AA	04/16/2016 20:23	Jennifer K Howe	1.44
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201610640840	04/12/2016 14:45	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201610640840	04/12/2016 14:45	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201610640840	04/12/2016 14:45	Client Supplied	1
02005	NWTPH-GX Soil C7-C12	ECY 97-602 NWTPH-Gx	1	16112A31A	04/21/2016 23:41	Jeremy C Giffin	21.94

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

Sample Description: MW-12-8 Soil
WA-0217 COC: R224623
13131 Bothell-Everett Hwy - Everett, WA

LL Sample # SW 8335260
LL Group # 1651090
Account # 13255

Project Name: WA-0217

Collected: 04/12/2016 14:45 by EK

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Suite 600

Submitted: 04/15/2016 09:45

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Reported: 05/05/2016 15:06

Highlands Ranch CO 80129

BE128

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06647	GC-5g Field Preserved MeOH	SW-846 5035A	1	201610640840	04/12/2016 14:45	Client Supplied	n.a.
08272	NWTPH-Dx soil	ECY 97-602 NWTPH-Dx modified	1	161110017A	04/22/2016 13:24	Thomas C Wildermuth	1
11234	WA DRO NW DX Soils (Non SG)	ECY 97-602 NWTPH-Dx 06/97	1	161110017A	04/21/2016 11:15	Denise L Trimby	1
06955	Lead	SW-846 6010B	1	161145708002	04/26/2016 09:32	Joanne M Gates	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	161145708002	04/25/2016 06:23	James L Mertz	1
00111	Moisture	SM 2540 G-1997	1	16110820009A	04/19/2016 22:17	Scott W Freisher	1

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

Sample Description: MW-12-13 Soil
WA-0217 COC: R224623
13131 Bothell-Everett Hwy - Everett, WA

LL Sample # SW 8335261
LL Group # 1651090
Account # 13255

Project Name: WA-0217

Collected: 04/12/2016 14:50 by EK

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Suite 600

Submitted: 04/15/2016 09:45

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Reported: 05/05/2016 15:06

Highlands Ranch CO 80129

BE121

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.	0.00075	0.0075	1.36
10237	1,2-Dibromoethane	106-93-4	N.D.	0.0015	0.0075	1.36
10237	1,2-Dichloroethane	107-06-2	N.D.	0.0015	0.0075	1.36
10237	Ethylbenzene	100-41-4	N.D.	0.0015	0.0075	1.36
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.00075	0.0075	1.36
10237	Toluene	108-88-3	N.D.	0.0015	0.0075	1.36
10237	Xylene (Total)	1330-20-7	N.D.	0.0015	0.0075	1.36
GC	Volatiles	ECY 97-602 NWTPH-Gx	mg/kg	mg/kg	mg/kg	
02005	NWTPH-GX Soil C7-C12	n.a.	N.D.	0.93	4.6	20.97
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	7.7	1
08272	Heavy Range Organics C24-C40	n.a.	N.D.	11	33	1
Metals		SW-846 6010B	mg/kg	mg/kg	mg/kg	
06955	Lead	7439-92-1	2.72	0.512	1.51	1
Wet Chemistry		SM 2540 G-1997	%	%	%	
00111	Moisture	n.a.	9.4	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.						

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, EDC, EDB	SW-846 8260B	1	X161071AA	04/16/2016 20:46	Jennifer K Howe	1.36
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201610640840	04/12/2016 14:50	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201610640840	04/12/2016 14:50	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201610640840	04/12/2016 14:50	Client Supplied	1
02005	NWTPH-GX Soil C7-C12	ECY 97-602 NWTPH-Gx	1	16110A16A	04/21/2016 05:43	Jeremy C Giffin	20.97

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

Sample Description: MW-12-13 Soil
WA-0217 COC: R224623
13131 Bothell-Everett Hwy - Everett, WA

LL Sample # SW 8335261
LL Group # 1651090
Account # 13255

Project Name: WA-0217

Collected: 04/12/2016 14:50 by EK

Atlantic Richfield c/o ARCADIS
Suite 600

Submitted: 04/15/2016 09:45

630 Plaza Drive

Reported: 05/05/2016 15:06

Highlands Ranch CO 80129

BE121

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06647	GC-5g Field Preserved MeOH	SW-846 5035A	1	201610640840	04/12/2016 14:50	Client Supplied	n.a.
08272	NWTPH-Dx soil	ECY 97-602 NWTPH-Dx modified	1	161110017A	04/22/2016 13:43	Thomas C Wildermuth	1
11234	WA DRO NW DX Soils (Non SG)	ECY 97-602 NWTPH-Dx 06/97	1	161110017A	04/21/2016 11:15	Denise L Trimby	1
06955	Lead	SW-846 6010B	1	161145708002	04/26/2016 09:35	Joanne M Gates	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	161145708002	04/25/2016 06:23	James L Mertz	1
00111	Moisture	SM 2540 G-1997	1	16110820009A	04/19/2016 22:17	Scott W Freisher	1

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

Sample Description: SB-1-7 Soil
WA-0217 COC: R224623
13131 Bothell-Everett Hwy - Everett, WA

LL Sample # SW 8335262
LL Group # 1651090
Account # 13255

Project Name: WA-0217

Collected: 04/12/2016 13:55 by EK

Atlantic Richfield c/o ARCADIS
Suite 600

Submitted: 04/15/2016 09:45

630 Plaza Drive

Reported: 05/05/2016 15:06

Highlands Ranch CO 80129

BHE17

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	0.87 J	0.33	3.3	500
10237	1,2-Dibromoethane	106-93-4	N.D.	0.66	3.3	500
10237	1,2-Dichloroethane	107-06-2	N.D.	0.66	3.3	500
10237	Ethylbenzene	100-41-4	64	0.66	3.3	500
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.33	3.3	500
10237	Toluene	108-88-3	61	0.66	3.3	500
10237	Xylene (Total)	1330-20-7	480	0.66	3.3	500
GC	Volatiles	ECY 97-602 NWTPH-Gx	mg/kg	mg/kg	mg/kg	
02005	NWTPH-GX Soil C7-C12	n.a.	5,200	510	2,600	9741.21
GC	Petroleum Hydrocarbons	ECY 97-602 NWTPH-Dx modified	mg/kg	mg/kg	mg/kg	
08272	Diesel Range Organics C12-C24	n.a.	4,300	39	91	10
08272	Heavy Range Organics C24-C40	n.a.	3,100	130	390	10
Metals		SW-846 6010B	mg/kg	mg/kg	mg/kg	
06955	Lead	7439-92-1	5.79	0.503	1.48	1
Wet Chemistry		SM 2540 G-1997	%	%	%	
00111	Moisture	n.a.	23.7	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.						

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, EDC, EDB	SW-846 8260B	1	Q161101AA	04/19/2016 12:01	Anita M Dale	500
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201610640840	04/12/2016 13:55	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201610640840	04/12/2016 13:55	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201610640840	04/12/2016 13:55	Client Supplied	1
02005	NWTPH-GX Soil C7-C12	ECY 97-602 NWTPH-Gx	1	16110A16A	04/20/2016 20:59	Jeremy C Giffin	9741.21

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

Sample Description: SB-1-7 Soil
WA-0217 COC: R224623
13131 Bothell-Everett Hwy - Everett, WA

LL Sample # SW 8335262
LL Group # 1651090
Account # 13255

Project Name: WA-0217

Collected: 04/12/2016 13:55 by EK

Atlantic Richfield c/o ARCADIS
Suite 600

Submitted: 04/15/2016 09:45

630 Plaza Drive

Reported: 05/05/2016 15:06

Highlands Ranch CO 80129

BHE17

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06647	GC-5g Field Preserved MeOH	SW-846 5035A	1	201610640840	04/12/2016 13:55	Client Supplied	n.a.
08272	NWTPH-Dx soil	ECY 97-602 NWTPH-Dx modified	1	161110017A	04/27/2016 13:53	Thomas C Wildermuth	10
11234	WA DRO NW DX Soils (Non SG)	ECY 97-602 NWTPH-Dx 06/97	1	161110017A	04/21/2016 11:15	Denise L Trimby	1
06955	Lead	SW-846 6010B	1	161145708002	04/26/2016 09:45	Joanne M Gates	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	161145708002	04/25/2016 06:23	James L Mertz	1
00111	Moisture	SM 2540 G-1997	1	16110820009A	04/19/2016 22:17	Scott W Freisher	1

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

Sample Description: SB-1-9 Soil
WA-0217 COC: R224623
13131 Bothell-Everett Hwy - Everett, WA

LL Sample # SW 8335263
LL Group # 1651090
Account # 13255

Project Name: WA-0217

Collected: 04/12/2016 14:00 by EK

Atlantic Richfield c/o ARCADIS
Suite 600

Submitted: 04/15/2016 09:45

630 Plaza Drive

Reported: 05/05/2016 15:06

Highlands Ranch CO 80129

BHE19

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles						
10237	Benzene	71-43-2	N.D.	0.10	1.0	182.44
10237	1,2-Dibromoethane	106-93-4	N.D.	0.21	1.0	182.44
10237	1,2-Dichloroethane	107-06-2	N.D.	0.21	1.0	182.44
10237	Ethylbenzene	100-41-4	6.4	0.21	1.0	182.44
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.10	1.0	182.44
10237	Toluene	108-88-3	3.0	0.21	1.0	182.44
10237	Xylene (Total)	1330-20-7	35	0.21	1.0	182.44
GC Volatiles						
02005	NWTPH-GX Soil C7-C12	n.a.	1,100	170	860	3814.24
GC Petroleum Hydrocarbons						
08272	Diesel Range Organics C12-C24	n.a.	51	3.4	7.8	1
08272	Heavy Range Organics C24-C40	n.a.	21 J	11	34	1
Metals						
06955	Lead	7439-92-1	3.03	0.459	1.35	1
Wet Chemistry						
00111	Moisture	n.a.	11.1	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.						

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, EDC, EDB	SW-846 8260B	1	R161131AA	04/22/2016 14:41	Anita M Dale	182.44
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201610640840	04/12/2016 14:00	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201610640840	04/12/2016 14:00	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201610640840	04/12/2016 14:00	Client Supplied	1
02005	NWTPH-GX Soil C7-C12	ECY 97-602 NWTPH-Gx	1	16112A31A	04/22/2016 04:02	Jeremy C Giffin	3814.24

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

Sample Description: SB-1-9 Soil
WA-0217 COC: R224623
13131 Bothell-Everett Hwy - Everett, WA

LL Sample # SW 8335263
LL Group # 1651090
Account # 13255

Project Name: WA-0217

Collected: 04/12/2016 14:00 by EK

Atlantic Richfield c/o ARCADIS
Suite 600

Submitted: 04/15/2016 09:45

630 Plaza Drive

Reported: 05/05/2016 15:06

Highlands Ranch CO 80129

BHE19

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06647	GC-5g Field Preserved MeOH	SW-846 5035A	1	201610640840	04/12/2016 14:00	Client Supplied	n.a.
08272	NWTPH-Dx soil	ECY 97-602 NWTPH-Dx modified	1	161110017A	04/22/2016 15:23	Thomas C Wildermuth	1
11234	WA DRO NW DX Soils (Non SG)	ECY 97-602 NWTPH-Dx 06/97	1	161110017A	04/21/2016 11:15	Denise L Trimby	1
06955	Lead	SW-846 6010B	1	161145708002	04/26/2016 09:49	Joanne M Gates	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	161145708002	04/25/2016 06:23	James L Mertz	1
00111	Moisture	SM 2540 G-1997	1	16110820009A	04/19/2016 22:17	Scott W Freisher	1

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

Sample Description: SB-1-14 Soil
WA-0217 COC: R224623
13131 Bothell-Everett Hwy - Everett, WA

LL Sample # SW 8335264
LL Group # 1651090
Account # 13255

Project Name: WA-0217

Collected: 04/12/2016 14:10 by EK

Atlantic Richfield c/o ARCADIS

Submitted: 04/15/2016 09:45

Suite 600

Reported: 05/05/2016 15:06

630 Plaza Drive

Highlands Ranch CO 80129

BHE14

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.	0.00042	0.0042	0.77
10237	1,2-Dibromoethane	106-93-4	N.D.	0.00084	0.0042	0.77
10237	1,2-Dichloroethane	107-06-2	N.D.	0.00084	0.0042	0.77
10237	Ethylbenzene	100-41-4	0.00088 J	0.00084	0.0042	0.77
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.00042	0.0042	0.77
10237	Toluene	108-88-3	0.00095 J	0.00084	0.0042	0.77
10237	Xylene (Total)	1330-20-7	0.0049	0.00084	0.0042	0.77
GC	Volatiles	ECY 97-602 NWT PH-Gx	mg/kg	mg/kg	mg/kg	
02005	NWT PH-GX Soil C7-C12	n.a.	1.2 J	0.78	3.9	17.93
GC	Petroleum Hydrocarbons	ECY 97-602 NWT PH-Dx modified	mg/kg	mg/kg	mg/kg	
08272	Diesel Range Organics C12-C24	n.a.	N.D.	3.2	7.5	1
08272	Heavy Range Organics C24-C40	n.a.	N.D.	11	32	1
The holding time was not met. The client was notified and the data reported.						
Metals	SW-846 6010B	mg/kg	mg/kg	mg/kg		
06955	Lead	7439-92-1	3.36	0.490	1.44	1
Wet Chemistry	SM 2540 G-1997	%	%	%		
00111	Moisture	n.a.	7.9	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.						

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, EDC, EDB	SW-846 8260B	1	X161071AA	04/16/2016 21:09	Jennifer K Howe	0.77
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201610640840	04/12/2016 14:10	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201610640840	04/12/2016 14:10	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201610640840	04/12/2016 14:10	Client Supplied	1
02005	NWT PH-GX Soil C7-C12	ECY 97-602 NWT PH-Gx	1	16110A16A	04/21/2016 06:21	Jeremy C Giffin	17.93

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

Sample Description: SB-1-14 Soil
WA-0217 COC: R224623
13131 Bothell-Everett Hwy - Everett, WA

LL Sample # SW 8335264
LL Group # 1651090
Account # 13255

Project Name: WA-0217

Collected: 04/12/2016 14:10 by EK

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Submitted: 04/15/2016 09:45

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Reported: 05/05/2016 15:06

Highlands Ranch CO 80129

BHE14

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06647	GC-5g Field Preserved MeOH	SW-846 5035A	1	201610640840	04/12/2016 14:10	Client Supplied	n.a.
08272	NWTPH-Dx soil	ECY 97-602 NWTPH-Dx modified	1	161140019A	04/28/2016 14:14	Thomas C Wildermuth	1
11234	WA DRO NW DX Soils (Non SG)	ECY 97-602 NWTPH-Dx 06/97	1	161140019A	04/27/2016 08:50	Olivia Arosemena	1
06955	Lead	SW-846 6010B	1	161145708002	04/26/2016 09:52	Joanne M Gates	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	161145708002	04/25/2016 06:23	James L Mertz	1
00111	Moisture	SM 2540 G-1997	1	16110820009A	04/19/2016 22:17	Scott W Freisher	1

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

Sample Description: SB-1-15 Soil
WA-0217 COC: R224623
13131 Bothell-Everett Hwy - Everett, WA

LL Sample # SW 8335265
LL Group # 1651090
Account # 13255

Project Name: WA-0217

Collected: 04/12/2016 14:15 by EK

Atlantic Richfield c/o ARCADIS

Suite 600

Submitted: 04/15/2016 09:45

630 Plaza Drive

Reported: 05/05/2016 15:06

Highlands Ranch CO 80129

BHE15

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.	0.00034	0.0034	0.62
10237	1,2-Dibromoethane	106-93-4	N.D.	0.00069	0.0034	0.62
10237	1,2-Dichloroethane	107-06-2	N.D.	0.00069	0.0034	0.62
10237	Ethylbenzene	100-41-4	N.D.	0.00069	0.0034	0.62
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.00034	0.0034	0.62
10237	Toluene	108-88-3	N.D.	0.00069	0.0034	0.62
10237	Xylene (Total)	1330-20-7	0.00080 J	0.00069	0.0034	0.62
GC	Volatiles	ECY 97-602 NWTPH-Gx	mg/kg	mg/kg	mg/kg	
02005	NWTPH-GX Soil C7-C12	n.a.	N.D.	0.85	4.3	19.14
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
The holding time was not met. The client was notified and the data reported.						
Metals	SW-846 6010B	mg/kg	mg/kg	mg/kg		
06955	Lead	7439-92-1	2.39	0.517	1.52	1
Wet Chemistry	SM 2540 G-1997	%	%	%		
00111	Moisture	n.a.	10.4	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.						

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, EDC, EDB	SW-846 8260B	1	X161111AA	04/20/2016 20:53	Jennifer K Howe	0.62
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201610640840	04/12/2016 14:15	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201610640840	04/12/2016 14:15	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201610640840	04/12/2016 14:15	Client Supplied	1
02005	NWTPH-GX Soil C7-C12	ECY 97-602 NWTPH-Gx	1	16112A31A	04/22/2016 00:18	Jeremy C Giffin	19.14

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

Sample Description: SB-1-15 Soil
WA-0217 COC: R224623
13131 Bothell-Everett Hwy - Everett, WA

LL Sample # SW 8335265
LL Group # 1651090
Account # 13255

Project Name: WA-0217

Collected: 04/12/2016 14:15 by EK

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Suite 600

Submitted: 04/15/2016 09:45

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Reported: 05/05/2016 15:06

Highlands Ranch CO 80129

BHE15

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06647	GC-5g Field Preserved MeOH	SW-846 5035A	1	201610640840	04/12/2016 14:15	Client Supplied	n.a.
08272	NWTPH-Dx soil	ECY 97-602 NWTPH-Dx modified	1	161140019A	04/28/2016 14:35	Thomas C Wildermuth	1
11234	WA DRO NW DX Soils (Non SG)	ECY 97-602 NWTPH-Dx 06/97	1	161140019A	04/27/2016 08:50	Olivia Arosemena	1
06955	Lead	SW-846 6010B	1	161145708002	04/26/2016 09:56	Joanne M Gates	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	161145708002	04/25/2016 06:23	James L Mertz	1
00111	Moisture	SM 2540 G-1997	1	16110820009A	04/19/2016 22:17	Scott W Freisher	1

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

Sample Description: SB-2-5 Soil
WA-0217 COC: R224623
13131 Bothell-Everett Hwy - Everett, WA

LL Sample # SW 8335266
LL Group # 1651090
Account # 13255

Project Name: WA-0217

Collected: 04/12/2016 12:50 by EK

Atlantic Richfield c/o ARCADIS

Suite 600

Submitted: 04/15/2016 09:45

630 Plaza Drive

Reported: 05/05/2016 15:06

Highlands Ranch CO 80129

BHE25

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	0.047	0.00045	0.0045	0.72
10237	1,2-Dibromoethane	106-93-4	N.D.	0.00090	0.0045	0.72
10237	1,2-Dichloroethane	107-06-2	N.D.	0.00090	0.0045	0.72
10237	Ethylbenzene	100-41-4	0.019	0.00090	0.0045	0.72
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.00045	0.0045	0.72
10237	Toluene	108-88-3	0.0026 J	0.00090	0.0045	0.72
10237	Xylene (Total)	1330-20-7	0.090	0.00090	0.0045	0.72
The recovery for the sample internal standard(s) is outside the QC acceptance limits. Sufficient sample was not available to repeat the analysis.						
GC Volatiles						
	ECY 97-602 NWT PH-Gx		mg/kg	mg/kg	mg/kg	
02005	NWT PH-GX Soil C7-C12	n.a.	18	2.5	12	49.38
GC Petroleum Hydrocarbons						
	ECY 97-602 NWT PH-Dx modified		mg/kg	mg/kg	mg/kg	
08272	Diesel Range Organics C12-C24	n.a.	23	3.8	8.8	1
08272	Heavy Range Organics C24-C40	n.a.	110	13	38	1
The holding time was not met. The client was notified and the data reported.						
Metals						
	SW-846 6010B		mg/kg	mg/kg	mg/kg	
06955	Lead	7439-92-1	28.0	0.525	1.54	1
Wet Chemistry						
	SM 2540 G-1997		%	%	%	
00111	Moisture	n.a.	20.3	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.						

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, EDC, EDB	SW-846 8260B	1	X161161AA	04/25/2016 11:44	Jennifer K Howe	0.72
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201610640840	04/12/2016 12:50	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201610640840	04/12/2016 12:50	Client Supplied	1

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

Sample Description: SB-2-5 Soil
WA-0217 COC: R224623
13131 Bothell-Everett Hwy - Everett, WA

LL Sample # SW 8335266
LL Group # 1651090
Account # 13255

Project Name: WA-0217

Collected: 04/12/2016 12:50 by EK

Atlantic Richfield c/o ARCADIS
Suite 600

Submitted: 04/15/2016 09:45

630 Plaza Drive

Reported: 05/05/2016 15:06

Highlands Ranch CO 80129

BHE25

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02005	NWTPH-GX Soil C7-C12	ECY 97-602 NWTPH-Gx	1	16112A31A	04/22/2016 01:30	Jeremy C Giffin	49.38
06647	GC-5g Field Preserved MeOH	SW-846 5035A	1	201610640840	04/12/2016 12:50	Client Supplied	n.a.
08272	NWTPH-Dx soil	ECY 97-602 NWTPH-Dx modified	1	161140019A	04/28/2016 17:21	Thomas C Wildermuth	1
11234	WA DRO NW DX Soils (Non SG)	ECY 97-602 NWTPH-Dx 06/97	1	161140019A	04/27/2016 08:50	Olivia Arosemena	1
06955	Lead	SW-846 6010B	1	161145708002	04/26/2016 09:59	Joanne M Gates	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	161145708002	04/25/2016 06:23	James L Mertz	1
00111	Moisture	SM 2540 G-1997	1	16110820009A	04/19/2016 22:17	Scott W Freisher	1

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

Sample Description: SB-2-8 Soil
WA-0217 COC: R224623
13131 Bothell-Everett Hwy - Everett, WA

LL Sample # SW 8335267
LL Group # 1651090
Account # 13255

Project Name: WA-0217

Collected: 04/12/2016 12:55 by EK

Atlantic Richfield c/o ARCADIS

Submitted: 04/15/2016 09:45

Suite 600

Reported: 05/05/2016 15:06

630 Plaza Drive

Highlands Ranch CO 80129

BHE28

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	0.0026 J	0.00037	0.0037	0.67
10237	1,2-Dibromoethane	106-93-4	N.D.	0.00075	0.0037	0.67
10237	1,2-Dichloroethane	107-06-2	N.D.	0.00075	0.0037	0.67
10237	Ethylbenzene	100-41-4	0.0011 J	0.00075	0.0037	0.67
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.00037	0.0037	0.67
10237	Toluene	108-88-3	0.0025 J	0.00075	0.0037	0.67
10237	Xylene (Total)	1330-20-7	0.0028 J	0.00075	0.0037	0.67
GC	Volatiles	ECY 97-602 NWT PH-Gx	mg/kg	mg/kg	mg/kg	
02005	NWT PH-GX Soil C7-C12	n.a.	3.9 J	0.90	4.5	20.04
GC	Petroleum Hydrocarbons	ECY 97-602 NWT PH-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
The holding time was not met. The client was notified and the data reported.						
Metals	SW-846 6010B	mg/kg	mg/kg	mg/kg		
06955	Lead	7439-92-1	2.62	0.464	1.36	1
Wet Chemistry	SM 2540 G-1997	%	%	%		
00111	Moisture	n.a.	10.6	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.						

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, EDC, EDB	SW-846 8260B	1	X161111AA	04/20/2016 21:16	Jennifer K Howe	0.67
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201610640840	04/12/2016 12:55	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201610640840	04/12/2016 12:55	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201610640840	04/12/2016 12:55	Client Supplied	1
02005	NWT PH-GX Soil C7-C12	ECY 97-602 NWT PH-Gx	1	16110A16A	04/21/2016 07:36	Jeremy C Giffin	20.04

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

Sample Description: SB-2-8 Soil
WA-0217 COC: R224623
13131 Bothell-Everett Hwy - Everett, WA

LL Sample # SW 8335267
LL Group # 1651090
Account # 13255

Project Name: WA-0217

Collected: 04/12/2016 12:55 by EK

Atlantic Richfield c/o ARCADIS
Suite 600

Submitted: 04/15/2016 09:45

630 Plaza Drive

Reported: 05/05/2016 15:06

Highlands Ranch CO 80129

BHE28

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06647	GC-5g Field Preserved MeOH	SW-846 5035A	1	201610640840	04/12/2016 12:55	Client Supplied	n.a.
08272	NWTPH-Dx soil	ECY 97-602 NWTPH-Dx modified	1	161140019A	04/28/2016 15:37	Thomas C Wildermuth	1
11234	WA DRO NW DX Soils (Non SG)	ECY 97-602 NWTPH-Dx 06/97	1	161140019A	04/27/2016 08:50	Olivia Arosemena	1
06955	Lead	SW-846 6010B	1	161145708002	04/26/2016 10:02	Joanne M Gates	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	161145708002	04/25/2016 06:23	James L Mertz	1
00111	Moisture	SM 2540 G-1997	1	16110820009A	04/19/2016 22:17	Scott W Freisher	1

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

Sample Description: SB-2-14 Soil
WA-0217 COC: R224623
13131 Bothell-Everett Hwy - Everett, WA

LL Sample # SW 8335268
LL Group # 1651090
Account # 13255

Project Name: WA-0217

Collected: 04/12/2016 13:00 by EK

Atlantic Richfield c/o ARCADIS

Submitted: 04/15/2016 09:45

Suite 600

Reported: 05/05/2016 15:06

630 Plaza Drive

Highlands Ranch CO 80129

BHE24

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.	0.00036	0.0036	0.66
10237	1,2-Dibromoethane	106-93-4	N.D.	0.00073	0.0036	0.66
10237	1,2-Dichloroethane	107-06-2	N.D.	0.00073	0.0036	0.66
10237	Ethylbenzene	100-41-4	N.D.	0.00073	0.0036	0.66
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.00036	0.0036	0.66
10237	Toluene	108-88-3	N.D.	0.00073	0.0036	0.66
10237	Xylene (Total)	1330-20-7	N.D.	0.00073	0.0036	0.66
GC	Volatiles	ECY 97-602 NWTPH-Gx	mg/kg	mg/kg	mg/kg	
02005	NWTPH-GX Soil C7-C12	n.a.	N.D.	0.83	4.2	18.93
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
The holding time was not met. The client was notified and the data reported.						
Metals	SW-846 6010B	mg/kg	mg/kg	mg/kg		
06955	Lead	7439-92-1	2.18	0.389	1.14	1
Wet Chemistry	SM 2540 G-1997	%	%	%		
00111	Moisture	n.a.	9.0	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.						

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, EDC, EDB	SW-846 8260B	1	X161161AA	04/25/2016 18:17	Jennifer K Howe	0.66
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201610640840	04/12/2016 13:00	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201610640840	04/12/2016 13:00	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201610640840	04/12/2016 13:00	Client Supplied	1
02005	NWTPH-GX Soil C7-C12	ECY 97-602 NWTPH-Gx	1	16112A31A	04/22/2016 00:54	Jeremy C Giffin	18.93

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

Sample Description: SB-2-14 Soil
WA-0217 COC: R224623
13131 Bothell-Everett Hwy - Everett, WA

LL Sample # SW 8335268
LL Group # 1651090
Account # 13255

Project Name: WA-0217

Collected: 04/12/2016 13:00 by EK

Atlantic Richfield c/o ARCADIS

Suite 600

Submitted: 04/15/2016 09:45

630 Plaza Drive

Reported: 05/05/2016 15:06

Highlands Ranch CO 80129

BHE24

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06647	GC-5g Field Preserved MeOH	SW-846 5035A	1	201610640840	04/12/2016 13:00	Client Supplied	n.a.
08272	NWTPH-Dx soil	ECY 97-602 NWTPH-Dx modified	1	161140019A	04/28/2016 13:13	Thomas C Wildermuth	1
11234	WA DRO NW DX Soils (Non SG)	ECY 97-602 NWTPH-Dx 06/97	1	161140019A	04/27/2016 08:50	Olivia Arosemena	1
06955	Lead	SW-846 6010B	1	161145708002	04/26/2016 10:06	Joanne M Gates	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	161145708002	04/25/2016 06:23	James L Mertz	1
00111	Moisture	SM 2540 G-1997	1	16110820009A	04/19/2016 22:17	Scott W Freisher	1

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

Sample Description: SB-3-6 Soil
WA-0217 COC: R224623
13131 Bothell-Everett Hwy - Everett, WA

LL Sample # SW 8335269
LL Group # 1651090
Account # 13255

Project Name: WA-0217

Collected: 04/12/2016 10:40 by EK

Atlantic Richfield c/o ARCADIS

Suite 600

Submitted: 04/15/2016 09:45

630 Plaza Drive

Reported: 05/05/2016 15:06

Highlands Ranch CO 80129

BHE36

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.	0.045	0.45	79.75
10237	1,2-Dibromoethane	106-93-4	N.D.	0.089	0.45	79.75
10237	1,2-Dichloroethane	107-06-2	N.D.	0.089	0.45	79.75
10237	Ethylbenzene	100-41-4	N.D.	0.089	0.45	79.75
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.045	0.45	79.75
10237	Toluene	108-88-3	N.D.	0.089	0.45	79.75
10237	Xylene (Total)	1330-20-7	0.24 J	0.089	0.45	79.75
GC	Volatiles	ECY 97-602 NWTPH-Gx	mg/kg	mg/kg	mg/kg	
02005	NWTPH-GX Soil C7-C12	n.a.	1,700	200	980	4393.43
GC	Petroleum Hydrocarbons	ECY 97-602 NWTPH-Dx modified	mg/kg	mg/kg	mg/kg	
08272	Diesel Range Organics C12-C24	n.a.	1,300	33	77	10
08272	Heavy Range Organics C24-C40	n.a.	N.D.	110	330	10
The holding time was not met. The client was notified and the data reported.						
Metals	SW-846 6010B	mg/kg	mg/kg	mg/kg		
06955	Lead	7439-92-1	7.04	0.519	1.53	1
Wet Chemistry	SM 2540 G-1997	%	%	%		
00111	Moisture	n.a.	10.6	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.						

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, EDC, EDB	SW-846 8260B	1	R161161AA	04/25/2016 15:02	Anita M Dale	79.75
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201610640840	04/12/2016 10:40	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201610640840	04/12/2016 10:40	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201610640840	04/12/2016 10:40	Client Supplied	1
02005	NWTPH-GX Soil C7-C12	ECY 97-602 NWTPH-Gx	1	16112A31A	04/22/2016 04:38	Jeremy C Giffin	4393.43

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

Sample Description: SB-3-6 Soil
WA-0217 COC: R224623
13131 Bothell-Everett Hwy - Everett, WA

LL Sample # SW 8335269
LL Group # 1651090
Account # 13255

Project Name: WA-0217

Collected: 04/12/2016 10:40 by EK

Atlantic Richfield c/o ARCADIS
Suite 600

Submitted: 04/15/2016 09:45

630 Plaza Drive

Reported: 05/05/2016 15:06

Highlands Ranch CO 80129

BHE36

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06647	GC-5g Field Preserved MeOH	SW-846 5035A	1	201610640840	04/12/2016 10:40	Client Supplied	n.a.
08272	NWTPH-Dx soil	ECY 97-602 NWTPH-Dx modified	1	161140019A	04/29/2016 12:52	Thomas C Wildermuth	10
11234	WA DRO NW DX Soils (Non SG)	ECY 97-602 NWTPH-Dx 06/97	1	161140019A	04/27/2016 08:50	Olivia Arosemena	1
06955	Lead	SW-846 6010B	1	161125708002	04/23/2016 11:41	Suzanne M Will	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	161125708002	04/22/2016 05:50	Lisa J Cooke	1
00111	Moisture	SM 2540 G-1997	1	16110820009A	04/19/2016 22:17	Scott W Freisher	1

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

Sample Description: SB-3-8 Soil
WA-0217 COC: R224623
13131 Bothell-Everett Hwy - Everett, WA

LL Sample # SW 8335270
LL Group # 1651090
Account # 13255

Project Name: WA-0217

Collected: 04/12/2016 10:45 by EK

Atlantic Richfield c/o ARCADIS

Submitted: 04/15/2016 09:45

Suite 600

Reported: 05/05/2016 15:06

630 Plaza Drive

Highlands Ranch CO 80129

BHE38

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.	0.048	0.48	83.64
10237	1,2-Dibromoethane	106-93-4	N.D.	0.095	0.48	83.64
10237	1,2-Dichloroethane	107-06-2	N.D.	0.095	0.48	83.64
10237	Ethylbenzene	100-41-4	0.43 J	0.095	0.48	83.64
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.048	0.48	83.64
10237	Toluene	108-88-3	N.D.	0.095	0.48	83.64
10237	Xylene (Total)	1330-20-7	0.99	0.095	0.48	83.64
Reporting limits were raised due to interference from the sample matrix.						
GC Volatiles						
	ECY 97-602 NWTPH-Gx		mg/kg	mg/kg	mg/kg	
02005	NWTPH-GX Soil C7-C12	n.a.	6,200	360	1,800	7978.43
GC Petroleum Hydrocarbons						
	ECY 97-602 NWTPH-Dx modified		mg/kg	mg/kg	mg/kg	
08272	Diesel Range Organics C12-C24	n.a.	2,000	68	160	20
08272	Heavy Range Organics C24-C40	n.a.	240 J	230	680	20
The holding time was not met. The client was notified and the data reported.						
Metals						
	SW-846 6010B		mg/kg	mg/kg	mg/kg	
06955	Lead	7439-92-1	2.95	0.505	1.49	1
Wet Chemistry						
	SM 2540 G-1997		%	%	%	
00111	Moisture	n.a.	12.2	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.						

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, EDC, EDB	SW-846 8260B	1	R161161AA	04/25/2016 15:25	Anita M Dale	83.64
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201610640840	04/12/2016 10:45	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201610640840	04/12/2016 10:45	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201610640840	04/12/2016 10:45	Client Supplied	1

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

Sample Description: SB-3-8 Soil
WA-0217 COC: R224623
13131 Bothell-Everett Hwy - Everett, WA

LL Sample # SW 8335270
LL Group # 1651090
Account # 13255

Project Name: WA-0217

Collected: 04/12/2016 10:45 by EK

Atlantic Richfield c/o ARCADIS
Suite 600

Submitted: 04/15/2016 09:45

630 Plaza Drive

Reported: 05/05/2016 15:06

Highlands Ranch CO 80129

BHE38

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02005	NWTPH-GX Soil C7-C12	ECY 97-602 NWTPH-Gx	1	16112A31A	04/22/2016 05:21	Jeremy C Giffin	7978.43
06647	GC-5g Field Preserved MeOH	SW-846 5035A	1	201610640840	04/12/2016 10:45	Client Supplied	n.a.
08272	NWTPH-Dx soil	ECY 97-602 NWTPH-Dx modified	1	161140019A	04/28/2016 18:22	Thomas C Wildermuth	20
11234	WA DRO NW DX Soils (Non SG)	ECY 97-602 NWTPH-Dx 06/97	1	161140019A	04/27/2016 08:50	Olivia Arosemena	1
06955	Lead	SW-846 6010B	1	161125708002	04/23/2016 12:48	Suzanne M Will	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	161125708002	04/22/2016 05:50	Lisa J Cooke	1
00111	Moisture	SM 2540 G-1997	1	16110820009A	04/19/2016 22:17	Scott W Freisher	1

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

Sample Description: SB-3-14 Soil
WA-0217 COC: R224623
13131 Bothell-Everett Hwy - Everett, WA

LL Sample # SW 8335271
LL Group # 1651090
Account # 13255

Project Name: WA-0217

Collected: 04/12/2016 10:50 by EK

Atlantic Richfield c/o ARCADIS

Submitted: 04/15/2016 09:45

Suite 600

Reported: 05/05/2016 15:06

630 Plaza Drive

Highlands Ranch CO 80129

BHE31

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.	0.00044	0.0044	0.81
10237	1,2-Dibromoethane	106-93-4	N.D.	0.00088	0.0044	0.81
10237	1,2-Dichloroethane	107-06-2	N.D.	0.00088	0.0044	0.81
10237	Ethylbenzene	100-41-4	N.D.	0.00088	0.0044	0.81
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.00044	0.0044	0.81
10237	Toluene	108-88-3	N.D.	0.00088	0.0044	0.81
10237	Xylene (Total)	1330-20-7	N.D.	0.00088	0.0044	0.81
GC	Volatiles	ECY 97-602 NWTPH-Gx	mg/kg	mg/kg	mg/kg	
02005	NWTPH-GX Soil C7-C12	n.a.	N.D.	0.83	4.2	19.26
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	7.5	1
08272	Heavy Range Organics C24-C40	n.a.	N.D.	11	32	1
The holding time was not met. The client was notified and the data reported.						
Metals	SW-846 6010B	mg/kg	mg/kg	mg/kg	mg/kg	
06955	Lead	7439-92-1	2.85	0.442	1.30	1
Wet Chemistry	SM 2540 G-1997	%	%	%	%	
00111	Moisture	n.a.	7.7	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.						

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, EDC, EDB	SW-846 8260B	1	X161091AA	04/19/2016 01:13	Sara E Johnson	0.81
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201610640840	04/12/2016 10:50	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201610640840	04/12/2016 10:50	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201610640840	04/12/2016 10:50	Client Supplied	1
02005	NWTPH-GX Soil C7-C12	ECY 97-602 NWTPH-Gx	1	16110A16A	04/21/2016 08:51	Jeremy C Giffin	19.26

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

Sample Description: SB-3-14 Soil
WA-0217 COC: R224623
13131 Bothell-Everett Hwy - Everett, WA

LL Sample # SW 8335271
LL Group # 1651090
Account # 13255

Project Name: WA-0217

Collected: 04/12/2016 10:50 by EK

Atlantic Richfield c/o ARCADIS
Suite 600

Submitted: 04/15/2016 09:45

630 Plaza Drive

Reported: 05/05/2016 15:06

Highlands Ranch CO 80129

BHE31

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06647	GC-5g Field Preserved MeOH	SW-846 5035A	1	201610640840	04/12/2016 10:50	Client Supplied	n.a.
08272	NWTPH-Dx soil	ECY 97-602 NWTPH-Dx modified	1	161140019A	04/28/2016 14:55	Thomas C Wildermuth	1
11234	WA DRO NW DX Soils (Non SG)	ECY 97-602 NWTPH-Dx 06/97	1	161140019A	04/27/2016 08:50	Olivia Arosemena	1
06955	Lead	SW-846 6010B	1	161125708002	04/23/2016 12:58	Suzanne M Will	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	161125708002	04/22/2016 05:50	Lisa J Cooke	1
00111	Moisture	SM 2540 G-1997	1	16110820009A	04/19/2016 22:17	Scott W Freisher	1

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

Sample Description: DUP-1 Soil
WA-0217 COC: R224623
13131 Bothell-Everett Hwy - Everett, WA

LL Sample # SW 8335272
LL Group # 1651090
Account # 13255

Project Name: WA-0217

Collected: 04/12/2016 by EK

Atlantic Richfield c/o ARCADIS

Submitted: 04/15/2016 09:45

Suite 600

Reported: 05/05/2016 15:06

630 Plaza Drive

Highlands Ranch CO 80129

BEDU1

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.	0.021	0.21	36.88
10237	1,2-Dibromoethane	106-93-4	N.D.	0.041	0.21	36.88
10237	1,2-Dichloroethane	107-06-2	N.D.	0.041	0.21	36.88
10237	Ethylbenzene	100-41-4	5.7	0.041	0.21	36.88
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.021	0.21	36.88
10237	Toluene	108-88-3	3.4	0.041	0.21	36.88
10237	Xylene (Total)	1330-20-7	31	0.041	0.21	36.88
GC	Volatiles	ECY 97-602 NWT PH-Gx	mg/kg	mg/kg	mg/kg	
02005	NWT PH-GX Soil C7-C12	n.a.	910	160	820	3675.94
GC	Petroleum Hydrocarbons	ECY 97-602 NWT PH-Dx modified	mg/kg	mg/kg	mg/kg	
08272	Diesel Range Organics C12-C24	n.a.	23	3.3	7.7	1
08272	Heavy Range Organics C24-C40	n.a.	N.D.	11	33	1
The holding time was not met. The client was notified and the data reported.						
Metals	SW-846 6010B	mg/kg	mg/kg	mg/kg		
06955	Lead	7439-92-1	2.66	0.399	1.17	1
Wet Chemistry	SM 2540 G-1997	%	%	%		
00111	Moisture	n.a.	10.6	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.						

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, EDC, EDB	SW-846 8260B	1	R161161AA	04/25/2016 14:15	Anita M Dale	36.88
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201610640840	04/12/2016 00:00	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201610640840	04/12/2016 00:00	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201610640840	04/12/2016 00:00	Client Supplied	1
02005	NWT PH-GX Soil C7-C12	ECY 97-602 NWT PH-Gx	1	16112A31A	04/22/2016 05:57	Jeremy C Giffin	3675.94

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

Sample Description: DUP-1 Soil
WA-0217 COC: R224623
13131 Bothell-Everett Hwy - Everett, WA

LL Sample # SW 8335272
LL Group # 1651090
Account # 13255

Project Name: WA-0217

Collected: 04/12/2016 by EK

Atlantic Richfield c/o ARCADIS

Submitted: 04/15/2016 09:45

Suite 600

Reported: 05/05/2016 15:06

630 Plaza Drive

Highlands Ranch CO 80129

BEDU1

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06647	GC-5g Field Preserved MeOH	SW-846 5035A	1	201610640840	04/12/2016 00:00	Client Supplied	n.a.
08272	NWTPH-Dx soil	ECY 97-602 NWTPH-Dx modified	1	161140019A	04/28/2016 15:15	Thomas C Wildermuth	1
11234	WA DRO NW DX Soils (Non SG)	ECY 97-602 NWTPH-Dx 06/97	1	161140019A	04/27/2016 08:50	Olivia Arosemena	1
06955	Lead	SW-846 6010B	1	161125708002	04/23/2016 13:01	Suzanne M Will	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	161125708002	04/22/2016 05:50	Lisa J Cooke	1
00111	Moisture	SM 2540 G-1997	1	16110820009A	04/19/2016 22:17	Scott W Freisher	1

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

Sample Description: Trip Blank Water
WA-0217 COC: R224623
13131 Bothell-Everett Hwy - Everett, WA

LL Sample # WW 8335273
LL Group # 1651090
Account # 13255

Project Name: WA-0217

Collected: 04/12/2016

Atlantic Richfield c/o ARCADIS

Submitted: 04/15/2016 09:45

Suite 600

Reported: 05/05/2016 15:06

630 Plaza Drive

Highlands Ranch CO 80129

TBBHE

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC Volatiles						
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx n.a.	ug/l N.D.	ug/l 50	ug/l 250	1

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
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	16112B20A	04/21/2016 17:57	Jeremy C Giffin	1
01146	GC VOA Water Prep	SW-846 5030B	1	16112B20A	04/21/2016 17:57	Jeremy C Giffin	1

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

Quality Control Summary

Client Name: Atlantic Richfield c/o ARCADIS
Reported: 05/05/2016 15:06

Group Number: 1651090

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.

Method Blank

Analysis Name	Result	MDL**	LOQ
	mg/kg	mg/kg	mg/kg
Batch number: Q161101AA	Sample number(s): 8335262		
Benzene	N.D.	0.025	0.25
1,2-Dibromoethane	N.D.	0.050	0.25
1,2-Dichloroethane	N.D.	0.050	0.25
Ethylbenzene	N.D.	0.050	0.25
Methyl Tertiary Butyl Ether	N.D.	0.025	0.25
Toluene	N.D.	0.050	0.25
Xylene (Total)	N.D.	0.050	0.25
Batch number: R161131AA	Sample number(s): 8335263		
Benzene	N.D.	0.025	0.25
1,2-Dibromoethane	N.D.	0.050	0.25
1,2-Dichloroethane	N.D.	0.050	0.25
Ethylbenzene	N.D.	0.050	0.25
Methyl Tertiary Butyl Ether	N.D.	0.025	0.25
Toluene	N.D.	0.050	0.25
Xylene (Total)	N.D.	0.050	0.25
Batch number: R161161AA	Sample number(s): 8335269-8335270,8335272		
Benzene	N.D.	0.025	0.25
1,2-Dibromoethane	N.D.	0.050	0.25
1,2-Dichloroethane	N.D.	0.050	0.25
Ethylbenzene	N.D.	0.050	0.25
Methyl Tertiary Butyl Ether	N.D.	0.025	0.25
Toluene	N.D.	0.050	0.25
Xylene (Total)	N.D.	0.050	0.25
Batch number: X161071AA	Sample number(s): 8335258,8335260-8335261,8335264		
Benzene	N.D.	0.00050	0.0050
1,2-Dibromoethane	N.D.	0.0010	0.0050
1,2-Dichloroethane	N.D.	0.0010	0.0050
Ethylbenzene	N.D.	0.0010	0.0050
Methyl Tertiary Butyl Ether	N.D.	0.00050	0.0050
Toluene	N.D.	0.0010	0.0050
Xylene (Total)	N.D.	0.0010	0.0050
Batch number: X161091AA	Sample number(s): 8335259,8335271		
Benzene	N.D.	0.00050	0.0050
1,2-Dibromoethane	N.D.	0.0010	0.0050
1,2-Dichloroethane	N.D.	0.0010	0.0050
Ethylbenzene	N.D.	0.0010	0.0050
Methyl Tertiary Butyl Ether	N.D.	0.00050	0.0050
Toluene	N.D.	0.0010	0.0050
Xylene (Total)	N.D.	0.0010	0.0050
Batch number: X161111AA	Sample number(s): 8335265,8335267		

*- Outside of specification

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Quality Control Summary

Client Name: Atlantic Richfield c/o ARCADIS
Reported: 05/05/2016 15:06

Group Number: 1651090

Method Blank (continued)

Analysis Name	Result	MDL**	LOQ
	mg/kg	mg/kg	mg/kg
Benzene	N.D.	0.00050	0.0050
1,2-Dibromoethane	N.D.	0.0010	0.0050
1,2-Dichloroethane	N.D.	0.0010	0.0050
Ethylbenzene	N.D.	0.0010	0.0050
Methyl Tertiary Butyl Ether	N.D.	0.00050	0.0050
Toluene	N.D.	0.0010	0.0050
Xylene (Total)	N.D.	0.0010	0.0050
Batch number: X161161AA	Sample number(s): 8335266,8335268		
Benzene	N.D.	0.00050	0.0050
1,2-Dibromoethane	N.D.	0.0010	0.0050
1,2-Dichloroethane	N.D.	0.0010	0.0050
Ethylbenzene	N.D.	0.0010	0.0050
Methyl Tertiary Butyl Ether	N.D.	0.00050	0.0050
Toluene	N.D.	0.0010	0.0050
Xylene (Total)	N.D.	0.0010	0.0050
Batch number: 16110A16A	Sample number(s): 8335258-8335259,8335261-8335262,8335264,8335267,8335271		
NWTPH-GX Soil C7-C12	N.D.	1.0	5.0
Batch number: 16112A31A	Sample number(s): 8335260,8335263,8335265-8335266,8335268-8335270,8335272		
NWTPH-GX Soil C7-C12	N.D.	1.0	5.0
	ug/l	ug/l	ug/l
Batch number: 16112B20A	Sample number(s): 8335273		
NWTPH-Gx water C7-C12	N.D.	50	250
	mg/kg	mg/kg	mg/kg
Batch number: 161110017A	Sample number(s): 8335258-8335263		
Diesel Range Organics C12-C24	N.D.	3.0	7.0
Heavy Range Organics C24-C40	N.D.	10	30
Batch number: 161140019A	Sample number(s): 8335264-8335272		
Diesel Range Organics C12-C24	N.D.	3.0	7.0
Heavy Range Organics C24-C40	N.D.	10	30
Batch number: 161125708002	Sample number(s): 8335269-8335272		
Lead	N.D.	0.510	1.50
Batch number: 161145708002	Sample number(s): 8335258-8335268		
Lead	N.D.	0.510	1.50

LCS/LCSD

Analysis Name	LCS Spike Added	LCS Conc	LCSD Spike Added	LCSD Conc	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
	mg/kg	mg/kg	mg/kg	mg/kg					
Batch number: Q161101AA	Sample number(s): 8335262								
Benzene	1.00	1.05	1.00	0.953	105	95	80-120	10	30
1,2-Dibromoethane	1.00	1.08	1.00	1.00	108	100	80-120	7	30

*- Outside of specification

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Quality Control Summary

Client Name: Atlantic Richfield c/o ARCADIS
Reported: 05/05/2016 15:06

Group Number: 1651090

LCS/LCSD (continued)

Analysis Name	LCS Spike Added mg/kg	LCS Conc mg/kg	LCSD Spike Added mg/kg	LCSD Conc mg/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
1,2-Dichloroethane	1.00	0.998	1.00	0.903	100	90	77-130	10	30
Ethylbenzene	1.00	1.01	1.00	0.916	101	92	80-120	10	30
Methyl Tertiary Butyl Ether	1.00	1.01	1.00	0.919	101	92	72-120	10	30
Toluene	1.00	1.05	1.00	0.975	105	98	80-120	8	30
Xylene (Total)	3.00	3.18	3.00	2.90	106	97	80-120	9	30
Batch number: R161131AA	Sample number(s): 8335263								
Benzene	1.00	0.929	1.00	0.964	93	96	80-120	4	30
1,2-Dibromoethane	1.00	0.893	1.00	0.913	89	91	80-120	2	30
1,2-Dichloroethane	1.00	0.920	1.00	0.944	92	94	77-130	2	30
Ethylbenzene	1.00	0.902	1.00	0.893	90	89	80-120	1	30
Methyl Tertiary Butyl Ether	1.00	0.899	1.00	0.944	90	94	72-120	5	30
Toluene	1.00	0.971	1.00	0.918	97	92	80-120	6	30
Xylene (Total)	3.00	2.77	3.00	2.72	92	91	80-120	2	30
Batch number: R161161AA	Sample number(s): 8335269-8335270,8335272								
Benzene	1.00	1.06	1.00	0.967	106	97	80-120	9	30
1,2-Dibromoethane	1.00	0.998	1.00	0.877	100	88	80-120	13	30
1,2-Dichloroethane	1.00	1.04	1.00	0.942	104	94	77-130	10	30
Ethylbenzene	1.00	0.998	1.00	0.902	100	90	80-120	10	30
Methyl Tertiary Butyl Ether	1.00	1.05	1.00	0.964	105	96	72-120	8	30
Toluene	1.00	1.01	1.00	0.885	101	88	80-120	13	30
Xylene (Total)	3.00	3.04	3.00	2.78	101	93	80-120	9	30
Batch number: X161071AA	Sample number(s): 8335258,8335260-8335261,8335264								
Benzene	0.0200	0.0206	0.0200	0.0208	103	104	80-120	1	30
1,2-Dibromoethane	0.0200	0.0190	0.0200	0.0182	95	91	80-120	4	30
1,2-Dichloroethane	0.0200	0.0215	0.0200	0.0211	108	106	77-130	2	30
Ethylbenzene	0.0200	0.0195	0.0200	0.0200	98	100	80-120	2	30
Methyl Tertiary Butyl Ether	0.0200	0.0187	0.0200	0.0180	93	90	72-120	4	30
Toluene	0.0200	0.0196	0.0200	0.0201	98	101	80-120	3	30
Xylene (Total)	0.0600	0.0560	0.0600	0.0572	93	95	80-120	2	30
Batch number: X161091AA	Sample number(s): 8335259,8335271								
Benzene	0.0200	0.0228	0.0200	0.0229	114	115	80-120	1	30
1,2-Dibromoethane	0.0200	0.0188	0.0200	0.0190	94	95	80-120	1	30
1,2-Dichloroethane	0.0200	0.0234	0.0200	0.0235	117	117	77-130	0	30
Ethylbenzene	0.0200	0.0215	0.0200	0.0217	107	108	80-120	1	30
Methyl Tertiary Butyl Ether	0.0200	0.0190	0.0200	0.0192	95	96	72-120	1	30
Toluene	0.0200	0.0215	0.0200	0.0217	107	109	80-120	1	30
Xylene (Total)	0.0600	0.0609	0.0600	0.0612	102	102	80-120	0	30
Batch number: X161111AA	Sample number(s): 8335265,8335267								
Benzene	0.0200	0.0215	0.0200	0.0206	107	103	80-120	4	30
1,2-Dibromoethane	0.0200	0.0189	0.0200	0.0182	94	91	80-120	4	30
1,2-Dichloroethane	0.0200	0.0228	0.0200	0.0220	114	110	77-130	4	30
Ethylbenzene	0.0200	0.0205	0.0200	0.0198	102	99	80-120	3	30
Methyl Tertiary Butyl Ether	0.0200	0.0189	0.0200	0.0181	94	91	72-120	4	30
Toluene	0.0200	0.0204	0.0200	0.0197	102	99	80-120	3	30
Xylene (Total)	0.0600	0.0579	0.0600	0.0571	97	95	80-120	2	30
Batch number: X161161AA	Sample number(s): 8335266,8335268								

*- Outside of specification

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Quality Control Summary

Client Name: Atlantic Richfield c/o ARCADIS
Reported: 05/05/2016 15:06

Group Number: 1651090

LCS/LCSD (continued)

Analysis Name	LCS Spike Added mg/kg	LCS Conc mg/kg	LCSD Spike Added mg/kg	LCSD Conc mg/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Benzene	0.0200	0.0208	0.0200	0.0197	104	99	80-120	5	30
1,2-Dibromoethane	0.0200	0.0186	0.0200	0.0177	93	89	80-120	5	30
1,2-Dichloroethane	0.0200	0.0217	0.0200	0.0209	109	104	77-130	4	30
Ethylbenzene	0.0200	0.0194	0.0200	0.0186	97	93	80-120	5	30
Methyl Tertiary Butyl Ether	0.0200	0.0202	0.0200	0.0196	101	98	72-120	3	30
Toluene	0.0200	0.0196	0.0200	0.0187	98	93	80-120	5	30
Xylene (Total)	0.0600	0.0565	0.0600	0.0541	94	90	80-120	4	30
	mg/kg	mg/kg	mg/kg	mg/kg					
Batch number: 16110A16A NWTPH-GX Soil C7-C12	Sample number(s): 8335258-8335259, 8335261-8335262, 8335264, 8335267, 8335271 11 11.12 11 11.3 101 103 71-120 2 30								
Batch number: 16112A31A NWTPH-GX Soil C7-C12	Sample number(s): 8335260, 8335263, 8335265-8335266, 8335268-8335270, 8335272 11 10.5 11 10.75 95 98 71-120 2 30								
	ug/l	ug/l	ug/l	ug/l					
Batch number: 16112B20A NWTPH-Gx water C7-C12	Sample number(s): 8335273 1100 1068.65 1100 1081.74 97 98 79-120 1 30								
	mg/kg	mg/kg	mg/kg	mg/kg					
Batch number: 161110017A Diesel Range Organics C12-C24	Sample number(s): 8335258-8335263 133 109.24 82 61-115								
Batch number: 161140019A Diesel Range Organics C12-C24	Sample number(s): 8335264-8335272 133 96.3 72 61-115								
	mg/kg	mg/kg	mg/kg	mg/kg					
Batch number: 161125708002 Lead	Sample number(s): 8335269-8335272 15 16.16 108 80-120								
Batch number: 161145708002 Lead	Sample number(s): 8335258-8335268 15 15.43 103 80-120								
	%	%	%	%					
Batch number: 16110820009A Moisture	Sample number(s): 8335258-8335272 89.5 89.46 100 99-101								

MS/MSD

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

Analysis Name	Unspiked Conc mg/kg	MS Spike Added mg/kg	MS Conc mg/kg	MSD Spike Added mg/kg	MSD Conc mg/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Batch number: 161125708002 Lead	Sample number(s): 8335269-8335272 UNSPK: 8335269 6.29 11.28 19.53 13.39 29.7 117 175* 75-125 41* 20									

*- Outside of specification

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Quality Control Summary

Client Name: Atlantic Richfield c/o ARCADIS
Reported: 05/05/2016 15:06

Group Number: 1651090

MS/MSD (continued)

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

Analysis Name	Unspiked Conc mg/kg	MS Spike Added mg/kg	MS Conc mg/kg	MSD Spike Added mg/kg	MSD Conc mg/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Batch number: 161145708002	Sample number(s): 8335258-8335268 UNSPK: P335223									
Lead	12.34	12	23.59	10.34	26.26	94	135*	75-125	11	20

Laboratory Duplicate

Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	BKG Conc mg/kg	DUP Conc mg/kg	DUP RPD	DUP RPD Max
Batch number: 161110017A	Sample number(s): 8335258-8335263 BKG: P339734			
Diesel Range Organics C12-C24	N.D.	N.D.	0 (1)	20
Heavy Range Organics C24-C40	N.D.	N.D.	0 (1)	20
Batch number: 161140019A	Sample number(s): 8335264-8335272 BKG: 8335270			
Diesel Range Organics C12-C24	1730.29	2193.59	24*	20
Heavy Range Organics C24-C40	207.08	391.04	62* (1)	20
	mg/kg	mg/kg		
Batch number: 161125708002	Sample number(s): 8335269-8335272 BKG: 8335269			
Lead	6.29	9.45	40* (1)	20
Batch number: 161145708002	Sample number(s): 8335258-8335268 BKG: P335223			
Lead	12.34	13.55	9	20
	%	%		
Batch number: 16110820009A	Sample number(s): 8335258-8335272 BKG: 8335262			
Moisture	23.67	24.95	5	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: BTEX, MTBE, EDC, EDB
Batch number: Q161101AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8335262	62	55	55	57
Blank	99	99	89	86
LCS	106	109	99	98
LCSD	97	96	91	91
Limits:	50-141	54-135	52-141	50-131

*- Outside of specification

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Quality Control Summary

Client Name: Atlantic Richfield c/o ARCADIS
Reported: 05/05/2016 15:06

Group Number: 1651090

Surrogate Quality Control (continued)

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

Analysis Name: BTEX, MTBE, EDC, EDB

Batch number: R161131AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8335263	62	62	61	66
Blank	95	95	86	80
LCS	94	88	88	83
LCSD	92	89	88	81
Limits:	50-141	54-135	52-141	50-131

Analysis Name: BTEX, MTBE, EDC, EDB

Batch number: R161161AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8335269	65	66	58	81
8335270	69	70	66	90
8335272	75	75	68	68
Blank	94	95	86	77
LCS	103	104	94	91
LCSD	92	92	80	82
Limits:	50-141	54-135	52-141	50-131

Analysis Name: BTEX, MTBE, EDC, EDB

Batch number: X161071AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8335258	102	101	107	91
8335260	103	103	100	102
8335261	101	101	101	98
8335264	100	105	101	100
Blank	100	99	101	97
LCS	100	101	102	100
LCSD	98	96	102	100
Limits:	50-141	54-135	52-141	50-131

Analysis Name: BTEX, MTBE, EDC, EDB

Batch number: X161091AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8335259	102	102	105	97
8335271	105	104	99	103
Blank	101	98	101	96
LCS	100	96	102	102
LCSD	99	96	102	100
Limits:	50-141	54-135	52-141	50-131

Analysis Name: BTEX, MTBE, EDC, EDB

Batch number: X161111AA

*- Outside of specification

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Quality Control Summary

Client Name: Atlantic Richfield c/o ARCADIS
Reported: 05/05/2016 15:06

Group Number: 1651090

Surrogate Quality Control (continued)

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

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8335265	105	104	100	99
8335267	101	101	101	103
Blank	103	102	100	97
LCS	101	99	102	102
LCSD	100	99	102	101
Limits:	50-141	54-135	52-141	50-131

Analysis Name: BTEX, MTBE, EDC, EDB
Batch number: X161161AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8335266	103	101	119	81
8335268	108	105	99	97
Blank	102	99	99	97
LCS	102	98	100	101
LCSD	102	97	101	101
Limits:	50-141	54-135	52-141	50-131

Analysis Name: NWTPH-GX Soil C7-C12
Batch number: 16110A16A

	Trifluorotoluene-F
8335258	82
8335259	69
8335261	62
8335262	312*
8335264	73
8335267	61
8335271	69
Blank	107
LCS	107
LCSD	108
Limits:	50-142

Analysis Name: NWTPH-GX Soil C7-C12
Batch number: 16112A31A

	Trifluorotoluene-F
8335260	65
8335263	236*
8335265	64
8335266	61
8335268	76
8335269	146*
8335270	0*
8335272	158*
Blank	110
LCS	103
LCSD	102

*- Outside of specification

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Quality Control Summary

Client Name: Atlantic Richfield c/o ARCADIS
Reported: 05/05/2016 15:06

Group Number: 1651090

Surrogate Quality Control (continued)

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

Limits: 50-142

Analysis Name: NWTPH-Gx water C7-C12

Batch number: 16112B20A

Trifluorotoluene-F

8335273	91
Blank	92
LCS	101
LCSD	101

Limits: 63-135

Analysis Name: NWTPH-Dx soil

Batch number: 161110017A

Orthoterphenyl

8335258	130
8335259	111
8335260	87
8335261	99
8335262	211*
8335263	107
Blank	107
DUP	97
LCS	100

Limits: 50-150

Analysis Name: NWTPH-Dx soil

Batch number: 161140019A

Orthoterphenyl

8335264	83
8335265	82
8335266	105
8335267	101
8335268	104
8335269	86
8335270	41*
8335271	81
8335272	80
Blank	101
DUP	52
LCS	96

Limits: 50-150

*- Outside of specification

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bp

13255 | 1651090 | 8335258-73

Laboratory Management Program LaMP Chain of Custody Record

R224623

Page 1 of 2

BP Site Node Path:

Req Due Date (mm/dd/yy):

Standard TAT

Rush TAT: Yes No **X**

BP Facility No:

217

Lab Work Order Number:

[illegible]



13255 | 1651090 | 8335258-73

Laboratory Management Program LaMP Chain of Custody Record

R224622

Page 2 of 2

BP Site Node Path:

Req Due Date (mm/dd/yy): Standard TAT

Rush TAT: Yes No X

BP Facility No: 217

Lab Work Order Number:

Lab Name: Eurofins Lancaster Laboratories Environmental	Facility Address: 13131 Bothell-Everett Highway	Consultant/Contractor: Arcadis
Lab Address: 2425 New Holland Pike, Lancaster, PA 17601	City, State, ZIP Code: Everett, WA	Consultant/Contractor Project No: GPOABPNA.WAO1
Lab PM: Stacy Hess	Lead Regulatory Agency: Ecology	Address: 1100 Olive Way, Suite 800, Seattle, WA 98101
Lab Phone: 717-556-7236	California Global ID No.:	Consultant/Contractor PM: Brian Marcum
Lab Shipping Acct:	Enfos Proposal No:	Phone: 503-232-8201 Email: brian.marcum@arcadis.com
Lab Bottle Order No: 186696	Accounting Mode: Provision OOC-BU OOC-RM	Email EDD To: ryan.branchla@arcadis.com and to lab.enfosdoc@bp.com
Other Info:	Stage: Activity:	Invoice To: BP Contractor X

BP Project Manager (PM):				Matrix				No. Containers / Preservative							Requested Analyses										Report Type & QC Level							
BP PM Phone:								Total Number of Container:	Unpreserved	H2SO4	HNO3	HCl	Methanol	Sodium bisulfate	GRO by NWTPH-Gx	TRD/HQ by NWTPH-Dx	BTX/MSC/EL/EL by 8205	Lead by 6010														Standard ☒
BP PM Email:																																
Lab No.	Sample Description	Date	Time	Soil / Solid	Water / Liquid	Air / Vapor	Is this location a well?																									Comments
	SB-2-14	4-12-2016	1300	X			N	67	23				2	2	X	X	X	X														
	SB-3-6	↓	1040	X			N	67	23				2	2	X	X	X	X														
	SB-3-8	↓	1045	X			N	67	23				2	2	X	X	X	X														
	SB-3-14	↓	1050	X			N	67	23				2	2	X	X	X	X														
	DUP-1	↓	—	X			N	67	23				2	2	X	X	X	X														
	Trip Blank	—	—		X		N	2	20			2			X																trip blanks not sent with sample bottles, provided by Arcadis	

Sampler's Name: Eric Krueger	Relinquished By / Affiliation: CE Eschle ELLE	Date: 4/1/16	Time: 0948	Accepted By / Affiliation: Ryan Branchla Arcadis	Date: 4/1/16	Time: 1500
Sampler's Company: Arcadis						
Shipment Method: Ship Date:	Alex Pink / Arcadis	4/14/16	11:20	Y. H. / ELLE	4/14/16	11:20
Shipment Tracking No:				M. H. / ELLE	4.15-16	9:45

Special Instructions: Questions or Comments: call Ryan Branchla (504-438-9828)

THIS LINE - LAB USE ONLY: Custody Seals In Place (Yes/No) Temp Blank: (Yes/No) Cooler Temp on Receipt: 0.7-1.0 °F/C Trip Blank: Yes/No MS/MSD Sample Submitted: Yes (No)

Client: Arcadis**Delivery and Receipt Information**

Delivery Method:	<u>SeaTac</u>	Arrival Timestamp:	<u>04/15/2016 9:45</u>
Number of Packages:	<u>3</u>	Number of Projects:	<u>2</u>
State/Province of Origin:	<u>WA</u>		

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	VOA Vial Headspace $\geq$ 6mm:	No
Samples Chilled:	Yes	Total Trip Blank Qty:	2
Paperwork Enclosed:	Yes	Trip Blank Type:	HCL
Samples Intact:	Yes	Air Quality Samples Present:	No
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

*Unpacked by Joseph Huber (7831) at 10:46 on 04/15/2016***Samples Chilled Details***Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.*

<u>Cooler #</u>	<u>Thermometer ID</u>	<u>Corrected Temp</u>	<u>Therm. Type</u>	<u>Ice Type</u>	<u>Ice Present?</u>	<u>Ice Container</u>	<u>Elevated Temp?</u>
1	DT121	0.7	DT	Wet	Y	Bagged	N
2	DT121	0.7	DT	Wet	Y	Bagged	N
3	DT121	1.0	DT	Wet	Y	Bagged	N

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		
>	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.		

Laboratory Data Qualifiers:

- B - Analyte detected in the blank
- C - Result confirmed by reanalysis
- E - Concentration exceeds the calibration range
- J (or G, I, X) - estimated value $\geq$ the Method Detection Limit (MDL or DL) and $<$ the Limit of Quantitation (LOQ or RL)
- P - Concentration difference between the primary and confirmation column $>40\%$. The lower result is reported.
- U - Analyte was not detected at the value indicated
- V - Concentration difference between the primary and confirmation column $>100\%$. The reporting limit is raised due to this disparity and evident interference...

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods. Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) 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.

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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.

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A decorative graphic consisting of three thin orange lines. One line is horizontal, extending across the width of the page. Two other lines are diagonal, starting from the bottom left and extending towards the top right, intersecting the horizontal line.