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Subject:

Former ARCO Facility No. 05544 (NW2430) – 2015 Annual Site Status Report

ENVIRONMENT

Site Address: 19918 68th Avenue South, Kent, Washington 98032

Date:

June 6, 2016

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 former Atlantic Richfield Company (ARCO) Facility No. 05544 (site) in 2015. Results and findings from work completed at the site are summarized below and in the attached data tables and figures.

Current Site Use: Active Station

Contact:

Brian Marcum

Phone:

503-220-8201 Ext. 1137

2015 Groundwater Monitoring Summary

Groundwater Monitoring Schedule: Semi Annual

Sample Methodology:

Email:

brian.marcum
@arcadis.com

First Quarter:	No event conducted
Second Quarter:	Low Flow Purge and Sample
Third Quarter:	No event conducted
Fourth Quarter:	Low Flow Purge and Sample

Our ref:

GP09BPNA.WA39

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 (TPH) as gasoline range organics: Second Quarter (Q2) – MW-2, MW-6, MW-12 and MW-13; Fourth Quarter (Q4) – MW-2, MW-6 and MW-13

- TPH as diesel range organics: Q2 – MW-2, MW-5, MW-6, MW-12 and MW-13
- Benzene: Q2 – MW-12; Q4 – MW-12
- Methyl Tertiary Butyl Ether: Q4 – MW-5 and MW-12
  Total Naphthalenes: Q2 – MW-2, MW-6 and MW-13

Observed Depth to Water per Event:

Second Quarter:	9.15 (MW-3) to 10.28 (MW-5) feet below top of casing (btoc) – 6/5/2015
Fourth Quarter:	6.05 (MW-1) to 7.85 (MW-5) feet btoc – 12/15/2015

Groundwater Elevations and Flow Direction:

Event	Elevation Range	Interpreted Groundwater Flow Direction
Second Quarter:	16.78 (MW-7) to 17.68 (MW-3) feet above North American Vertical Datum 1988 (NAVD 88)	Northeast
Fourth Quarter:	19.21 (MW-10) to 20.22 (MW-3) feet above NAVD88	Northeast

2015 Additional Site Activities

No additional activities were conducted at the Site in 2015.

If you have any questions please contact Brian Marcum at 503-220-8201 x1137 or Brian.Marcum@arcadis.com.

Sincerely,

Arcadis U.S., Inc.

Brian Marcum
Project Manager

Rebecca Andresen, L.G.
Vice President

State of Washington
2588
Licensed Geologist
Rebecca K. Andresen

Copies:

Hadi Kerawala, Property Owner

Enclosures:

Tables

Table 1	Groundwater Gauging Data and Select Analytical Results
Table 2	Polycyclic Aromatic Hydrocarbons Analytical Results

Figures

Figure 1	Site Location Map
Figure 2	Groundwater Contour Map with Analytical Results June 5, 2015
Figure 3	Groundwater Contour Map with Analytical Results December 15, 2015
Figure 4	Historical Groundwater Flow Direction Rose Diagram

Attachments

Attachment A	Groundwater Monitoring Field Data Sheets
Attachment B	Laboratory Report and Chain-of-Custody Documentation

TABLES

Table 1
Groundwater Gauging Data and Select Analytical Results
WA-05544

19918 68th Avenue South, Kent, WA 98032

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-1	3/12/2002	(P)	196.78	7.45	0.0	189.33	<50.0	--	--	<0.500	<0.500	<0.500	<1.00	<1.00	--	--	**19.1**	<1.00
MW-1	8/30/2002	(P)	196.78	10.10	0.0	186.68	<50.0	--	--	<0.500	<0.500	<0.500	<1.00	<2.00	<0.01	<1.00	**44.2**	<1.00
MW-1	3/24/2003	(P)	196.78	6.75	0.0	190.03	<50.0	--	--	<0.500	<0.500	<0.500	<1.00	<1.00	--	--	2.3	<1.00
MW-1	4/22/2003	(NS)	196.78	8.62	0.0	188.16	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	6/30/2003	(P)	196.78	9.57	0.0	187.21	<50.0	--	--	<0.500	<0.500	<0.500	<1.00	<1.00	--	--	<1.00	<1.00
MW-1	9/15/2003	(P)	196.78	10.27	0.0	186.51	<50.0	--	--	<0.500	<0.500	<0.500	<1.00	<1.00	--	--	<1.00	<1.00
MW-1	12/30/2003	(P)	196.78	8.75	0.0	188.03	<50.0	--	--	<0.500	<0.500	<0.500	<1.00	<1.00	--	--	<1.00	<1.00
MW-1	7/13/2004	(NS)	196.78	9.85	0.0	186.93	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	11/1/2004	(NP)	196.78	9.60	0.0	187.18	<80.0	--	--	<0.200	<0.500	<0.500	<1.00	<2.00	--	--	<1.00	--
MW-1	3/3/2005	(NP)	196.78	9.11	0.0	187.67	<80.0	--	--	<0.200	<0.500	<0.500	<1.00	<2.00	--	--	<1.00	--
MW-1	6/12/2005	(NP)	196.78	8.88	0.0	187.90	<80.0	--	--	<0.200	<0.500	<0.500	<1.00	<2.00	--	--	<1.00	--
MW-1	8/28/2005	(NS)	196.78	10.13	0.0	186.65	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	11/17/2005	(NS)	196.78	8.88	0.0	187.90	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	3/5/2006	(NS)	196.78	8.49	0.0	188.29	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	10/24/2006	(NS)	196.78	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	3/22/2007	(NS)	196.78	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	5/30/2007	(NS)	196.78	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	9/4/2007	(NS)	196.78	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	11/13/2007	(NS)	196.78	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	3/12/2008	(NP)	196.78	8.90	0.0	187.88	<50.0	--	--	<0.500	<0.500	<0.500	<3.00	<1.00	--	--	--	--
MW-1	6/9/2008	(NP)	196.78	8.74	0.0	188.04	<50.0	--	--	<0.500	<0.500	<0.500	<3.00	<1.00	--	--	--	--
MW-1	8/6/2008	(NS)	196.78	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	10/8/2008	(NS)	196.78	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	1/15/2009	(NP)	196.78	6.64	0.0	190.14	<50.0	--	--	<0.500	<0.500	<0.500	<3.00	<1.00	--	--	--	--
MW-1	4/2/2009	(NP)	196.78	7.89	0.0	188.89	<50.0	--	--	<0.500	<0.500	<0.500	<1.00	<1.00	--	--	<1.00	<1.00
MW-1	10/14/2009	(NS)	196.78	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	3/22/2010	(NP)	26.12	7.70	--	18.42	<50	--	--	<1.0	<1.0	<1.0	<3	<1.0	--	--	--	--
MW-1	6/22/2010	(NP)	26.12	7.14	--	18.98	<50	--	--	<0.50	<0.50	<0.50	<1.0	<1.0	--	--	--	--
MW-1	6/22/2010	(Dup)(NP)	26.12	7.14	--	18.98	<50	--	--	<0.50	<0.50	<0.50	<1.0	<1.0(H)	--	--	--	--
MW-1	3/10/2011	(NP)	26.12	5.82	0.0	20.30	<50.0	--	--	<1.0	<1.0	<1.0	<3.0	<1.0	--	--	**<20.0**	<10.0
MW-1	9/19/2011	(NP)	26.12	8.73	0.0	17.39	<50.0	--	--	<1.0	<1.0	<1.0	<3.0	<1.0	--	--	<10.0	<10.0
MW-1	3/16/2012	(NP)	26.12	5.58	0.0	20.54	<50.0	--	--	<1.0	<1.0	<1.0	<3.0	<1.0	--	--	<10.0	<10.0
MW-1	7/26/2012	(NS)	26.12	8.67	0.0	17.45	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	3/1/2013	(NS)	26.12	7.91	0.0	18.21	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	5/22/2013	(NS)	26.12	8.08	0.0	18.04	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	7/24/2013	(NS)	26.12	9.45	0.0	16.67	--	--	--	--	--	--	--	--	--	--	--	--

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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-1	10/4/2013	(NS)	26.12	6.63	0.0	19.49	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	2/12/2014	(NS)	26.12	7.00	0.0	19.12	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	5/14/2014	(NS)	26.12	7.51	0.0	18.61	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	8/5/2014	(NS)	26.12	9.05	0.0	17.07	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	12/2/2014	(NS)	26.12	7.61	0.0	18.51	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	6/5/2015	(NS)	26.12	9.20	0.0	16.92	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	12/15/2015	(NS)	26.12	6.05	0.0	20.07	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	3/12/2002	(P)	198.02	8.60	0.0	189.42	**201,000**	--	--	**40,800**	**39,700**	**4,240**	**19,900**	**2,250**	--	--	**50.4**	<1.00
MW-2	8/30/2002	(P)	198.02	11.04	0.0	186.98	**74,000**	--	--	**24,300**	**4,590**	**2,270**	**7,530**	**2,620**	<0.01	**<100**	**121**	<1.00
MW-2	3/24/2003	(P)	198.02	8.45	0.0	189.57	**47,900**	--	--	**12,800**	**2,550**	**1,680**	**4,870**	**1,950**	--	--	13.9	<1.00
MW-2	4/22/2003	(NS)	198.02	9.31	0.0	188.71	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	6/30/2003	(P)	198.02	10.43	0.0	187.59	**51,000**	--	--	**12,100**	**2,500**	**2,290**	**5,720**	**2,370**	--	--	**52.9**	9.95
MW-2	9/15/2003	(P)	198.02	11.33	0.0	186.69	**33,600**	--	--	**6,000**	**1,390**	**1,840**	**4,320**	**1,590**	--	--	14.7	<1.00
MW-2	12/30/2003	(P)	198.02	9.36	0.0	188.66	**74,000**	--	--	**10,100**	**12,800**	**1,980**	**8,510**	**1,070**	--	--	8.74	<1.00
MW-2	7/13/2004	(NP)	198.02	10.71	0.0	187.31	**68,200**	--	--	**12,700**	**3,890**	**1,710**	**6,860**	**1,630**	--	--	<1.00	<1.00
MW-2	11/1/2004	(NP)	198.02	9.11	0.0	188.91	<80.0	--	--	**25.5**	<1.00	<1.00	<2.00	**355**	--	--	<1.00	--
MW-2	3/3/2005	(NP)	198.02	12.20	0.0	185.82	<80.0	--	--	<0.400	<1.00	<1.00	<2.00	**229**	--	--	1.82	--
MW-2	6/12/2005	(NP)	198.02	10.00	0.0	188.02	**4,020**	--	--	**616**	33	523	490	**117**	--	--	<1.00	--
MW-2	8/28/2005	(NP)	198.02	11.14	0.0	186.88	**5,400**	--	--	**1,500**	3.57	66.6	63.9	**229**	--	--	<1.00	--
MW-2	11/17/2005	(NP)	198.02	10.25	0.0	187.77	<50.0	--	--	0.72	<0.500	<0.500	<1.00	**106**	--	--	<1.00	--
MW-2	3/5/2006	(NP)	198.02	9.05	0.0	188.97	69.2	--	--	3.14	<0.500	1.59	2.98	**46.5**	--	--	<1.00	--
MW-2	10/24/2006	(P)	198.02	11.08	0.0	186.94	733	--	--	**84.3**	1.18	66.1	10.6	**358**	--	--	--	--
MW-2	3/22/2007	(P)	198.02	8.43	0.0	189.59	**51,900**	--	--	**2,380**	**4,810**	**3,350**	**13,700**	**<100**	--	--	--	--
MW-2	5/30/2007	(P)	198.02	9.97	0.0	188.05	**51,900**	--	--	**1,650**	**3,390**	**2,360**	**7,650**	**119**	--	--	--	--
MW-2	9/4/2007	(P)	198.02	10.22	0.0	187.80	**81,900**	--	--	**1,480**	221	**3,120**	**24,100**	**131**	--	--	--	--
MW-2	11/13/2007	(P)	198.02	10.32	0.0	187.70	**21,200**	--	--	**426**	89.9	594	**1,760**	**65.5**	--	--	--	--
MW-2	3/12/2008	(NP)	198.02	9.15	0.0	188.87	**91,100**	--	--	**304**	**2,240**	**3,750**	**16,700**	6.41	--	--	--	--
MW-2	6/9/2008	(NP)	198.02	6.65	0.0	191.37	**22,100**	--	--	**11.7**	963	632	**3,360**	<1.00	--	--	--	--
MW-2	8/6/2008	(NP)	198.02	10.60	0.0	187.42	**61,200**	--	--	**268**	**1,510**	**3,400**	**16,500**	1.48	--	--	--	--
MW-2	10/8/2008	(NP)	198.02	10.41	0.0	187.61	**52,300**	--	--	**127**	172	**2,120**	**10,600**	<1.00	--	--	--	--
MW-2	1/15/2009	(NP)	198.02	8.00	0.0	190.02	**34,700**	--	--	**361**	308	**1,540**	**5,100**	**21.8**	--	--	--	--
MW-2	4/2/2009	(NP)	198.02	8.89	0.0	189.13	**81,600**	--	--	**90.3**	**1,120**	**3,590**	**18,700**	<10	--	--	<1.00	<1.00
MW-2	10/14/2009	(NP)	198.02	9.86	0.0	188.16	**45,000**	--	--	**98**	38	**2,300**	**8,000**	<1.00	--	--	<2.00	--
MW-2	3/22/2010	(NP)	27.32	8.66	--	18.66	**84,000**	--	--	**43**	490	**3,400**	**15,000**	<1.0	--	--	--	--
MW-2	6/22/2010	(NP, H)	27.32	8.16	--	19.16	**69,000**	--	--	**30**	**1,600**	**3,000**	**13,000**	**<50(H)**	--	--	--	--
MW-2	3/10/2011	(NP)	27.32	7.19	0.0	20.13	**47,800**	--	--	**19.9**	548	**2,380**	**9,250**	<1.0	--	--	<10.0	<10.0
MW-2	9/19/2011	(NP)	27.32	10.45	0.0	16.87	**37,000**	--	--	**66.0**	10.9	**2,210**	**2,410**	<1.0	--	--	<10.0	<10.0

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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-2	3/16/2012	(NP)	27.32	7.19	0.0	20.13	**30,800**	--	--	**32.5**	17.5	**1,960**	**3,050**	<1.0	--	--	<10.0	<10.0
MW-2	7/26/2012	(NP)	27.32	9.78	0.0	17.54	**42,600**	--	--	**49.6**	9.5	**2,090**	**4,330**	<1.0	--	--	<10.0	<10.0
MW-2	3/1/2013	(NP)	27.32	9.60	0.0	17.72	<100	--	--	<1.0	<1.0	<1.0	<3.0	--	--	--	<3.0	<10.0
MW-2	3/1/2013	(Dup)(NP)	27.32	9.60	0.0	17.72	<100	--	--	<1.0	<1.0	<1.0	<3.0	--	--	--	--	--
MW-2	5/22/2013	(NP)	27.32	9.58	0.0	17.74	<100	--	--	<1.0	<1.0	<1.0	<3.0	1.1	--	--	<10.0	<10.0
MW-2	5/22/2013	(Dup)(NP)	27.32	9.58	0.0	17.74	<100	--	--	<1.0	<1.0	<1.0	<3.0	1.2	--	--	--	--
MW-2	7/24/2013	(NP)	27.32	10.38	0.0	16.94	<100	--	--	<1.0	<1.0	<1.0	<3.0	<1.0	--	--	<10.0	<10.0
MW-2	7/24/2013	(Dup)(NP)	27.32	10.38	0.0	16.94	<100	--	--	<1.0	<1.0	<1.0	<3.0	<1.0	--	--	--	--
MW-2	10/4/2013	(LFP)	27.32	8.55	0.0	18.77	<100	--	--	2.4	<1.0	<1.0	<3.0	<1.0	--	--	<10.0	<10.0
MW-2	2/12/2014	(LFP)	27.32	9.25	0.0	18.07	**7,200**	--	--	2.7(J)	0.71(J)	430	590	<0.50	--	--	<4.7	<4.7
MW-2	5/14/2014	(LFP)	27.32	7.98	0.0	19.34	**5,200**	--	--	2.6	0.79(J)	210	730	<0.50	--	--	0.18(J)	<0.085
MW-2	5/14/2014	(Dup)(LFP)	27.32	7.98	0.0	19.34	**5,100**	--	--	2.8	0.99(J)	230	710	<0.50	--	--	0.16(J)	0.094(J)
MW-2	8/5/2014	(LFP)	27.32	10.04	0.0	17.28	**21,000**	--	--	**5.7**	3.9(J)	**920**	**2,700**	<2.5	--	--	0.37(J)	<0.082
MW-2	8/5/2014	(Dup)(LFP)	27.32	10.04	0.0	17.28	**17,000**	--	--	**6.2**	4.0	**920**	**2,600**	<1.0	--	--	0.49(J)	<0.082
MW-2	12/2/2014	(LFP)	27.32	8.53	0.0	18.79	**8,900**	**3,300**	180(J)	4.5	3.6	540	1,000	<0.50	--	--	0.12(J)	--
MW-2	12/2/2014	(Dup)(LFP)	27.32	8.53	0.0	18.79	**9,300**	**2,400**	220(J)	4.1	2.5	490	830	0.59(J)	--	--	0.32(J)	--
MW-2	6/5/2015	(LFP)	27.32	9.98	0.0	17.34	**7,500**	**3,400**	<66	3.5	1.4	510	620	0.54(J)	--	--	0.32(J)	--
MW-2	6/5/2015	(Dup)(LFP)	27.32	9.98	0.0	17.34	**7,700**	**2,700**	<67	3.5	1.3	520	590	0.56(J)	--	--	0.34(J)	--
MW-2	12/15/2015	(LFP)	27.32	7.39	0.0	19.93	**830**	140	<66	0.50(J)	<0.50	27	5.8	1.2	--	--	--	--
MW-2	12/15/2015	(Dup)(LFP)	27.32	7.39	0.0	19.93	**960**	110	<69	<0.50	<0.50	29	8.7	1.3	--	--	--	--
MW-3	3/12/2002	(P)	197.49	7.90	0.0	189.59	<50.0	--	--	<0.500	<0.500	<0.500	<1.00	<1.00	--	--	**55.7**	<1.00
MW-3	8/30/2002	(P)	197.49	10.50	0.0	186.99	<50.0	--	--	<0.500	<0.500	<0.500	<1.00	<2.00	<0.01	<1.00	**63.8**	<1.00
MW-3	3/24/2003	(P)	197.49	7.60	0.0	189.89	<50.0	--	--	<0.500	<0.500	<0.500	<1.00	<1.00	--	--	1.8	<1.00
MW-3	4/22/2003	(NS)	197.49	8.60	0.0	188.89	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	6/30/2003	(P)	197.49	9.45	0.0	188.04	<50.0	--	--	<0.500	<0.500	<0.500	<1.00	<1.00	--	--	13.4	3.63
MW-3	9/15/2003	(P)	197.49	10.67	0.0	186.82	<50.0	--	--	<0.500	<0.500	<0.500	<1.00	<1.00	--	--	14	<1.00
MW-3	12/30/2003	(P)	197.49	8.65	0.0	188.84	<50.0	--	--	<0.500	<0.500	<0.500	<1.00	<1.00	--	--	2.17	<1.00
MW-3	7/13/2004	(NS)	197.49	10.27	0.0	187.22	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	11/1/2004	(NP)	197.49	9.50	0.0	187.99	<80.0	--	--	<0.200	<0.500	<0.500	<1.00	<2.00	--	--	<1.00	--
MW-3	3/3/2005	(NP)	197.49	8.42	0.0	189.07	<80.0	--	--	<0.200	<0.500	<0.500	<1.00	<2.00	--	--	<1	--
MW-3	6/12/2005	(NP)	197.49	9.32	0.0	188.17	<80.0	--	--	<0.200	<0.500	<0.500	<1.00	<2.00	--	--	<1.00	--
MW-3	8/28/2005	(NS)	197.49	10.64	0.0	186.85	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	11/17/2005	(NS)	197.49	9.15	0.0	188.34	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	3/5/2006	(NS)	197.49	8.28	0.0	189.21	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	10/24/2006	(NS)	197.49	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	3/22/2007	(NS)	197.49	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	5/30/2007	(NS)	197.49	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table 1
Groundwater Gauging Data and Select Analytical Results
WA-05544

19918 68th Avenue South, Kent, WA 98032

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-3	9/4/2007	(NS)	197.49	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	11/13/2007	(NS)	197.49	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	3/12/2008	(NP)	197.49	8.85	0.0	188.64	<50.0	--	--	<0.500	<0.500	<0.500	<3.00	<1.00	--	--	--	--
MW-3	6/9/2008	(NP)	197.49	7.56	0.0	189.93	<50.0	--	--	<0.500	<0.500	<0.500	<3.00	<1.00	--	--	--	--
MW-3	8/6/2008	(NP)	197.49	10.07	0.0	187.42	<50.0	--	--	<0.500	<0.500	<0.500	<3.00	<1.00	--	--	--	--
MW-3	10/8/2008	(NP)	197.49	9.62	0.0	187.87	<50.0	--	--	<0.500	<0.500	<0.500	<3.00	<1.00	--	--	--	--
MW-3	1/15/2009	(NP)	197.49	7.15	0.0	190.34	<50.0	--	--	<0.500	<0.500	<0.500	<3.00	<1.00	--	--	--	--
MW-3	4/2/2009	(NP)	197.49	8.05	0.0	189.44	<50.0	--	--	<0.500	<0.500	<0.500	<1.00	<1.00	--	--	<1.00	<1.00
MW-3	10/14/2009	(NS)	197.49	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	3/22/2010	(NP)	26.83	7.89	--	18.94	<50	--	--	<1.0	<1.0	<1.0	<3	<1.0	--	--	--	--
MW-3	3/22/2010	(Dup)(NP)	26.83	7.89	--	18.94	<50	--	--	<1.0	<1.0	<1.0	<3	<1.0	--	--	--	--
MW-3	6/22/2010	(NP)	26.83	7.44	--	19.39	<50	--	--	<0.50	<0.50	<0.50	<1.0	<1.0(H)	--	--	--	--
MW-3	3/10/2011	(NP)	26.83	7.54	0.0	19.29	<50.0	--	--	<1.0	<1.0	<1.0	<3.0	<1.0	--	--	<10.0	<10.0
MW-3	9/19/2011	(NP)	26.83	9.41	0.0	17.42	<50.0	--	--	<1.0	<1.0	<1.0	<3.0	<1.0	--	--	<10.0	<10.0
MW-3	3/16/2012	(NP)	26.83	6.30	0.0	20.53	<50.0	--	--	<1.0	<1.0	<1.0	<3.0	<1.0	--	--	<10.0	<10.0
MW-3	7/26/2012	(NS)	26.83	8.90	0.0	17.93	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	3/1/2013	(NS)	26.83	8.44	0.0	18.39	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	5/22/2013	(NP)	26.83	8.55	0.0	18.28	<100	--	--	<1.0	<1.0	<1.0	<3.0	<1.0	--	--	<10.0	<10.0
MW-3	7/24/2013	(NS)	26.83	9.87	0.0	16.96	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	10/4/2013	(LFP)	26.83	7.72	0.0	19.11	<100	--	--	<1.0	<1.0	<1.0	<3.0	<1.0	--	--	<10.0	<10.0
MW-3	2/12/2014	(NS)	26.83	8.01	0.0	18.82	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	5/14/2014	(NS)	26.83	7.39	0.0	19.44	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	8/5/2014	(NS)	26.83	9.57	0.0	17.26	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	12/2/2014	(NS)	26.83	7.78	0.0	19.05	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	6/5/2015	(NS)	26.83	9.15	0.0	17.68	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	12/15/2015	(NS)	26.83	6.61	0.0	20.22	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	3/12/2002	(P)	197.68	7.38	0.0	190.30	<50.0	--	--	<0.500	<0.500	<0.500	<1.00	<1.00	--	--	**23.2**	<1.00
MW-4	8/30/2002	(P)	197.68	10.97	0.0	186.71	**1,400**	--	--	**48**	1.05	0.743	124	9.57	<0.01	<1.00	**61**	<1.00
MW-4	3/24/2003	(P)	197.68	8.65	0.0	189.03	<50.0	--	--	<0.500	<0.500	<0.500	<1.00	<1.00	--	--	5.53	<1.00
MW-4	4/22/2003	(NS)	197.68	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	6/30/2003	(P)	197.68	10.61	0.0	187.07	**903**	--	--	**28.9**	<0.500	<0.500	16.7	<5.00	--	--	9.17	4.56
MW-4	9/15/2003	(P)	197.68	11.16	0.0	186.52	**848**	--	--	**20.5**	<0.500	<0.500	3.73	<1.00	--	--	5.15	<1.00
MW-4	12/30/2003	(P)	197.68	9.61	0.0	188.07	144	--	--	1	<0.500	<0.500	2.4	<1.00	--	--	**15.1**	<1.00
MW-4	7/13/2004	(NS)	197.68	9.98	0.0	187.70	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	11/1/2004	(P)	197.68	10.60	0.0	187.08	<80.0	--	--	<0.200	<0.500	<0.500	<1.00	<2.00	--	--	2.3	--
MW-4	3/3/2005	(NS)	197.68	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	6/12/2005	(NP)	197.68	9.78	0.0	187.90	<80.0	--	--	<0.200	<0.500	<0.500	<1.00	<2.00	--	--	<1.00	--

Table 1
Groundwater Gauging Data and Select Analytical Results
WA-05544

19918 68th Avenue South, Kent, WA 98032

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	8/28/2005	(NS)	197.68	11.00	0.0	186.68	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	11/17/2005	(NP)	197.68	9.81	0.0	187.87	<50.0	--	--	<0.500	<0.500	<0.500	<1.00	<1.00	--	--	<1.00	--
MW-4	3/5/2006	(NS)	197.68	9.31	0.0	188.37	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	10/24/2006	(NS)	197.68	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	3/22/2007	(NS)	197.68	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	5/30/2007	(NS)	197.68	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	9/4/2007	(NS)	197.68	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	11/13/2007	(NS)	197.68	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	3/13/2008	(NP)	197.68	9.72	0.0	187.96	<50.0	--	--	<0.500	<0.500	<0.500	<3.00	<1.00	--	--	--	--
MW-4	6/9/2008	(NP)	197.68	9.55	0.0	188.13	<50.0	--	--	<0.500	<0.500	<0.500	<3.00	<1.00	--	--	--	--
MW-4	8/6/2008	(NS)	197.68	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	10/8/2008	(NP)	197.68	10.31	0.0	187.37	<50.0	--	--	<0.500	<0.500	<0.500	<3.00	<1.00	--	--	--	--
MW-4	1/15/2009	(NP)	197.68	8.13	0.0	189.55	<50.0	--	--	<0.500	<0.500	<0.500	<3.00	<1.00	--	--	--	--
MW-4	4/2/2009	(NP)	197.68	8.13	0.0	189.55	<50.0	--	--	<0.500	<0.500	<0.500	<1.00	<1.00	--	--	<1.00	<1.00
MW-4	10/14/2009	(NS)	197.68	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	3/22/2010	(NP)	27.01	8.72	--	18.29	<50	--	--	<1.0	<1.0	<1.0	<3	<1.0	--	--	--	--
MW-4	6/22/2010	(NP, H)	27.01	8.14	--	18.87	<50	--	--	<0.50	<0.50	<0.50	<1.0	<1.0(H)	--	--	--	--
MW-4	3/10/2011	(NP)	27.01	6.73	0.0	20.28	<50.0	--	--	<1.0	<1.0	<1.0	<3.0	<1.0	--	--	<10.0	<10.0
MW-4	9/19/2011	(NP)	27.01	9.71	0.0	17.30	<50.0	--	--	<1.0	<1.0	<1.0	<3.0	<1.0	--	--	<10.0	<10.0
MW-4	3/16/2012	(NP)	27.01	6.70	0.0	20.31	<50.0	--	--	<1.0	<1.0	<1.0	<3.0	<1.0	--	--	<10.0	<10.0
MW-4	7/26/2012	(NS)	27.01	9.55	0.0	17.46	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	3/1/2013	(NS)	27.01	8.86	0.0	18.15	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	5/22/2013	(NS)	27.01	8.96	0.0	18.05	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	7/24/2013	(NS)	27.01	10.31	0.0	16.70	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	10/4/2013	(LFP)	27.01	8.15	0.0	18.86	<100	--	--	<1.0	<1.0	<1.0	<3.0	<1.0	--	--	<10.0	<10.0
MW-4	2/12/2014	(NS)	27.01	8.31	0.0	18.70	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	5/14/2014	(NS)	27.01	8.41	0.0	18.60	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	8/5/2014	(NS)	27.01	9.93	0.0	17.08	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	12/2/2014	(NS)	27.01	8.54	0.0	18.47	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	6/5/2015	(NS)	27.01	10.01	0.0	17.00	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	12/15/2015	(NS)	27.01	7.43	0.0	19.58	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	3/12/2002	(P)	198.21	8.82	0.0	189.39	**52,100**	--	--	**7,210**	**3,770**	**2,670**	**9,070**	**233**	--	--	**124**	<1.00
MW-5	8/30/2002	(P)	198.21	11.20	0.0	187.01	**55,200**	--	--	**15,400**	**2,200**	**1,590**	**7,160**	**478**	<0.01	**<100**	**144**	<1.00
MW-5	3/24/2003	(P)	198.21	8.70	0.0	189.51	**48,400**	--	--	**19,900**	282	331	**1,230**	**1,540**	--	--	14.2	<1.00
MW-5	4/22/2003	(NS)	198.21	9.52	0.0	188.69	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	6/30/2003	(P)	198.21	10.87	0.0	187.34	**62,900**	--	--	**17,900**	**1,500**	**1,110**	**4,070**	**571**	--	--	**63.9**	8.35
MW-5	9/15/2003	(P)	198.21	11.60	0.0	186.61	**61,600**	--	--	**19,300**	554	**1,250**	**4,640**	**520**	--	--	9.75	<1.00

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Groundwater Gauging Data and Select Analytical Results
WA-05544

19918 68th Avenue South, Kent, WA 98032

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-5	12/30/2003	(P)	198.21	9.70	0.0	188.51	**52,600**	--	--	**12,500**	**1,630**	**1,910**	**7,180**	**307**	--	--	9.85	<1.00
MW-5	7/13/2004	(P)	198.21	10.83	0.0	187.38	**41,800**	--	--	**6,090**	**3,230**	**2,680**	**10,500**	**<100**	--	--	2.82	<1.00
MW-5	11/1/2004	(NP)	198.21	8.39	0.0	189.82	**6,090**	--	--	**3,630**	<10.0	26	139	**925**	--	--	<1.00	--
MW-5	3/3/2005	(NP)	198.21	10.83	0.0	187.38	<80.0	--	--	1.8	<2.50	<2.50	<5.00	**835**	--	--	<1	--
MW-5	6/12/2005	(NP)	198.21	10.30	0.0	187.91	**1,110**	--	--	**129**	0.82	33.1	289	**196**	--	--	<1.00	--
MW-5	8/28/2005	(NP)	198.21	11.30	0.0	186.91	**1,330**	--	--	**116**	<0.500	112	53.5	**148**	--	--	<1.00	--
MW-5	11/17/2005	(NP)	198.21	10.03	0.0	188.18	<50.0	--	--	1.21	<2.50	<2.50	<5.00	**161**	--	--	4.63	--
MW-5	3/5/2006	(NP)	198.21	9.23	0.0	188.98	143	--	--	**8.54**	<0.500	11.4	2.66	**115**	--	--	<1.00	--
MW-5	10/24/2006	(P)	198.21	14.30	0.0	183.91	104	--	--	1.43	<0.500	<0.500	<3.00	**91.8**	--	--	--	--
MW-5	3/22/2007	(P)	198.21	8.76	0.0	189.45	<50.0	--	--	3.25	<0.500	<0.500	<3.00	**79**	--	--	--	--
MW-5	5/30/2007	(P)	198.21	10.19	0.0	188.02	**3,080**	--	--	**2,220**	6.83	**1,210**	969	**57.6**	--	--	--	--
MW-5	9/4/2007	(P)	198.21	10.46	0.0	187.75	**1,180**	--	--	**255**	<0.500	8.34	4.99	16	--	--	--	--
MW-5	11/13/2007	(P)	198.21	10.73	0.0	187.48	225	--	--	**9.92**	<0.500	<0.500	<3.00	17.4	--	--	--	--
MW-5	3/12/2008	(NP)	198.21	9.37	0.0	188.84	511	--	--	**45.4**	0.5	4.54	34	<1.00	--	--	--	--
MW-5	6/9/2008	(NP)	198.21	8.27	0.0	189.94	243	--	--	4.18	17.9	3.09	66.7	<1.00	--	--	--	--
MW-5	8/6/2008	(NP)	198.21	10.74	0.0	187.47	<50.0	--	--	<0.500	<0.500	<0.500	<3.00	<1.00	--	--	--	--
MW-5	10/8/2008	(NP)	198.21	10.80	0.0	187.41	<50.0	--	--	<0.500	<0.500	<0.500	<3.00	<1.00	--	--	--	--
MW-5	1/15/2009	(NP)	198.21	8.29	0.0	189.92	<50.0	--	--	<0.500	<0.500	<0.500	<3.00	**93.9**	--	--	--	--
MW-5	4/2/2009	(NP)	198.21	9.30	0.0	188.91	<50.0	--	--	<0.500	<0.500	<0.500	<1.00	1.39	--	--	<1.00	<1.00
MW-5	10/14/2009	(NP)	198.21	10.30	0.0	187.91	<50.0	--	--	<1.00	<1.00	<1.00	<2.00	<1.00	--	--	<2.00	--
MW-5	3/22/2010	(NP)	27.53	8.93	--	18.60	64	--	--	<1.0	<1.0	<1.0	<3	<1.0	--	--	--	--
MW-5	6/22/2010	(NP, H)	27.53	8.61	--	18.92	140	--	--	<0.50	<0.50	<0.50	<1.0	<1.0(H)	--	--	--	--
MW-5	3/10/2011	(NP)	27.53	7.60	0.0	19.93	<50.0	--	--	<1.0	<1.0	<1.0	<3.0	1.1	--	--	<10.0	<10.0
MW-5	9/19/2011	(NP)	27.53	10.17	0.0	17.36	830	--	--	<1.0	<1.0	3.6	16.6	<1.0	--	--	<10.0	<10.0
MW-5	3/16/2012	(NP)	27.53	7.56	0.0	19.97	167	--	--	<1.0	<1.0	<1.0	<3.0	2.9	--	--	<10.0	<10.0
MW-5	7/26/2012	(NP)	27.53	9.83	0.0	17.70	627	--	--	1.3	<1.0	1.1	11.2	<1.0	--	--	<10.0	<10.0
MW-5	3/1/2013	(NP)	27.53	9.52	0.0	18.01	575	--	--	3.9	<1.0	<1.0	7.8	--	--	--	6.6	<10.0
MW-5	5/22/2013	(NP)	27.53	9.48	0.0	18.05	**1,020**	--	--	**9.5**	<1.0	26.0	45.2	1.3	--	--	<10.0	<10.0
MW-5	7/24/2013	(NP)	27.53	10.59	0.0	16.94	589	--	--	2.1	<1.0	<1.0	<3.0	1.1	--	--	**27.4**	<10.0
MW-5	10/4/2013	(LFP)	27.53	9.23	0.0	18.30	<100	--	--	<1.0	<1.0	<1.0	<3.0	**58.0**	--	--	<10.0	<10.0
MW-5	10/4/2013	(Dup)(LFP)	27.53	9.23	0.0	18.30	<100	--	--	<1.0	<1.0	<1.0	<3.0	**60.6**	--	--	<10.0	<10.0
MW-5	2/12/2014	(LFP)	27.53	8.79	0.0	18.74	150(J)	--	--	0.98(J)	<0.70	<0.80	<0.80	1.8(J)	--	--	<4.7	<4.7
MW-5	5/14/2014	(LFP)	27.53	8.44	0.0	19.09	100(J)	--	--	2.3	<0.50	<0.50	<0.50	1.2	--	--	0.12(J)	0.21(J)
MW-5	8/5/2014	(LFP)	27.53	10.35	0.0	17.18	330	--	--	1.3	<0.50	<0.50	1.8	1.5	--	--	0.086(J)	0.10(J)
MW-5	12/2/2014	(LFP)	27.53	9.01	0.0	18.52	93(J)	67(J)	<65	<0.50	<0.50	<0.50	<0.50	**31**	--	--	0.25(J)	--
MW-5	6/5/2015	(LFP)	27.53	10.28	0.0	17.25	550	**1,700**	<67	2.6	<0.50	0.68(J)	4.2	2.3	--	--	0.51(J)	--
MW-5	12/15/2015	(LFP)	27.53	7.85	0.0	19.68	73(J)	<28	<66	<0.50	<0.50	<0.50	<0.50	**85**	--	--	--	--

Table 1
Groundwater Gauging Data and Select Analytical Results
WA-05544

19918 68th Avenue South, Kent, WA 98032

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-6	3/12/2002	(P)	198.24	8.90	0.0	189.34	**187,000**	--	--	**49,800**	**27,600**	**2,650**	**12,300**	**6,840**	--	--	**176**	<1.00
MW-6	8/30/2002	(P)	198.24	11.11	--	187.13	**105,000**	--	--	**36,900**	**6,910**	**1,410**	**6,770**	**1,230**	<0.01	**<200**	**157**	<1.00
MW-6	3/24/2003	(P)	198.24	8.60	0.0	189.64	**101,000**	--	--	**26,800**	**7,090**	**1,690**	**7,780**	**2,480**	--	--	**19.7**	<1.00
MW-6	4/22/2003	(NS)	198.24	9.33	0.0	188.91	--	--	--	--	--	--	--	--	--	--	--	--
MW-6	6/30/2003	(P)	198.24	10.35	0.0	187.89	**61,700**	--	--	**18,700**	**4,610**	**990**	**4,030**	**860**	--	--	**46.7**	2.27
MW-6	9/15/2003	(P)	198.24	11.50	0.0	186.74	**109,000**	--	--	**29,000**	**8,690**	**1,720**	**7,310**	**1,390**	--	--	12.6	<1.00
MW-6	12/30/2003	(P)	198.24	9.60	0.20	188.80	**333,000**	--	--	**45,200**	**64,400**	**6,030**	**31,300**	**1,960**	--	--	1.85	<1.00
MW-6	7/13/2004	(NP)	198.24	10.27	0.08	188.03	**513,000**	--	--	**52,500**	**98,600**	**8,300**	**43,600**	**3,620**	--	--	<1.00	<1.00
MW-6	11/1/2004	(NP)	198.24	10.32	0.0	187.92	123	--	--	**29.6**	10.4	<5.00	16.5	**947**	--	--	<1.00	--
MW-6	3/3/2005	(NP)	198.24	13.23	0.0	185.01	<80.0	--	--	<0.400	<1.00	<1.00	<2.00	**227**	--	--	<1	--
MW-6	6/12/2005	(NP)	198.24	10.17	0.0	188.07	**7,780**	--	--	**431**	919	**978**	**4,170**	**349**	--	--	<1.00	--
MW-6	8/28/2005	(NP)	198.24	11.26	0.0	186.98	**10,400**	--	--	**760**	207	385	**1,660**	**579**	--	--	<1.00	--
MW-6	11/17/2005	(NP)	198.24	10.93	0.0	187.31	<50.0	--	--	0.6	<0.500	<0.500	<1.00	**139**	--	--	<1.00	--
MW-6	3/5/2006	(NP)	198.24	9.22	0.0	189.02	304	--	--	<0.500	8.16	2.94	54.5	**107**	--	--	<1.00	--
MW-6	10/24/2006	(P)	198.24	11.21	0.0	187.03	**11,800**	--	--	**570**	14.2	608	**1,730**	**1,020**	--	--	--	--
MW-6	3/22/2007	(P)	198.24	8.55	0.0	189.69	**41,500**	--	--	**1,100**	**2,380**	**2,400**	**16,300**	**961**	--	--	--	--
MW-6	5/30/2007	(P)	198.24	9.90	0.0	188.34	**62,700**	--	--	**1,260**	921	**1,990**	**15,100**	**307**	--	--	--	--
MW-6	9/4/2007	(P)	198.24	10.41	0.0	187.83	**91,800**	--	--	**1,350**	**2,500**	**3,480**	**14,900**	**<100**	--	--	--	--
MW-6	11/13/2007	(P)	198.24	10.54	0.0	187.70	**5,380**	--	--	**196**	<0.500	366	76.8	**1,300**	--	--	--	--
MW-6	3/12/2008	(NP)	198.24	9.45	0.0	188.79	**85,300**	--	--	**1,030**	**2,270**	**2,470**	**17,100**	**555**	--	--	--	--
MW-6	6/9/2008	(NP)	198.24	7.99	0.0	190.25	**139,000**	--	--	**238**	--	**1,580**	164	<1.00	--	--	--	--
MW-6	8/6/2008	(NP)	198.24	10.56	0.0	187.68	**69,700**	--	--	**678**	34	**2,350**	**18,900**	**22.9**	--	--	--	--
MW-6	10/8/2008	(NP)	198.24	10.58	0.0	187.66	**68,900**	--	--	**470**	24.7	**1,130**	**12,500**	**95**	--	--	--	--
MW-6	1/15/2009	(NP)	198.24	8.21	0.0	190.03	**22,500**	--	--	**182**	10.7	**746**	**2,550**	**687**	--	--	--	--
MW-6	4/2/2009	(NP)	198.24	9.08	0.0	189.16	**80,100**	--	--	**415**	164	**2,240**	**18,100**	**57.6**	--	--	<1.00	<1.00
MW-6	10/14/2009	(NP)	198.24	9.25	0.0	188.99	**71,000**	--	--	**580**	15	**3,300**	**22,000**	**41**	--	--	<2.00	--
MW-6	3/22/2010	(NP)	27.50	8.77	--	18.73	**100,000**	--	--	**480**	390	**2,500**	**19,400**	6.2	--	--	--	--
MW-6	6/22/2010	(NP, H)	27.50	8.39	--	19.11	**96,000**	--	--	**460**	300	**2,200**	**19,000**	**<50(H)**	--	--	--	--
MW-6	3/10/2011	(NP)	27.50	7.51	0.0	19.99	**103,000**	--	--	**314**	189	**1,150**	**23,400**	<1.0	--	--	<10.0	<10.0
MW-6	9/19/2011	(NP)	27.50	10.47	0.0	17.03	**67,900**	--	--	**300**	45.4	**1,800**	**8,320**	10.4	--	--	<10.0	<10.0
MW-6	3/16/2012	(NP)	27.50	7.49	0.0	20.01	**46,000**	--	--	**304**	19.8	**1,640**	**4,990**	10.1	--	--	<10.0	<10.0
MW-6	7/26/2012	(NP)	27.50	9.68	0.0	17.82	**51,100**	--	--	**233**	20.5	**1,790**	**5,670**	7.3	--	--	<10.0	<10.0
MW-6	3/1/2013	(NP)	27.50	9.73	0.0	17.77	**5,040**	--	--	4.2	6.0	92.8	**1,250**	--	--	--	<3.0	<10.0
MW-6	5/22/2013	(NP)	27.50	9.48	0.0	18.02	159	--	--	<1.0	<1.0	4.8	35.7	1.5	--	--	<10.0	<10.0
MW-6	7/24/2013	(NP)	27.50	10.49	0.0	17.01	<100	--	--	<1.0	<1.0	<1.0	<3.0	<1.0	--	--	<10.0	<10.0
MW-6	10/4/2013	(LFP)	27.50	9.05	0.0	18.45	783	--	--	**8.6**	1.5	11.3	28.0	1.4	--	--	<10.0	<10.0
MW-6	2/12/2014	(LFP)	27.50	9.14	0.0	18.36	**3,400**	--	--	4.3(J)	<3.5	55	24(J)	<2.5	--	--	<4.7	<4.7

Table 1
Groundwater Gauging Data and Select Analytical Results
WA-05544

19918 68th Avenue South, Kent, WA 98032

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-6	2/12/2014	(Dup)(LFP)	27.50	9.14	0.0	18.36	**3,400**	--	--	4.7(J)	<3.5	51	23(J)	<2.5	--	--	<4.7	<4.7
MW-6	5/14/2014	(LFP)	27.50	8.05	0.0	19.45	**14,000**	--	--	<2.5	<2.5	57	420	<2.5	--	--	0.17(J)	<0.085
MW-6	8/5/2014	(LFP)	27.50	10.31	0.0	17.19	**7,500**	--	--	3.6(J)	<2.5	120	230	<2.5	--	--	0.15(J)	<0.082
MW-6	12/2/2014	(LFP)	27.50	8.91	0.0	18.59	**8,500**	**2,200**	210(J)	5.0	2.7	110	330	2.6	--	--	0.083(J)	--
MW-6	6/5/2015	(LFP)	27.50	10.02	0.0	17.48	**6,900**	**2,000**	<66	2.8	0.91(J)	440	420	0.60(J)	--	--	0.37(J)	--
MW-6	12/15/2015	(LFP)	27.50	7.80	0.0	19.70	**2,400**	170	<66	0.89(J)	<0.50	6.6	3.8	7.7	--	--	--	--
MW-7	4/22/2003	(P)	197.32	9.24	0.0	188.08	<50.0	--	--	<0.500	<0.500	<0.500	<1.00	<1.00	--	--	**15.8**	--
MW-7	6/30/2003	(P)	197.32	10.33	0.0	186.99	<50.0	--	--	<0.500	<0.500	<0.500	<1.00	<1.00	--	--	**25**	7.06
MW-7	9/15/2003	(P)	197.32	10.82	0.0	186.50	<50.0	--	--	<0.500	<0.500	<0.500	<1.00	<1.00	--	--	14.4	<1.00
MW-7	12/30/2003	(P)	197.32	9.31	0.0	188.01	<50.0	--	--	<0.500	<0.500	<0.500	<1.00	<1.00	--	--	1.35	<1.00
MW-7	7/13/2004	(NS)	197.32	10.38	0.0	186.94	--	--	--	--	--	--	--	--	--	--	--	--
MW-7	11/1/2004	(NP)	197.32	10.20	0.0	187.12	<80.0	--	--	<0.200	<0.500	<0.500	<1.00	<2.00	--	--	<1.00	--
MW-7	3/3/2005	(NP)	197.32	9.80	0.0	187.52	<80.0	--	--	<0.200	<0.500	<0.500	<1.00	<2.00	--	--	<1	--
MW-7	6/12/2005	(NP)	197.32	9.49	0.0	187.83	<80.0	--	--	<0.200	<0.500	<0.500	<1.00	<2.00	--	--	1.38	--
MW-7	8/28/2005	(NS)	197.32	10.63	0.0	186.69	--	--	--	--	--	--	--	--	--	--	--	--
MW-7	11/17/2005	(NS)	197.32	9.54	0.0	187.78	--	--	--	--	--	--	--	--	--	--	--	--
MW-7	3/5/2006	(NS)	197.32	8.96	0.0	188.36	--	--	--	--	--	--	--	--	--	--	--	--
MW-7	10/24/2006	(NS)	197.32	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-7	3/22/2007	(NS)	197.32	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-7	5/30/2007	(NS)	197.32	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-7	9/4/2007	(NS)	197.32	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-7	11/13/2007	(NS)	197.32	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-7	3/12/2008	(NP)	197.32	9.42	0.0	187.90	<50.0	--	--	<0.500	<0.500	<0.500	<3.00	<1.00	--	--	--	--
MW-7	6/9/2008	(NP)	197.32	9.29	0.0	188.03	<50.0	--	--	<0.500	3.18	1.67	32.5	<1.00	--	--	--	--
MW-7	8/6/2008	(NS)	197.32	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-7	10/8/2008	(NS)	197.32	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-7	1/15/2009	(NP)	197.32	7.65	0.0	189.67	<50.0	--	--	<0.500	<0.500	<0.500	<3.00	<1.00	--	--	--	--
MW-7	4/2/2009	(NP)	197.32	8.52	0.0	188.80	<50.0	--	--	<0.500	<0.500	<0.500	<1.00	<1.00	--	--	<1.00	<1.00
MW-7	10/14/2009	(NS)	197.32	8.97	0.0	188.35	--	--	--	--	--	--	--	--	--	--	--	--
MW-7	3/22/2010	(NP)	26.64	8.39	--	18.25	<50	--	--	<1.0	<1.0	<1.0	<3	<1.0	--	--	--	--
MW-7	6/22/2010	(NP, H)	26.64	7.82	--	18.82	<50	--	--	<0.50	<0.50	<0.50	<1.0	<1.0(H)	--	--	--	--
MW-7	3/10/2011	(NP)	26.64	6.27	0.0	20.37	<50.0	--	--	<1.0	<1.0	<1.0	<3.0	<1.0	--	--	<10.0	<10.0
MW-7	9/19/2011	(NP)	26.64	9.38	0.0	17.26	<50.0	--	--	<1.0	<1.0	<1.0	<3.0	<1.0	--	--	<10.0	<10.0
MW-7	3/16/2012	(NP)	26.64	6.31	0.0	20.33	<50.0	--	--	<1.0	<1.0	<1.0	<3.0	<1.0	--	--	<10.0	<10.0
MW-7	7/26/2012	(NS)	26.64	9.26	0.0	17.38	--	--	--	--	--	--	--	--	--	--	--	--
MW-7	3/1/2013	(NS)	26.64	8.52	0.0	18.12	--	--	--	--	--	--	--	--	--	--	--	--
MW-7	5/22/2013	(NS)	26.64	8.60	0.0	18.04	--	--	--	--	--	--	--	--	--	--	--	--

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WA-05544

19918 68th Avenue South, Kent, WA 98032

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-7	7/24/2013	(NS)	26.64	9.97	0.0	16.67	--	--	--	--	--	--	--	--	--	--	--	--
MW-7	10/4/2013	(NS)	26.64	7.82	0.0	18.82	--	--	--	--	--	--	--	--	--	--	--	--
MW-7	2/12/2014	(NS)	26.64	7.91	0.0	18.73	--	--	--	--	--	--	--	--	--	--	--	--
MW-7	5/14/2014	(NG)	26.64	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-7	8/5/2014	(NS, NG)	26.64	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-7	12/2/2014	(NS)	26.64	8.13	0.0	18.51	--	--	--	--	--	--	--	--	--	--	--	--
MW-7	6/5/2015	(NS)	26.64	9.86	0.0	16.78	--	--	--	--	--	--	--	--	--	--	--	--
MW-7	12/15/2015	(NS)	26.64	6.50	0.0	20.14	--	--	--	--	--	--	--	--	--	--	--	--
MW-8	4/22/2003	(P)	196.68	8.45	0.0	188.23	<50.0	--	--	<0.500	<0.500	<0.500	<1.00	<1.00	--	--	14.7	--
MW-8	6/30/2003	(P)	196.68	9.61	0.0	187.07	<50.0	--	--	<0.500	<0.500	<0.500	<1.00	<1.00	--	--	12.8	4.24
MW-8	9/15/2003	(P)	196.68	10.20	0.0	186.48	<50.0	--	--	<0.500	<0.500	<0.500	<1.00	<1.00	--	--	**16.9**	<1.00
MW-8	12/30/2003	(P)	196.68	8.60	0.0	188.08	<50.0	--	--	<0.500	<0.500	<0.500	<1.00	<1.00	--	--	1.53	<1.00
MW-8	7/13/2004	(NS)	196.68	9.56	0.0	187.12	--	--	--	--	--	--	--	--	--	--	--	--
MW-8	11/1/2004	(NP)	196.68	9.45	0.0	187.23	<80.0	--	--	<0.200	<0.500	<0.500	<1.00	<2.00	--	--	<1.00	--
MW-8	3/3/2005	(NP)	196.68	8.94	0.0	187.74	<80.0	--	--	<0.200	<0.500	<0.500	<1.00	<2.00	--	--	<1	--
MW-8	6/12/2005	(NP)	196.68	8.81	0.0	187.87	<80.0	--	--	<0.200	<0.500	<0.500	<1.00	<2.00	--	--	<1.00	--
MW-8	8/28/2005	(NS)	196.68	9.97	0.0	186.71	--	--	--	--	--	--	--	--	--	--	--	--
MW-8	11/17/2005	(NS)	196.68	8.85	0.0	187.83	--	--	--	--	--	--	--	--	--	--	--	--
MW-8	3/5/2006	(NS)	196.68	8.16	0.0	188.52	--	--	--	--	--	--	--	--	--	--	--	--
MW-8	10/24/2006	(NS)	196.68	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-8	3/22/2007	(NS)	196.68	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-8	5/30/2007	(NS)	196.68	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-8	9/4/2007	(NS)	196.68	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-8	11/13/2007	(NS)	196.68	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-8	3/12/2008	(NP)	196.68	8.68	0.0	188.00	<50.0	--	--	<0.500	<0.500	<0.500	<3.00	<1.00	--	--	--	--
MW-8	6/9/2008	(NP)	196.68	8.51	0.0	188.17	<50.0	--	--	<0.500	<0.500	<0.500	<3.00	<1.00	--	--	--	--
MW-8	8/6/2008	(NS)	196.68	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-8	10/8/2008	(NS)	196.68	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-8	1/15/2009	(NP)	196.68	7.13	0.0	189.55	<50.0	--	--	<0.500	<0.500	<0.500	<3.00	<1.00	--	--	--	--
MW-8	4/2/2009	(NP)	196.68	7.80	0.0	188.88	<50.0	--	--	<0.500	<0.500	<0.500	<1.00	<1.00	--	--	<1.00	<1.00
MW-8	10/14/2009	(NS)	196.68	8.45	0.0	188.23	--	--	--	--	--	--	--	--	--	--	--	--
MW-8	3/22/2010	(NP)	26.00	7.59	--	18.41	<50	--	--	<1.0	<1.0	<1.0	<3	<1.0	--	--	--	--
MW-8	6/22/2010	(NP, H)	26.00	7.23	--	18.77	<50	--	--	<0.50	<0.50	<0.50	<1.0	<1.0(H)	--	--	--	--
MW-8	3/10/2011	(NP)	26.00	5.56	0.0	20.44	<50.0	--	--	<1.0	<1.0	<1.0	<3.0	<1.0	--	--	<10.0	<10.0
MW-8	9/19/2011	(NP)	26.00	8.76	0.0	17.24	<50.0	--	--	<1.0	<1.0	<1.0	<3.0	<1.0	--	--	<10.0	<10.0
MW-8	3/16/2012	(NP)	26.00	5.68	0.0	20.32	<50.0	--	--	<1.0	<1.0	<1.0	<3.0	<1.0	--	--	<10.0	<10.0
MW-8	7/26/2012	(NS)	26.00	8.52	0.0	17.48	--	--	--	--	--	--	--	--	--	--	--	--

Table 1
Groundwater Gauging Data and Select Analytical Results
WA-05544

19918 68th Avenue South, Kent, WA 98032

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-8	3/1/2013	(Abandoned)	26.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-9	4/22/2003	(P)	197.42	8.77	0.0	188.65	<50.0	--	--	<0.500	<0.500	<0.500	<1.00	<1.00	--	--	**17.2**	--
MW-9	6/30/2003	(P)	197.42	10.25	0.0	187.17	<50.0	--	--	<0.500	<0.500	<0.500	<1.00	<1.00	--	--	**47.3**	4.67
MW-9	9/15/2003	(P)	197.42	10.83	0.0	186.59	<50.0	--	--	<0.500	<0.500	<0.500	<1.00	<1.00	--	--	12.9	<1.00
MW-9	12/30/2003	(P)	197.42	8.99	0.0	188.43	<50.0	--	--	<0.500	<0.500	<0.500	<1.00	<1.00	--	--	**17.9**	<1.00
MW-9	7/13/2004	(NS)	197.42	10.08	0.0	187.34	--	--	--	--	--	--	--	--	--	--	--	--
MW-9	11/1/2004	(NP)	197.42	9.75	0.0	187.67	<80.0	--	--	<0.200	<0.500	<0.500	<1.00	<2.00	--	--	1.79	--
MW-9	3/3/2005	(NP)	197.42	8.98	0.0	188.44	<80.0	--	--	<0.200	<0.500	<0.500	<1.00	<2.00	--	--	<1	--
MW-9	6/12/2005	(NP)	197.42	9.49	0.0	187.93	<80.0	--	--	<0.200	<0.500	<0.500	<1.00	<2.00	--	--	<1.00	--
MW-9	8/28/2005	(NS)	197.42	10.59	0.0	186.83	--	--	--	--	--	--	--	--	--	--	--	--
MW-9	11/17/2005	(NS)	197.42	9.52	0.0	187.90	--	--	--	--	--	--	--	--	--	--	--	--
MW-9	3/5/2006	(NS)	197.42	8.55	0.0	188.87	--	--	--	--	--	--	--	--	--	--	--	--
MW-9	10/24/2006	(NS)	197.42	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-9	3/22/2007	(NS)	197.42	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-9	5/30/2007	(NS)	197.42	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-9	9/4/2007	(NS)	197.42	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-9	11/13/2007	(NS)	197.42	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-9	3/12/2008	(NP)	197.42	9.20	0.0	188.22	<50.0	--	--	<0.500	<0.500	<0.500	<3.00	<1.00	--	--	--	--
MW-9	6/9/2008	(NP)	197.42	8.91	0.0	188.51	<50.0	--	--	<0.500	<0.500	<0.500	<3.00	<1.00	--	--	--	--
MW-9	8/6/2008	(NP)	197.42	10.18	0.0	187.24	<50.0	--	--	<0.500	<0.500	<0.500	<3.00	<1.00	--	--	--	--
MW-9	10/8/2008	(NP)	197.42	10.10	0.0	187.32	<50.0	--	--	<0.500	<0.500	<0.500	<3.00	<1.00	--	--	--	--
MW-9	1/15/2009	(NP)	197.42	7.61	0.0	189.81	<50.0	--	--	<0.500	<0.500	<0.500	<3.00	<1.00	--	--	--	--
MW-9	4/2/2009	(NP)	197.42	8.50	0.0	188.92	<50.0	--	--	<0.500	<0.500	<0.500	<1.00	<1.00	--	--	1.32	<1.00
MW-9	10/14/2009	(NS)	197.42	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-9	3/22/2010	(NP)	26.76	8.41	--	18.35	<50	--	--	<1.0	<1.0	<1.0	<3	<1.0	--	--	--	--
MW-9	6/22/2010	(NP, H)	26.76	7.88	--	18.88	<50	--	--	<0.50	<0.50	<0.50	<1.0	<1.0(H)	--	--	--	--
MW-9	3/10/2011	(NP)	26.76	6.57	0.0	20.19	<50.0	--	--	<1.0	<1.0	<1.0	<3.0	<1.0	--	--	<10.0	<10.0
MW-9	9/19/2011	(NP)	26.76	9.62	0.0	17.14	<50.0	--	--	<1.0	<1.0	<1.0	<3.0	<1.0	--	--	<10.0	<10.0
MW-9	3/16/2012	(NP)	26.76	6.59	0.0	20.17	<50.0	--	--	<1.0	<1.0	<1.0	<3.0	<1.0	--	--	<10.0	<10.0
MW-9	7/26/2012	(NS)	26.76	9.16	0.0	17.60	--	--	--	--	--	--	--	--	--	--	--	--
MW-9	3/1/2013	(NS)	26.76	8.62	0.0	18.14	--	--	--	--	--	--	--	--	--	--	--	--
MW-9	5/22/2013	(NS)	26.76	8.95	0.0	17.81	--	--	--	--	--	--	--	--	--	--	--	--
MW-9	7/24/2013	(NS)	26.76	9.86	0.0	16.90	--	--	--	--	--	--	--	--	--	--	--	--
MW-9	10/4/2013	(NS)	26.76	8.25	0.0	18.51	--	--	--	--	--	--	--	--	--	--	--	--
MW-9	2/12/2014	(NS)	26.76	8.24	0.0	18.52	--	--	--	--	--	--	--	--	--	--	--	--
MW-9	5/14/2014	(NS)	26.76	7.84	0.0	18.92	--	--	--	--	--	--	--	--	--	--	--	--
MW-9	8/5/2014	(NS)	26.76	9.71	0.0	17.05	--	--	--	--	--	--	--	--	--	--	--	--

Table 1
Groundwater Gauging Data and Select Analytical Results
WA-05544

19918 68th Avenue South, Kent, WA 98032

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	12/2/2014	(NS)	26.76	8.32	0.0	18.44	--	--	--	--	--	--	--	--	--	--	--	--
MW-9	6/5/2015	(LFP)	26.76	9.68	0.0	17.08	<50	<29	<67	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	0.15(J)	--
MW-9	12/15/2015	(LFP)	26.76	7.14	0.0	19.62	<50	<28	<66	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--
MW-10	4/22/2003	(P)	197.70	8.59	0.0	189.11	278	--	--	**30.9**	<0.500	<0.500	28.5	<2.00	--	--	5.92	--
MW-10	6/30/2003	(P)	197.70	10.48	0.0	187.22	195	--	--	**38**	<0.500	0.535	5.73	<5.00	--	--	**19.8**	11.7
MW-10	9/15/2003	(P)	197.70	10.93	0.0	186.77	154	--	--	**42**	0.5	<0.500	4.18	<1.00	--	--	7.69	<1.00
MW-10	12/30/2003	(P)	197.70	8.81	0.0	188.89	312	--	--	**39.3**	<0.500	<0.500	24.6	<1.00	--	--	8.78	<1.00
MW-10	7/13/2004	(NS)	197.70	10.35	0.0	187.35	--	--	--	--	--	--	--	--	--	--	--	--
MW-10	11/1/2004	(NP)	197.70	8.55	0.0	189.15	<80.0	--	--	<0.200	<0.500	<0.500	<1.00	<2.00	--	--	<1.00	--
MW-10	3/3/2005	(NP)	197.70	9.40	0.0	188.30	<80.0	--	--	<0.200	<0.500	<0.500	<1.00	<2.00	--	--	<1	--
MW-10	6/12/2005	(NP)	197.70	9.59	0.0	188.11	<80.0	--	--	<0.200	<0.500	<0.500	<1.00	<2.00	--	--	<1.00	--
MW-10	8/28/2005	(NS)	197.70	10.75	0.0	186.95	--	--	--	--	--	--	--	--	--	--	--	--
MW-10	11/17/2005	(NP)	197.70	9.79	0.0	187.91	<50.0	--	--	<0.500	<0.500	<0.500	<1.00	<1.00	--	--	<1.00	--
MW-10	3/5/2006	(NS)	197.70	8.40	0.0	189.30	--	--	--	--	--	--	--	--	--	--	--	--
MW-10	10/24/2006	(NS)	197.70	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-10	3/22/2007	(NS)	197.70	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-10	5/30/2007	(NS)	197.70	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-10	9/4/2007	(NS)	197.70	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-10	11/13/2007	(NS)	197.70	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-10	3/12/2008	(NP)	197.70	9.11	0.0	188.59	<50.0	--	--	<0.500	<0.500	<0.500	<3.00	<1.00	--	--	--	--
MW-10	6/9/2008	(NP)	197.70	8.55	0.0	189.15	<50.0	--	--	<0.500	<0.500	<0.500	<3.00	<1.00	--	--	--	--
MW-10	8/6/2008	(NS)	197.70	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-10	10/8/2008	(NS)	197.70	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-10	1/15/2009	(NP)	197.70	7.66	0.0	190.04	<50.0	--	--	<0.500	<0.500	<0.500	<3.00	<1.00	--	--	--	--
MW-10	4/2/2009	(NP)	197.70	8.55	0.0	189.15	<50.0	--	--	<0.500	<0.500	<0.500	<1.00	<1.00	--	--	<1.00	<1.00
MW-10	10/14/2009	(NS)	197.70	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-10	3/22/2010	(NP)	27.01	8.18	--	18.83	<50	--	--	<1.0	<1.0	<1.0	<3	<1.0	--	--	--	--
MW-10	6/22/2010	(NP, H)	27.01	7.98	--	19.03	<50	--	--	<0.50	<0.50	<0.50	<1.0	**<50(H)**	--	--	--	--
MW-10	3/10/2011	(NP)	27.01	7.11	0.0	19.90	<50.0	--	--	<1.0	<1.0	<1.0	<3.0	<1.0	--	--	<10.0	<10.0
MW-10	9/19/2011	(NP)	27.01	9.80	0.0	17.21	<50.0	--	--	<1.0	<1.0	<1.0	<3.0	<1.0	--	--	<10.0	<10.0
MW-10	3/16/2012	(NP)	27.01	7.01	0.0	20.00	<50.0	--	--	<1.0	<1.0	<1.0	<3.0	<1.0	--	--	<10.0	<10.0
MW-10	7/26/2012	(NS)	27.01	9.12	0.0	17.89	--	--	--	--	--	--	--	--	--	--	--	--
MW-10	3/1/2013	(NS)	27.01	8.81	0.0	18.20	--	--	--	--	--	--	--	--	--	--	--	--
MW-10	5/22/2013	(NP)	27.01	8.99	0.0	18.02	<100	--	--	<1.0	<1.0	<1.0	<3.0	<1.0	--	--	<10.0	<10.0
MW-10	7/24/2013	(NS)	27.01	9.89	0.0	17.12	--	--	--	--	--	--	--	--	--	--	--	--
MW-10	10/4/2013	(LFP)	27.01	8.80	0.0	18.21	<100	--	--	<1.0	<1.0	<1.0	<3.0	<1.0	--	--	<10.0	11.0
MW-10	2/12/2014	(NS)	27.01	8.69	0.0	18.32	--	--	--	--	--	--	--	--	--	--	--	--

Table 1
Groundwater Gauging Data and Select Analytical Results
WA-05544

19918 68th Avenue South, Kent, WA 98032

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	5/14/2014	(NS)	27.01	7.52	0.0	19.49	--	--	--	--	--	--	--	--	--	--	--	--
MW-10	8/5/2014	(NS)	27.01	9.85	0.0	17.16	--	--	--	--	--	--	--	--	--	--	--	--
MW-10	12/2/2014	(NS)	27.01	8.51	0.0	18.50	--	--	--	--	--	--	--	--	--	--	--	--
MW-10	6/5/2015	(LFP)	27.01	9.64	0.0	17.37	120(J)	<29	<67	<0.50	<0.50	4.6	8.0	<0.50	--	--	<0.082	--
MW-10	12/15/2015	(LFP)	27.01	7.80	0.0	19.21	<50	<29	<67	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--
MW-11	8/5/2014	(NS)	26.88	9.82	0.0	17.06	--	--	--	--	--	--	--	--	--	--	--	--
MW-11	8/7/2014	(LFP)	26.88	--	--	--	<50	--	--	0.75(J)	<0.50	0.68(J)	1.4	<0.50	--	--	**38.6**	2.7
MW-11	12/2/2014	(LFP)	26.88	8.31	0.0	18.57	<50	<28	<66	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	0.34(J)	--
MW-11	6/5/2015	(LFP)	26.88	9.90	0.0	16.98	<50	<28	<66	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	1.2	--
MW-11	12/15/2015	(LFP)	26.88	7.31	0.0	19.57	<50	<28	<66	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--
MW-12	8/5/2014	(NS)	27.26	10.25	0.0	17.01	--	--	--	--	--	--	--	--	--	--	--	--
MW-12	8/7/2014	(LFP)	27.26	--	--	--	**3,100**	--	--	**700**	2.1	280	580	**88**	--	--	4.7	0.15(J)
MW-12	12/2/2014	(LFP)	27.26	8.99	0.0	18.27	**2,000**	430	130(J)	**310**	0.75(J)	270	360	**96**	--	--	0.53(J)	--
MW-12	6/5/2015	(LFP)	27.26	10.03	0.0	17.23	**4,800**	**570**	<66	**120**	3.2	610	480	<0.50	--	--	0.30(J)	--
MW-12	12/15/2015	(LFP)	27.26	7.75	0.0	19.51	550	110	<66	**10**	<0.50	51	15	**110**	--	--	--	--
MW-13	8/5/2014	(NS)	27.27	10.21	0.0	17.06	--	--	--	--	--	--	--	--	--	--	--	--
MW-13	8/7/2014	(LFP)	27.27	--	--	--	**1,000**	--	--	2.0	<0.50	12	94	**90**	--	--	6.1	0.30(J)
MW-13	12/2/2014	(LFP)	27.27	8.88	0.0	18.39	**11,000**	**950**	230(J)	1.2	0.92(J)	91	690	**25**	--	--	0.19(J)	--
MW-13	6/5/2015	(LFP)	27.27	10.05	0.0	17.22	**9,200**	**1,000**	<66	1.0	0.71(J)	80	470	17	--	--	0.19(J)	--
MW-13	12/15/2015	(LFP)	27.27	7.80	0.0	19.47	**6,000**	410	<67	1.1	<0.50	43	150	13	--	--	--	--

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
P = Purge sample
< = Analytical result is less than reporting limit shown
-- = Not analyzed/not applicable
NS = Not sampled
NP = No purge sample
DUP = Duplicate sample

Table 1
Groundwater Gauging Data and Select Analytical Results
WA-05544

19918 68th Avenue South, Kent, WA 98032

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

H = Sample was prepped or analyzed beyond the specified holding time

LF/LFP = Low flow (purge) 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)

NG = Not gauged

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)

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

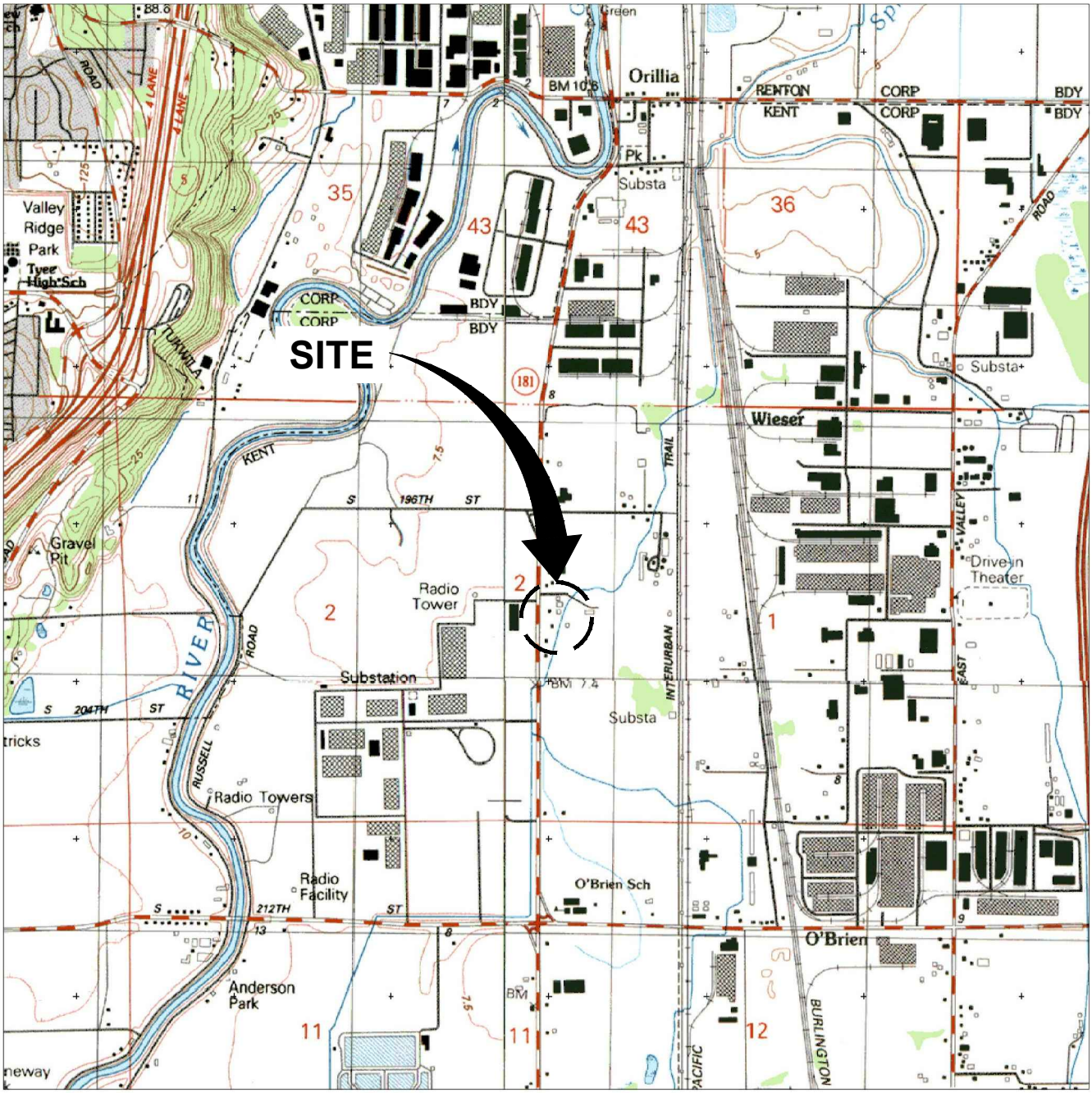
Table 2
Polycyclic Aromatic Hydrocarbons Analytical Results
WA-05544
19918 68th Ave. South, Kent WA

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

Well ID	Date	Notes	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Indeno(1,2,3-cd)pyrene	1-Methylnaphthalene	2-Methylnaphthalene	Naphthalene	Total Naphthalenes	Total cPAHs
Model Toxics Control Act (MTCA) Method A Cleanup Levels (CULs) in µg/L			--	0.1	--	--	--	--	--	--	--	--	160	0.1
MW-2	6/5/2015	LFP	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	25	25	190	**240**	0.0755
MW-2	6/5/2015	DUP/LFP	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	22	23	200	**245**	0.0755
MW-5	6/5/2015	LFP	ND<0.010	ND<0.010	ND<0.010	0.011 J	0.022 J	ND<0.010	ND<0.010	2.0	0.076	13	15.1	0.00832
MW-6	6/5/2015	LFP	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	23	20	170	**213**	0.0755
MW-9	6/5/2015	LFP	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.030	0.025	0.00755
MW-10	6/5/2015	LFP	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	0.013 J	0.011 J	0.13	0.14	0.87	1.14	0.00895
MW-11	6/5/2015	LFP	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.031	0.026	0.00755
MW-12	6/5/2015	LFP	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	1.8	0.082	12	13.9	0.00755
MW-13	6/5/2015	LFP	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	28	29	190	**247**	0.0755
MW-2	12/15/2015	LFP	ND<0.010	ND<0.010	0.019 J	0.015 J	ND<0.010	0.026 J	0.026 J	4.3	0.39	2.2	6.89	0.01415
MW-2	12/15/2015	DUP/LFP	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	4.3	0.25	1.9	6.45	0.00755
MW-5	12/15/2015	LFP	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	0.055	ND<0.010	0.22	0.28	0.00755
MW-6	12/15/2015	LFP	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	8.8	1.6	6.6	17.0	0.00755
MW-9	12/15/2015	LFP	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.030	0.025	0.00755
MW-10	12/15/2015	LFP	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.030	0.025	0.00755
MW-11	12/15/2015	LFP	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.030	0.025	0.00755
MW-12	12/15/2015	LFP	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	0.13	0.084	9.1	9.31	0.00755
MW-13	12/15/2015	LFP	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	11	5.2	43	59.2	0.00755

µg/L = micrograms per liter
-- = Not analyzed/not applicable
LFP = Low Flow purge sample
ND < = Analytical result is less than reporting limit shown
J = estimated value – The result is greater than or equal to the Method Detection Limit (MDL) and less than the Limit of Quantitation (LOQ)
cPAHs = Carcinogenic Polycyclic Aromatic Hydrocarbons
cPAHs and Naphthalenes analyzed by U.S. Environmental Protection Agency (EPA) 8270C SIM
cPAHs adjusted for toxicity according to Washington State Administrative Code 173-340-708(8). If one or more adjusted cPAH constituents were reported as non-detect, half of the reporting limit was used in calculations.
Naphthalenes is a sum total of 1-methyl-naphthalene, 2-methyl-naphthalene, and naphthalene. If one or more constituents were reported as non-detect, half of the reporting limit was used in calculations.
DUP = Duplicate Sample
BOLD concentration greater than the MTCA Method A cleanup level

FIGURES



REFERENCE: BASE MAP USGS 7.5. MIN. TOPO. QUAD., BURIEN, RENTON, WA., PHOTOREVISED 1983.

0 2000' 4000'

Approximate Scale: 1 in. = 2000 ft.

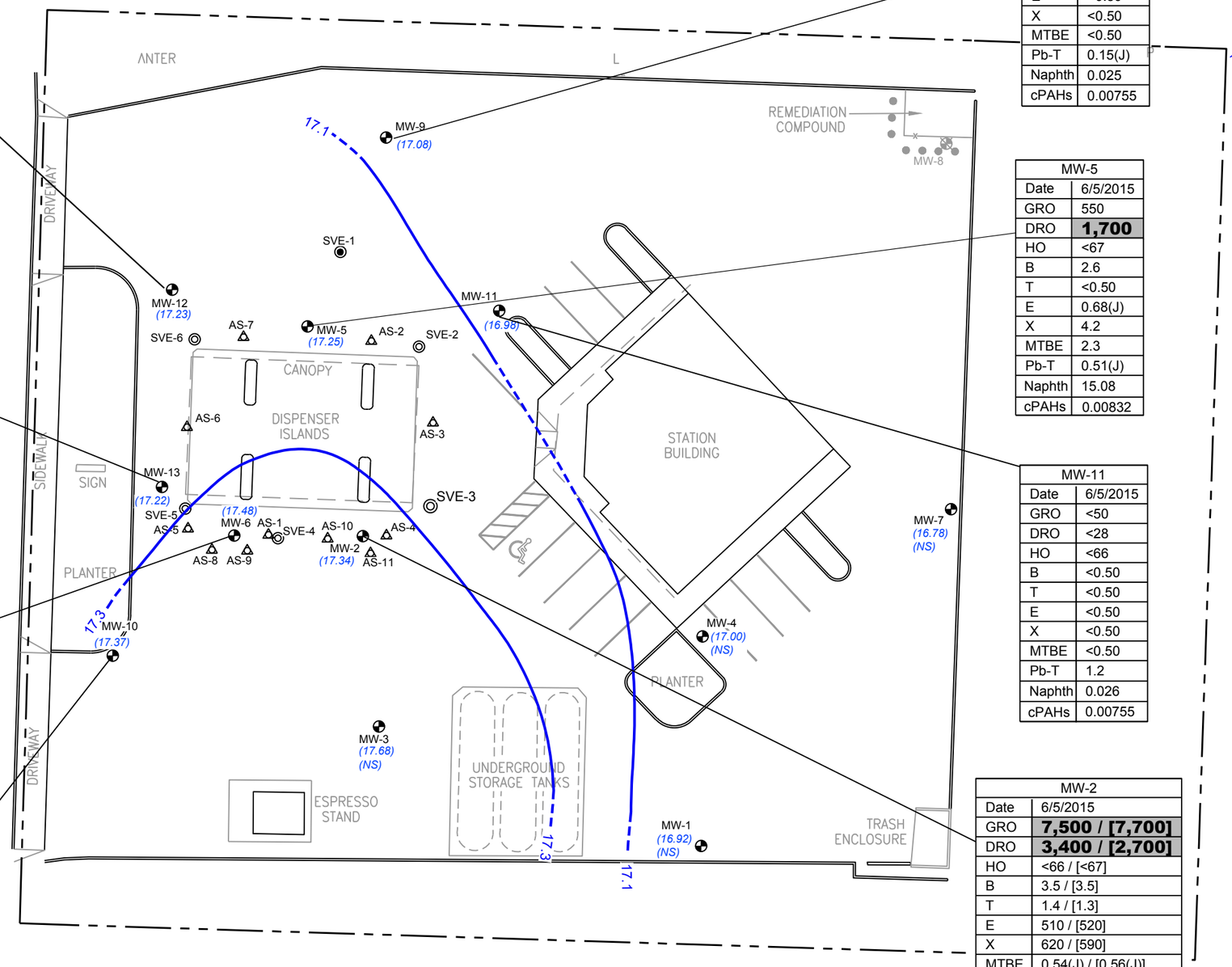
BP WEST COAST PRODUCTS, LLC.
FORMER ARCO FACILITY No. 05544
19918 68TH AVENUE SOUTH, KENT, WASHINGTON
2015 ANNUAL SITE STATUS REPORT

SITE LOCATION MAP

ARCADIS Design & Consultancy for natural and built assets

FIGURE
1

CITY:(Reqd) DIV/GROUP:(Reqd) DB:(Reqd) LD:(Opt) PIC:(Opt) PM:(Reqd) TM:(Opt) LYR:(Opt)ON=*;OFF=*REF*
G:\ENVCAD\Emeryville\ACT\GP09BPNAWA39N0000\Annual2014\DWG\GP09BPNAWA39 N01.dwg LAYOUT: 1 SAVED: 2/6/2015 12:28 PM ACADVER: 18.1S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: ARCADIS.CTB PLOTTED: 2/9/2015 12:45 PM BY: REYES, ALEC
XREFS: IMAGES: PROJECTNAME: ----
SITE 5544 TOPOGRAPHIC.jpg



MW-12	
Date	6/5/2015
GRO	**4,800**
DRO	**570**
HO	<66
B	**120**
T	3.2
E	610
X	480
MTBE	<0.50
Pb-T	0.30(J)
Naphth	13.88
cPAHs	0.00755

MW-13	
Date	6/5/2015
GRO	**9,200**
DRO	**1,000**
HO	<66
B	1.0
T	0.71(J)
E	80
X	470
MTBE	17
Pb-T	0.19(J)
Naphth	**247**
cPAHs	0.0755

MW-6	
Date	6/5/2015
GRO	**6,900**
DRO	**2,000**
HO	<66
B	2.8
T	0.91(J)
E	440
X	420
MTBE	0.60(J)
Pb-T	0.37(J)
Naphth	**213**
cPAHs	0.0755

MW-10	
Date	6/5/2015
GRO	120(J)
DRO	<29
HO	<67
B	<0.50
T	<0.50
E	4.6
X	8.0
MTBE	<0.50
Pb-T	<0.082
Naphth	1.1
cPAHs	0.00895

MW-9	
Date	6/5/2015
GRO	<50
DRO	<29
HO	<67
B	<0.50
T	<0.50
E	<0.50
X	<0.50
MTBE	<0.50
Pb-T	0.15(J)
Naphth	0.025
cPAHs	0.00755

MW-5	
Date	6/5/2015
GRO	550
DRO	**1,700**
HO	<67
B	2.6
T	<0.50
E	0.68(J)
X	4.2
MTBE	2.3
Pb-T	0.51(J)
Naphth	15.08
cPAHs	0.00832

MW-11	
Date	6/5/2015
GRO	<50
DRO	<28
HO	<66
B	<0.50
T	<0.50
E	<0.50
X	<0.50
MTBE	<0.50
Pb-T	1.2
Naphth	0.026
cPAHs	0.00755

MW-2	
Date	6/5/2015
GRO	**7,500 / [7,700]**
DRO	**3,400 / [2,700]**
HO	<66 / [<67]
B	3.5 / [3.5]
T	1.4 / [1.3]
E	510 / [520]
X	620 / [590]
MTBE	0.54(J) / [0.56(J)]
Pb-T	0.32(J) / [0.34(J)]
Naphth	**240 / [245]**
cPAHs	0.0755 / [0.0755]

LEGEND:

- PROPERTY BOUNDARY
- MW-1 — MONITORING WELL LOCATION
- SVE-4 — VAPOR EXTRACTION WELL LOCATION
- AS-11 — AIR SPARGE WELL LOCATION
- MW-8 — ABANDONED MONITORING WELL
- (17.68) — GROUNDWATER ELEVATION (FEET ABOVE NAVD 88)
- 17.3 — GROUNDWATER ELEVATION CONTOUR (FEET ABOVE NAVD 88, DASHED WHERE INFERRED)
- < — NOT DETECTED, VALUE SHOWN IS THE DETECTION LIMIT
- J — ESTIMATED VALUE - RESULT GREATER THAN OR EQUAL TO THE METHOD DETECTION LIMIT (MDL) AND LESS THAN THE LIMIT OF QUANTITATION (LOQ)
- (NS) — NOT SAMPLED
- NAVD88 — NORTH AMERICAN VERTICAL DATUM 1988

SAMPLE ID	
Date	Date of Sample
GRO	Total Petroleum Hydrocarbons - Gasoline Range Organics / [Duplicate]
DRO	Total Petroleum Hydrocarbons - Diesel Range Organics / [Duplicate]
HO	Total Petroleum Hydrocarbons - Heavy Oil Range Organics / [Duplicate]
B	Benzene / [Duplicate]
T	Toluene / [Duplicate]
E	Ethylbenzene / [Duplicate]
X	Total Xylenes / [Duplicate]
MTBE	Methyl Tertiary Butyl Ether / [Duplicate]
Pb-T	Total Lead / [Duplicate]
Naphth	Total Naphthalenes / [Duplicate]
cPAHs	Total Carcinogenic Polycyclic Aromatic Hydrocarbon / [Duplicate]

NOTES:
ALL CONCENTRATIONS ARE MEASURED IN MICROGRAMS PER LITER (µg/L)

TOTAL cPAHs AND/OR TOTAL NAPHTHALENES ARE CALCULATED ACCORDING TO THE MTCA CLEANUP REGULATION TABLE: 720-1 [d] & [r]

BOLD = ANALYTE DETECTED ABOVE MODEL TOXICS CONTROL ACT (MTCA) METHOD A CLEANUP LEVELS

0 30' 60'

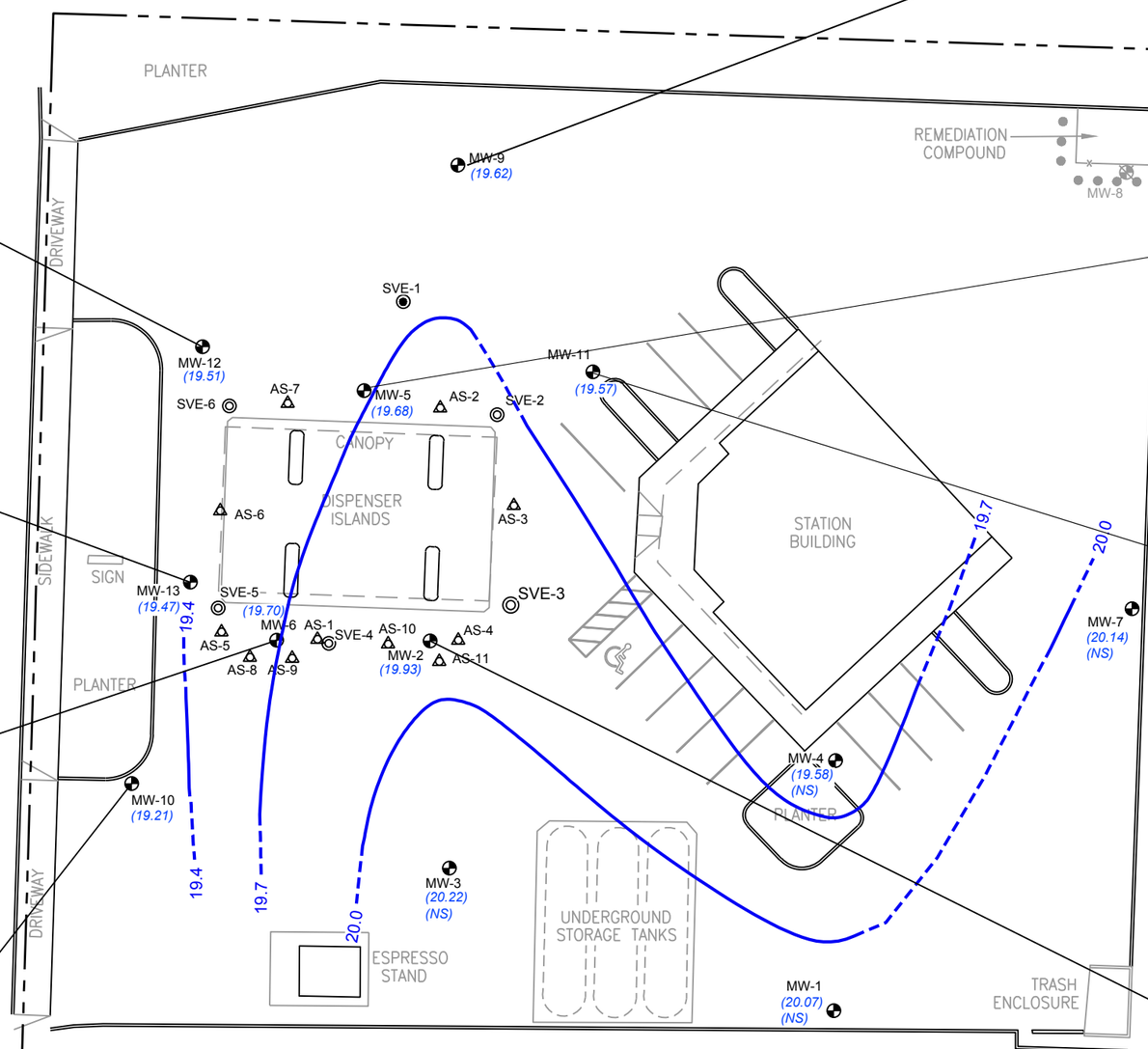
Approximate Scale: 1 in. = 30 ft.

BP WEST COAST PRODUCTS, LLC.
FORMER ARCO FACILITY No. 05544
19918 68TH AVENUE SOUTH, KENT, WASHINGTON
2015 ANNUAL SITE STATUS REPORT

GROUNDWATER CONTOUR MAP WITH ANALYTICAL RESULTS JUNE 5, 2015

ARCADIS Design & Consultancy for natural and built assets

FIGURE 2



MW-9	
Date	12/15/2015
GRO	<50
DRO	<28
HO	<66
B	<0.50
T	<0.50
E	<0.50
X	<0.50
MTBE	<0.50
Naphth	0.025
cPAHs	0.00755

MW-12	
Date	12/15/2015
GRO	550
DRO	110
HO	<66
B	**10**
T	<0.50
E	51
X	15
MTBE	**110**
Naphth	9.31
cPAHs	0.00755

MW-5	
Date	12/15/2015
GRO	73(J)
DRO	<28
HO	<66
B	<0.50
T	<0.50
E	<0.50
X	<0.50
MTBE	**85**
Naphth	0.28
cPAHs	0.00755

MW-13	
Date	12/15/2015
GRO	**6,000**
DRO	410
HO	<67
B	1.1
T	<0.50
E	43
X	150
MTBE	13
Naphth	59.20
cPAHs	0.00755

MW-11	
Date	12/15/2015
GRO	<50
DRO	<28
HO	<66
B	<0.50
T	<0.50
E	<0.50
X	<0.50
MTBE	<0.50
Naphth	0.025
cPAHs	0.00755

MW-6	
Date	12/15/2015
GRO	**2,400**
DRO	170
HO	<66
B	0.89(J)
T	<0.50
E	6.6
X	3.8
MTBE	7.7
Naphth	17.0
cPAHs	0.00755

MW-2	
Date	12/15/2015
GRO	**830 / [960]**
DRO	140 / [110]
HO	<66 / [<69]
B	0.50(J) / [<0.50]
T	<0.50 / [<0.50]
E	27 / [29]
X	5.8 / [8.7]
MTBE	1.2 / [1.3]
Naphth	6.89 / [6.45]
cPAHs	0.00755 / [0.01415]

MW-10	
Date	12/15/2015
GRO	<50
DRO	<29
HO	<67
B	<0.50
T	<0.50
E	<0.50
X	<0.50
MTBE	<0.50
Naphth	0.025
cPAHs	0.00755

LEGEND:

- PROPERTY BOUNDARY
- MW-1 MONITORING WELL LOCATION
- SVE-4 VAPOR EXTRACTION WELL LOCATION
- AS-11 AIR SPARGE WELL LOCATION
- MW-8 ABANDONED MONITORING WELL
- *(20.22)* GROUNDWATER ELEVATION (FEET ABOVE NAVD 88)
- 20.0 GROUNDWATER ELEVATION CONTOUR (FEET ABOVE NAVD 88, DASHED WHERE INFERRED)
- < NOT DETECTED, VALUE SHOWN IS THE DETECTION LIMIT
- J ESTIMATED VALUE - RESULT GREATER THAN OR EQUAL TO THE METHOD DETECTION LIMIT (MDL) AND LESS THAN THE LIMIT OF QUANTITATION (LOQ)
- *(NS)* NOT SAMPLED
- NAVD88 NORTH AMERICAN VERTICAL DATUM 1988

SAMPLE ID	
Date	Date of Sample
GRO	Total Petroleum Hydrocarbons - Gasoline Range Organics / [Duplicate]
DRO	Total Petroleum Hydrocarbons - Diesel Range Organics / [Duplicate]
HO	Total Petroleum Hydrocarbons - Heavy Oil Range Organics / [Duplicate]
B	Benzene / [Duplicate]
T	Toluene / [Duplicate]
E	Ethylbenzene / [Duplicate]
X	Total Xylenes / [Duplicate]
MTBE	Methyl Tertiary Butyl Ether / [Duplicate]
Naphth	Total Naphthalenes / [Duplicate]
cPAHs	Total Carcinogenic Polycyclic Aromatic Hydrocarbons/ [Duplicate]

NOTES:
ALL CONCENTRATIONS ARE MEASURED IN MICROGRAMS PER LITER (µg/L)

TOTAL cPAHs AND/OR TOTAL NAPHTHALENES ARE CALCULATED ACCORDING TO THE MTCA CLEANUP REGULATION TABLE: 720-1 [d] & [r]

BOLD = ANALYTE DETECTED ABOVE MODEL TOXICS CONTROL ACT (MTCA) METHOD A CLEANUP LEVELS

0 30' 60'

Approximate Scale: 1 in. = 30 ft.

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GROUNDWATER CONTOUR MAP WITH ANALYTICAL RESULTS DECEMBER 15, 2015

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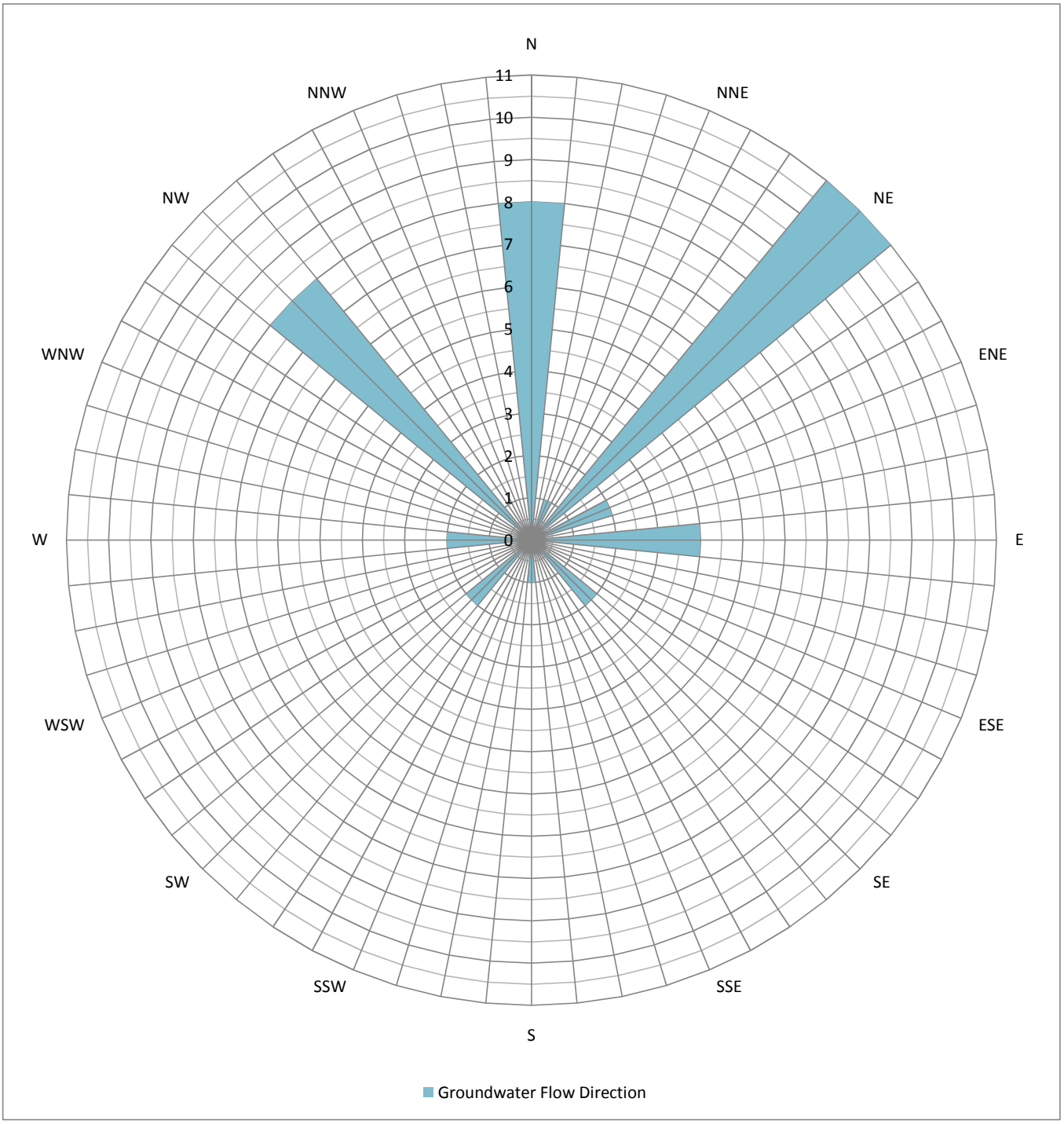
FIGURE 3



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 calculations from Arcadis groundwater monitoring events conducted since the monitoring well top of casing survey conducted in 2010. Multiple flow direction and gradients have been observed and represented in this diagram for any singular event.

Number of Events Observed = 15

BP WEST COAST PRODUCTS, LLC.
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19918 68TH AVENUE SOUTH, KENT
2015 ANNUAL SITE STATUS REPORT

Historical Groundwater Flow Direction Rose Diagram

ARCADIS Design & Consultancy for natural and built assets

FIGURE 4

ATTACHMENT A

Groundwater Monitoring Field Data Sheets

WELL GAUGING DATA

Project # 150605-CP1 Date 6/5/15 Client Arcadis

Site 19918 68th Ave S. Kent WA

Well ID	Time	Well Size (in.)	Sheen / Odor	Depth to Immiscible Liquid (ft.)	of Immiscible Liquid (ft.)	Volume of Immiscibles Removed (ml)	Depth to water (ft.)	Depth to well bottom (ft.)	Water/ SPH Meter	PID
MW-1	0740	2					9.20	18.82	*	0.1
MW-2	0836	2					9.98	18.80	*	0.0
MW-3	0730	2					9.15	19.22	*	0.0
MW-4	0749	2					10.01	19.34	*	0.0
MW-5	0840	2					10.28	18.99	*	0.0
MW-6	0820	2					10.02	18.63	*	21.9
MW-7	0754	2					9.86	15.82	*	0.0
MW-9	0758	2					9.68	18.19	*	0.0
MW-10	0812	2					9.64	18.70	*	0.5
MW-11	0735	2					9.90	20.01	*	0.0
MW-12	0805	2					10.03	20.22	*	7.8
MW-13	0827	2					10.05	20.19	*	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 #: 150605-CP1	Client: Arcadis
Sampler: C. Peters	Start Date: 6/5/15
Well I.D.: MW-2	Well Diameter: (2) 3 4 6 8 ___
Total Well Depth: 18.80	Depth to Water Pre: 9.98 Post: 10.30
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	Flow Cell Type: YSI 556

Purge Method: 2" Grundfos Pump | Watterra | Peristaltic Pump | Bladder Pump | Other ___

Sampling Method: Dedicated Tubing | Disp Bailer | New Tubing | Other ___

Flow Rate: 200 mL/min Pump Depth: 14.5'

Time	Temp. (°C or °F)	pH	Cond. (mS or µS)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	DTW / Observations
	- Start Purge -						-	-
0920	17.19	5.60	900	65	1.85	-11.1	600	10.09
0923	17.33	5.62	904	31	2.46	-15.3	1200	10.15
0926	17.58	5.66	914	30	2.40	-16.5	1800	10.21
0929	17.65	5.67	916	28	2.33	-17.6	2400	10.25
0932	17.71	5.68	918	27	2.21	-18.7	3000	10.30

Did well dewater? Yes (No) Amount actually evacuated: 3000 gals. or (ml)

Sampling Time: 0933 Sampling Date: 6/5/15

Sample I.D.: MW-2-06052015 Laboratory: Lancaster

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

Equipment Blank I.D.: TB-5544@ Time Duplicate I.D.: BD-5544-06052015

LOW FLOW WELL MONITORING DATA SHEET

Project #: 150605-CP1	Client: Arcadis
Sampler: C. Peters	Start Date: 6/5/15
Well I.D.: MW-5	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth: 18.99	Depth to Water Pre: 10.28 Post: 10.53
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	Flow Cell Type: YSI 556

Purge Method: 2" Grundfos Pump | Watterra | Peristaltic Pump | Bladder Pump | Other ____

Sampling Method: Dedicated Tubing | Disp Bailer | New Tubing | Other ____

Flow Rate: 200 mL/min

Pump Depth: 14.5'

Time	Temp. (°C or °F)	pH	Cond. (mS or µS)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	DTW / Observations
0850	- Start Purge -						-	-
0853	15.63	5.42	863	113	2.30	-20.5	600	10.37
0856	15.58	5.35	853	99	1.40	-19.8	1200	10.42
0859	15.52	5.31	846	111	1.39	-12.6	1800	10.46
0902	15.42	5.31	847	105	1.32	~~-13.7~~ -13.7	2400	10.50
0905	15.43	5.32	846	100	1.30	-14.7	3000	10.53

Did well dewater? Yes (No) Amount actually evacuated: 3000 gals. or (ml)

Sampling Time: 0906 Sampling Date: 6/5/15

Sample I.D.: MW-5-06052015 Laboratory: Lancaster

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

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

LOW FLOW WELL MONITORING DATA SHEET

Project #: 150605-CP1	Client: Arcadis
Sampler: C. Peters	Start Date: 6/5/15
Well I.D.: MW-6	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth: 18.63	Depth to Water Pre: 10.02 Post:
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	Flow Cell Type: YSI 556

Purge Method: 2" Grundfos Pump | Watterra | Peristaltic Pump | Bladder Pump | Other ____

Sampling Method: Dedicated Tubing | Disp Bailer | New Tubing | Other ____

Flow Rate: 200 mL/min

Pump Depth: 14.5'

Time	Temp. (°C or °F)	pH	Cond. (mS or µS)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	DTW / Observations
1339	- Start	Purge -			~~0.80~~	~~+4~~	-	-
1342	18.57	6.00	874	30	0.80	1.4	600	10.10
1345	18.60	5.99	888	31	0.44	-18.0	1200	10.17
1348	18.55	5.98	905	30	0.42	-19.5	1800	10.21
1351	18.57	5.99	907	29	0.41	-20.9	2400	10.27
1354	18.58	6.01	910	30	0.39	-21.9	3000	10.35

Did well dewater? Yes (No) Amount actually evacuated: 3000 gals. or (ml)

Sampling Time: 1355 Sampling Date: 6/5/15

Sample I.D.: MW-6-06052015 Laboratory: Lancaster

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

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

LOW FLOW WELL MONITORING DATA SHEET

Project #: 150605-CP1	Client: Arcadis
Sampler: C. Peters	Start Date: 6/5/15
Well I.D.: MW-9	Well Diameter: (2) 3 4 6 8 ___
Total Well Depth: 18.19	Depth to Water Pre: 9.68 Post: 10.01
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	Flow Cell Type: YSI 556

Purge Method: 2" Grundfos Pump (Watterra) (Peristaltic Pump) Bladder Pump Other ___

Sampling Method: Dedicated Tubing (Disp Bailer) (New Tubing) Other ___

Flow Rate: 200 mL/min Pump Depth: 13.5'

Time	Temp. (°C or °F)	pH	Cond. (mS or (µS))	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or (mL))	DTW / Observations
1056	- Start Purge -						-	-
1059	17.17	5.76	368	129	1.17	103.0	600	9.75
1102	17.10	5.64	373	67	1.14	86.9	1200	9.82
1105	16.93	5.59	376	41	1.18	79.0	1800	9.90
1108	16.86	5.54	382	36	1.16	77.0	2400	9.95
1111	16.77	5.53	384	28	1.16	76.3	3000	10.01

Did well dewater? Yes (No) Amount actually evacuated: 3000 gals. or (ml)

Sampling Time: 1112 Sampling Date: 6/5/15

Sample I.D.: MW-9-06052015 Laboratory: Lancaster

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

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

LOW FLOW WELL MONITORING DATA SHEET

Project #: 150605-CP1	Client: Arcadis
Sampler: C. Peters	Start Date: 6/5/15
Well I.D.: MW-10	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth: 18.70	Depth to Water Pre: 9.64 Post:
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	Flow Cell Type: YSI 556

Purge Method: 2" Grundfos Pump (GP) Watterra Peristaltic Pump Bladder Pump Other ____

Sampling Method: Dedicated Tubing (GP) Disp Bailer New Tubing Other ____

Flow Rate: 200 mL/min Pump Depth: 14'

Time	Temp. (°C or °F)	pH	Cond. (mS or (µS))	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or (mL))	DTW / Observations
1254	-	Start	Purge -				-	-
1257	19.66	5.77	355	42	0.95	78.6	600	9.72
1300	19.48	5.49	354	33	0.74	59.0	1200	9.81
1303	19.72	5.45	352	27	0.80	55.5	1800	9.87
1306	19.80	5.43	346	30	0.86	52.8	2400	9.91
1309	19.91	5.42	345	27	0.94	51.0	3000	9.94

Did well dewater? Yes (No) Amount actually evacuated: 3000 gals. or (ml)

Sampling Time: 1310 Sampling Date: 6/5/15

Sample I.D.: MW-10-06052015 Laboratory: Lancaster

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

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

LOW FLOW WELL MONITORING DATA SHEET

Project #: 150605-CP1	Client: Arcadis
Sampler: C. Peters	Start Date: 6/5/15
Well I.D.: MW-11	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth: 20.01	Depth to Water Pre: 9.90 Post: 10.29
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	Flow Cell Type: YSI 556

Purge Method: 2" Grundfos Pump | Watterra | Peristaltic Pump | Bladder Pump | Other ____

Sampling Method: Dedicated Tubing | Disp Bailer | New Tubing | Other ____

Flow Rate: 200 mL/min

Pump Depth: 15'

Time	Temp. (°C or °F)	pH	Cond. (mS or µS)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	DTW / Observations
1017	- Start Purge -						-	-
1020	16.63	5.92	422	224	1.04	70.6	600	10.01
1023	16.81	5.73	421	228	0.75	55.0	1200	10.09
1026	16.81	5.61	411	268	0.81	51.9	1800	10.16
1029	16.74	5.53	403	301	0.75	48.1	2400	10.23
1032	16.70	5.48	402	280	0.69	44.8	3000	10.29

Did well dewater? Yes (No) Amount actually evacuated: 3000 gals. or (ml)

Sampling Time: 1033 Sampling Date: 6/5/15

Sample I.D.: MW-11-06052015 Laboratory: Lancaster

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

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

LOW FLOW WELL MONITORING DATA SHEET

Project #: 150605-CP1	Client: Arcadis
Sampler: C. Peters	Start Date: 6/5/15
Well I.D.: MW-12	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth: 20.22	Depth to Water Pre: 10.03 Post: 10.30
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	Flow Cell Type: YSI 556

Purge Method: 2" Grundfos Pump | Watterra | Peristaltic Pump | Bladder Pump | Other____

Sampling Method: Dedicated Tubing | Disp Bailer | New Tubing | Other____

Flow Rate: 200 mL/min | Pump Depth: 15'

Time	Temp. (°C or °F)	pH	Cond. (mS or µS)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	DTW / Observations
1126	- Start	Purge -					-	-
1129	16.67	5.72	594	41	0.66	26.5	600	10.11
1132	16.77	5.72	599	43	0.52	18.4	1200	10.15
1135	16.81	5.73	601	36	0.49	18.0	1800	10.20
1138	16.84	5.73	602	30	0.43	17.5	2400	10.26
1141	16.87	5.74	604	28	0.41	17.0	3000	10.30

Did well dewater? Yes (No)	Amount actually evacuated: 3000 gals. or (ml)
Sampling Time: 1142	Sampling Date: 6/5/15
Sample I.D.: MW-12-06052015	Laboratory: Lancaster
Analyzed for: (TPH-G) (BTEX) MTBE TPH-D	Other: See COC
Equipment Blank I.D.: @ Time	Duplicate I.D.:

LOW FLOW WELL MONITORING DATA SHEET

Project #: 150605-CP1	Client: Arcadis
Sampler: C. Peters	Start Date: 6/5/15
Well I.D.: MW-13	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth: 20.19	Depth to Water Pre: 10.05 Post: 10.46
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	Flow Cell Type: YSI 556

Purge Method: 2" Grundfos Pump | Watterra | Peristaltic Pump | Bladder Pump | Other ____

Sampling Method: Dedicated Tubing | Disp Bailer | New Tubing | Other ____

Flow Rate: 200 mL/min

Pump Depth: 15'

Time	Temp. (°C or °F)	pH	Cond. (mS or µS)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	DTW / Observations
1223	- Start Purge -				-	-	-	-
1226	17.62	5.87	604	78	0.41	32.7	600	10.17
1229	17.79	5.81	608	65	0.99	19.0	1200	10.28
1232	17.85	5.80	609	58	1.05	15.2	1800	10.35
1235	17.87	5.80	610	59	1.09	14.5	2400	10.40
1238	17.91	5.81	611	49	1.17	13.8	3000	10.46

Did well dewater? Yes (No) Amount actually evacuated: 3000 gals. or (ml)

Sampling Time: 1240 Sampling Date: 6/5/15

Sample I.D.: MW-13-06052015 Laboratory: Lancaster

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

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

WELL GAUGING DATA

Project # 151215-Q92 Date 12/15/15 Client Arcadis

Site 19918 68th Ave S. Kent WA

Well ID	Time	Well Size (in.)	Sheen / Odor	Depth to Immiscible Liquid (ft.)	of Immiscible Liquid (ft.)	Volume of Immiscibles Removed (ml)	Depth to water (ft.)	Depth to well bottom (ft.)	Water/ SPH Meter	PID
MW-1	1420	2					6.05	18.84	*	0.0
MW-2	1411	2					7.39	18.81	*	0.4
MW-3	1431	2					6.61	19.19	*	0.0
MW-4	1425	2					7.43	19.31	*	0.0
MW-5	1412	2					7.85	19.95	*	0.0
MW-6	1436	2					7.80	20.22	*	20.5
MW-7	1406	2					6.50	15.86	*	0.0
MW-9	1417	2					7.14	18.15	*	0.0
MW-10	1432	2	odor				7.80	20.21	*	1.1
MW-11	1427	2					7.31	20.02	*	0.0
MW-12	1425	2					7.75	20.25	*	10.1
MW-13	1429	2					7.80	20.24	*	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 #: 151215-CP2	Client: Arcadis
Sampler: VL	Start Date: 12/15/15
Well I.D.: MW-2	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth: 18.81	Depth to Water Pre: 7.39 Post: 7.49
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	Flow Cell Type: YSI Pro Plus

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

Flow Rate: 200 mL/min Pump Depth: 13'

Time	Temp. (°C or °F)	pH	Cond. (mS or µS)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	DTW Observations
1450	16.1	6.09	929	58	0.42	-81	500	clear/7.39
1453	16.5	6.20	955	44	0.29	-97	1100	clear/7.43
1456	16.5	6.29	965	31	0.16	-114	1700	clear/7.45
1459	16.5	6.28	964	28	0.17	-117	2300	clear/7.46
1502	16.4	6.27	962	27	0.16	-113	2900	clear/7.47
1505	16.4	6.27	961	29	0.16	-110	3500	clear/7.49

Did well dewater? Yes (No) Amount actually evacuated: 3500 mL

Sampling Time: 1520 Sampling Date: 12/15/15

Sample I.D.: MW-2-12152015 Laboratory: Lancaster

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

Equipment Blank I.D.: @ Time Duplicate I.D.: BD-5544-12152015

LOW FLOW WELL MONITORING DATA SHEET

Project #: 151215-CP2	Client: Arcadis
Sampler: VL	Start Date: 12/15/15
Well I.D.: MW-5	Well Diameter: (2) 3 4 6 8 ___
Total Well Depth: 18.95	Depth to Water Pre: 7.85 Post: 8.07
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	Flow Cell Type: YSI Pro Plus

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

Flow Rate: 300mL/min Pump Depth: 13'

Time	Temp. (°C or °F)	pH	Cond. (mS or (µS))	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or (mL))	DTW Observations
1531	13.2	6.93	743	18	0.21	-36	500	clear/7.92
1534	14.9	6.14	754	16	0.18	-69	1100	clear/7.96
1537	15.5	6.17	750	17	0.17	-79	1700	clear/7.99
1540	15.4	6.25	748	20	0.16	-77	2300	clear/8.04
1543	15.4	6.24	747	17	0.16	-75	2900	clear/8.06
1546	15.4	6.25	747	18	0.16	-74	3500	clear/8.07

Did well dewater? Yes (No) Amount actually evacuated: 3500mL

Sampling Time: 1555 Sampling Date: 12/15/15

Sample I.D.: MW-5-12152015 Laboratory: Lancaster

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

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

LOW FLOW WELL MONITORING DATA SHEET

Project #: 151215-CP2	Client: Arcadis
Sampler: VL	Start Date: 12/15/15
Well I.D.: MW-9	Well Diameter: (2) 3 4 6 8 ___
Total Well Depth: 19.15	Depth to Water Pre: 7.14 Post: 7.21
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	Flow Cell Type: YSI Pro Plus

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

Flow Rate: 200 mL/min Pump Depth: 13'

Time	Temp. (°C or °F)	pH	Cond. (mS or µS)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	DTW Observations
1602	16.1	6.01	364	135	0.11	60	500	clear/7.16
1605	16.6	5.86	359	131	0.09	69	1100	clear/7.17
1608	16.7	5.90	362	134	0.09	79	1700	clear/7.19
1611	16.7	5.89	362	118	0.09	84	2300	clear/7.19
1614	16.7	5.87	360	109	0.09	97	2900	clear/7.20
1617	16.7	5.86	359	115	0.09	89	3500	clear/7.21

Did well dewater? Yes (No)	Amount actually evacuated: 3500 mL
Sampling Time: 1625	Sampling Date: 12/15/15
Sample I.D.: MW-9-	Laboratory: Lancaster
Analyzed for: TPH-G BTEX MTBE TPH-D	Other: See COC
Equipment Blank I.D.: @ Time	Duplicate I.D.:

LOW FLOW WELL MONITORING DATA SHEET

Project #: 151215-GP2	Client: Arcadis
Sampler: AP	Gauging Date: 12/15/15
Well I.D.: MW-10	Well Diameter (in.): (2) 3 4 6 8 ____
Total Well Depth (ft.): 20.21	Depth to Water (ft.): 7.80
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	Flow Cell Type: YSI 556

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

Start Purge Time: 1511 Flow Rate: 200 mL/min Pump Depth: 14'

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.)
1514	14.54	5.78	432	44	9.40	189.3	600	7.85
1517	14.62	5.41	424	30	9.35	189.9	1200	7.85
1520	14.77	5.34	403	16	9.24	181.5	1800	7.85
1523	14.68	5.30	391	19	9.32	188.2	2400	7.85
1526	14.73	5.34	390	21	9.25	182.0	3000	7.85

Did well dewater? Yes (No)	Amount actually evacuated: 3.0L
Sampling Time: 1527	Sampling Date: 12/15/15
Sample I.D.: MW-10-12152015	Laboratory: Lancaster
Analyzed for: (TPHG) (BTEX) MTBE (TPH-D)	Other: See COC
Equipment Blank I.D.: @ Time	Duplicate I.D.:

LOW FLOW WELL MONITORING DATA SHEET

Project #: 151215-QPZ	Client: Arcadis
Sampler: VL	Start Date: 12/15/15
Well I.D.: MW-11	Well Diameter: (2) 3 4 6 8 ___
Total Well Depth: 20.02	Depth to Water Pre: 7.31 Post: 7.40
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	Flow Cell Type: YSI Pro Plus

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

Flow Rate: 200 mL/min Pump Depth: 14'

Time	Temp. (°C or °F)	pH	Cond. (mS or (µS))	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or (mL))	DTW Observations
1634	14.7	5.61	373	104	0.15	112	500	Slightly cloudy / 7.34
1637	15.2	5.79	379	110	0.11	129	1100	/ 7.36
1640	15.4	5.78	379	101	0.10	124	1700	/ 7.37
1643	15.5	5.80	380	96	0.11	125	2300	/ 7.37
1646	15.4	5.81	381	94	0.11	127	2900	/ 7.39
1649	15.5	5.82	383	92	0.10	126	3500	/ 7.40

Did well dewater? Yes (No) Amount actually evacuated: 3500 mL

Sampling Time: 1700 Sampling Date: 12/15/15

Sample I.D.: MW-11-12152015 Laboratory: Lancaster

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

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

LOW FLOW WELL MONITORING DATA SHEET

Project #: 151215-CP2	Client: Arcadis
Sampler: CP	Gauging Date: 12/15/15
Well I.D.: MW-12	Well Diameter (in.): (2) 3 4 6 8 ___
Total Well Depth (ft.): 20.25	Depth to Water (ft.): 7.75
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	Flow Cell Type: YSI 556

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

Start Purge Time: 1613 Flow Rate: 200 mL/min Pump Depth: 14'

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.)
1616	14.51	5.64	725	88	9.43	250.1	1000	7.90
1619	14.56	5.56	723	92	9.36	249.3	1200	7.90
1622	14.63	5.57	723	101	9.18	247.4	1800	7.92
1625	14.74	5.59	724	99	9.15	246.0	2400	7.95
1628	14.82	5.60	726	96	9.12	244.8	3000	7.97

Did well dewater? Yes (No) Amount actually evacuated: 3.0L

Sampling Time: 1629 Sampling Date: 12/15/15

Sample I.D.: MW-12-12152015 Laboratory: Lancaster

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

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

LOW FLOW WELL MONITORING DATA SHEET

Project #: 151215-CPZ	Client: Arcadis
Sampler: CD	Start Date: 12/15/15
Well I.D.: MW-13	Well Diameter: (2) 3 4 6 8 ___
Total Well Depth: 20.21	Depth to Water Pre: 7.80 Post:
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	Flow Cell Type: YSI556

Purge Method: 2" Grundfos Pump (Peristaltic Pump) Bladder Pump
Sampling Method: Dedicated (Tubing) New Tubing Other ___
Flow Rate: 200 mL/min start purge 1540 Pump Depth: 14'

Time	Temp. ((C) or °F)	pH	Cond. (mS or (µS))	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or (mL))	Observations
1543	14.91	5.63	780	42	9.14	174.1	600	7.91
1546	14.60	5.77	776	49	9.34	170.8	1200	7.91
1549	14.86	5.78	769	51	9.15	166.5	1800	7.91
1552	14.92	5.81	768	39	9.10	159.3	2400	7.91
1555	14.98	5.85	778	42	9.07	157.1	3000	7.91

Did well dewater? Yes (No) Amount actually evacuated: 3.0L
Sampling Time: 1556 Sampling Date: 12/15/15
Sample I.D.: MW-13-12152015 Laboratory: Lancaster
Analyzed for: (TPH-G) BTEX MTBE (TPH-D) Other: See COC
Equipment Blank I.D.: @ Time Duplicate I.D.:

ATTACHMENT B

Laboratory Report and Chain-of-Custody Documentation

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

June 22, 2015

Project: WA-5544

Submittal Date: 06/09/2015
Group Number: 1567600
PO Number: GP09BPNA.WA39
State of Sample Origin: WA

Client Sample Description	Lancaster Labs (LL) #
MW-2-06052015 Grab Water	7920862
MW-5-06052015 Grab Water	7920864
MW-6-06052015 Grab Water	7920866
MW-9-06052015 Grab Water	7920868
MW-10-06052015 Grab Water	7920870
MW-11-06052015 Grab Water	7920872
MW-12-06052015 Grab Water	7920874
MW-13-06052015 Grab Water	7920876
BD-5544-06052015 Grab Water	7920878

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

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ELECTRONIC COPY TO	ARCADIS U.S., Inc.	Attn: Alan Kahal

Respectfully Submitted,

Stacy L. Butt
Specialist

(717) 556-7236

Project Name: WA-5544
LL Group #: 1567600

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-2-06052015 Grab Water
BP 5544
19918 68th Ave S - Kent, WA

LL Sample # WW 7920862
LL Group # 1567600
Account # 13255

Project Name: WA-5544

Collected: 06/05/2015 09:33 by CP

Submitted: 06/09/2015 10:00
Reported: 06/22/2015 13:32

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

KNT-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	3.5		0.50	1.0	1
10335	Ethylbenzene	100-41-4	510		5.0	10	10
10335	Methyl Tertiary Butyl Ether	1634-04-4	0.54	J	0.50	1.0	1
10335	Toluene	108-88-3	1.4		0.50	1.0	1
10335	Xylene (Total)	1330-20-7	620		0.50	1.0	1
GC/MS Semivolatiles	**SW-846 8270C SIM**		**ug/l**		**ug/l**	**ug/l**	
08357	Benzo(a)anthracene	56-55-3	N.D.		0.10	0.50	10
08357	Benzo(a)pyrene	50-32-8	N.D.		0.10	0.50	10
08357	Benzo(b)fluoranthene	205-99-2	N.D.		0.10	0.50	10
08357	Benzo(k)fluoranthene	207-08-9	N.D.		0.10	0.50	10
08357	Chrysene	218-01-9	N.D.		0.10	0.50	10
08357	Dibenz(a,h)anthracene	53-70-3	N.D.		0.10	0.50	10
08357	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.		0.10	0.50	10
08357	1-Methylnaphthalene	90-12-0	25		0.10	0.50	10
08357	2-Methylnaphthalene	91-57-6	25		0.10	0.50	10
08357	Naphthalene	91-20-3	190		3.0	6.0	100
GC Volatiles	**ECY 97-602 NWTPH-Gx**		**ug/l**		**ug/l**	**ug/l**	
08273	NWTPH-Gx water C7-C12	n.a.	7,500		250	1,300	5
GC Petroleum Hydrocarbons w/Si	**ECY 97-602 NWTPH-Dx modified**		**ug/l**		**ug/l**	**ug/l**	
02211	DRO C12-C24 w/Si Gel	n.a.	3,400		28	95	1
02211	HRO C24-C40 w/Si Gel	n.a.	N.D.		66	240	1
Metals	**SW-846 6020**		**ug/l**		**ug/l**	**ug/l**	
06035	Lead	7439-92-1	0.32	J	0.082	1.0	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/MTBE	SW-846 8260B	1	L151681AA	06/17/2015 08:02	Stephanie A Selis	1
10335	VOCs 8260 BTEX/MTBE	SW-846 8260B	1	L151681AA	06/17/2015 08:24	Stephanie A Selis	10
01163	GC/MS VOA Water Prep	SW-846 5030B	1	L151681AA	06/17/2015 08:02	Stephanie A Selis	1
01163	GC/MS VOA Water Prep	SW-846 5030B	2	L151681AA	06/17/2015 08:24	Stephanie A Selis	10
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	15163WAZ026	06/17/2015 22:39	Catherine E Bachman	10

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

Sample Description: MW-2-06052015 Grab Water
BP 5544
19918 68th Ave S - Kent, WA

LL Sample # WW 7920862
LL Group # 1567600
Account # 13255

Project Name: WA-5544

Collected: 06/05/2015 09:33 by CP

Submitted: 06/09/2015 10:00
Reported: 06/22/2015 13:32

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

KNT-2

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	15163WAZ026	06/17/2015 23:08	Catherine E Bachman	100
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	15163WAZ026	06/12/2015 17:00	Ryan A Schafran	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	15163A53A	06/13/2015 03:07	Jeremy C Giffin	5
01146	GC VOA Water Prep	SW-846 5030B	1	15163A53A	06/13/2015 03:07	Jeremy C Giffin	5
02211	NWTPH-Dx water w/Si Gel	ECY 97-602 NWTPH-Dx modified	1	151610035A	06/12/2015 22:51	Christine E Dolman	1
02135	Extraction - DRO Water Special	ECY 97-602 NWTPH-Dx 06/97	1	151610035A	06/11/2015 09:30	David S Schrum	1
06035	Lead	SW-846 6020	1	151626050001A	06/15/2015 05:59	Choon Y Tian	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	151626050001	06/14/2015 10:05	James L Mertz	1

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

Sample Description: MW-5-06052015 Grab Water
BP 5544
19918 68th Ave S - Kent, WA

LL Sample # WW 7920864
LL Group # 1567600
Account # 13255

Project Name: WA-5544

Collected: 06/05/2015 09:06 by CP

Submitted: 06/09/2015 10:00
Reported: 06/22/2015 13:32

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

KNT-5

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	2.6		0.50	1.0	1
10335	Ethylbenzene	100-41-4	0.68	J	0.50	1.0	1
10335	Methyl Tertiary Butyl Ether	1634-04-4	2.3		0.50	1.0	1
10335	Toluene	108-88-3	N.D.		0.50	1.0	1
10335	Xylene (Total)	1330-20-7	4.2		0.50	1.0	1
GC/MS Semivolatiles	**SW-846 8270C SIM**		**ug/l**		**ug/l**	**ug/l**	
08357	Benzo(a)anthracene	56-55-3	N.D.		0.010	0.051	1
08357	Benzo(a)pyrene	50-32-8	N.D.		0.010	0.051	1
08357	Benzo(b)fluoranthene	205-99-2	N.D.		0.010	0.051	1
08357	Benzo(k)fluoranthene	207-08-9	0.011	J	0.010	0.051	1
08357	Chrysene	218-01-9	0.022	J	0.010	0.051	1
08357	Dibenz(a,h)anthracene	53-70-3	N.D.		0.010	0.051	1
08357	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.		0.010	0.051	1
08357	1-Methylnaphthalene	90-12-0	2.0		0.010	0.051	1
08357	2-Methylnaphthalene	91-57-6	0.076		0.010	0.051	1
08357	Naphthalene	91-20-3	13		0.30	0.61	10
GC Volatiles	**ECY 97-602 NWTPH-Gx**		**ug/l**		**ug/l**	**ug/l**	
08273	NWTPH-Gx water C7-C12	n.a.	550		50	250	1
GC Petroleum Hydrocarbons w/Si	**ECY 97-602 NWTPH-Dx modified**		**ug/l**		**ug/l**	**ug/l**	
02211	DRO C12-C24 w/Si Gel	n.a.	1,700		29	95	1
02211	HRO C24-C40 w/Si Gel	n.a.	N.D.		67	240	1
Metals	**SW-846 6020**		**ug/l**		**ug/l**	**ug/l**	
06035	Lead	7439-92-1	0.51	J	0.082	1.0	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/MTBE	SW-846 8260B	1	L151681AA	06/17/2015 08:46	Stephanie A Selis	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	L151681AA	06/17/2015 08:46	Stephanie A Selis	1
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	15163WAZ026	06/17/2015 16:16	Holly B Ziegler	1
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	15163WAZ026	06/17/2015 23:36	Catherine E Bachman	10

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

Sample Description: MW-5-06052015 Grab Water
BP 5544
19918 68th Ave S - Kent, WA

LL Sample # WW 7920864
LL Group # 1567600
Account # 13255

Project Name: WA-5544

Collected: 06/05/2015 09:06 by CP

Submitted: 06/09/2015 10:00
Reported: 06/22/2015 13:32

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

KNT-5

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	15163WAZ026	06/12/2015 17:00	Ryan A Schafran	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	15163A53A	06/12/2015 20:37	Jeremy C Giffin	1
01146	GC VOA Water Prep	SW-846 5030B	1	15163A53A	06/12/2015 20:37	Jeremy C Giffin	1
02211	NWTPH-Dx water w/Si Gel	ECY 97-602 NWTPH-Dx modified	1	151610035A	06/12/2015 21:47	Christine E Dolman	1
02135	Extraction - DRO Water Special	ECY 97-602 NWTPH-Dx 06/97	1	151610035A	06/11/2015 09:30	David S Schrum	1
06035	Lead	SW-846 6020	1	151636050001A	06/17/2015 07:27	Choon Y Tian	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	151636050001	06/15/2015 23:30	Annamaria Kuhns	1

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

Sample Description: MW-6-06052015 Grab Water
BP 5544
19918 68th Ave S - Kent, WA

LL Sample # WW 7920866
LL Group # 1567600
Account # 13255

Project Name: WA-5544

Collected: 06/05/2015 13:55 by CP

Submitted: 06/09/2015 10:00
Reported: 06/22/2015 13:32

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

KNT-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	2.8		0.50	1.0	1
10335	Ethylbenzene	100-41-4	440		5.0	10	10
10335	Methyl Tertiary Butyl Ether	1634-04-4	0.60	J	0.50	1.0	1
10335	Toluene	108-88-3	0.91	J	0.50	1.0	1
10335	Xylene (Total)	1330-20-7	420		0.50	1.0	1
GC/MS Semivolatiles	**SW-846 8270C SIM**		**ug/l**		**ug/l**	**ug/l**	
08357	Benzo(a)anthracene	56-55-3	N.D.		0.10	0.51	10
08357	Benzo(a)pyrene	50-32-8	N.D.		0.10	0.51	10
08357	Benzo(b)fluoranthene	205-99-2	N.D.		0.10	0.51	10
08357	Benzo(k)fluoranthene	207-08-9	N.D.		0.10	0.51	10
08357	Chrysene	218-01-9	N.D.		0.10	0.51	10
08357	Dibenz(a,h)anthracene	53-70-3	N.D.		0.10	0.51	10
08357	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.		0.10	0.51	10
08357	1-Methylnaphthalene	90-12-0	23		0.10	0.51	10
08357	2-Methylnaphthalene	91-57-6	20		0.10	0.51	10
08357	Naphthalene	91-20-3	170		3.0	6.1	100
GC Volatiles	**ECY 97-602 NWTPH-Gx**		**ug/l**		**ug/l**	**ug/l**	
08273	NWTPH-Gx water C7-C12	n.a.	6,900		250	1,300	5
GC Petroleum Hydrocarbons w/Si	**ECY 97-602 NWTPH-Dx modified**		**ug/l**		**ug/l**	**ug/l**	
02211	DRO C12-C24 w/Si Gel	n.a.	2,000		28	95	1
02211	HRO C24-C40 w/Si Gel	n.a.	N.D.		66	240	1
Metals	**SW-846 6020**		**ug/l**		**ug/l**	**ug/l**	
06035	Lead	7439-92-1	0.37	J	0.082	1.0	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/MTBE	SW-846 8260B	1	L151681AA	06/17/2015 09:08	Stephanie A Selis	1
10335	VOCs 8260 BTEX/MTBE	SW-846 8260B	1	L151681AA	06/17/2015 09:30	Stephanie A Selis	10
01163	GC/MS VOA Water Prep	SW-846 5030B	1	L151681AA	06/17/2015 09:08	Stephanie A Selis	1
01163	GC/MS VOA Water Prep	SW-846 5030B	2	L151681AA	06/17/2015 09:30	Stephanie A Selis	10
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	15163WAZ026	06/18/2015 00:04	Catherine E Bachman	10

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

Sample Description: MW-6-06052015 Grab Water
BP 5544
19918 68th Ave S - Kent, WA

LL Sample # WW 7920866
LL Group # 1567600
Account # 13255

Project Name: WA-5544

Collected: 06/05/2015 13:55 by CP

Submitted: 06/09/2015 10:00
Reported: 06/22/2015 13:32

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

KNT-6

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	15163WAZ026	06/18/2015 00:33	Catherine E Bachman	100
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	15163WAZ026	06/12/2015 17:00	Ryan A Schafran	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	15162A53A	06/11/2015 20:06	Marie D Beamenderfer	5
01146	GC VOA Water Prep	SW-846 5030B	1	15162A53A	06/11/2015 20:06	Marie D Beamenderfer	5
02211	NWTPH-Dx water w/Si Gel	ECY 97-602 NWTPH-Dx modified	1	151610035A	06/12/2015 23:13	Christine E Dolman	1
02135	Extraction - DRO Water Special	ECY 97-602 NWTPH-Dx 06/97	1	151610035A	06/11/2015 09:30	David S Schrum	1
06035	Lead	SW-846 6020	1	151636050001A	06/17/2015 07:32	Choon Y Tian	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	151636050001	06/15/2015 23:30	Annamaria Kuhns	1

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

Sample Description: MW-9-06052015 Grab Water
BP 5544
19918 68th Ave S - Kent, WA

LL Sample # WW 7920868
LL Group # 1567600
Account # 13255

Project Name: WA-5544

Collected: 06/05/2015 11:12 by CP

Submitted: 06/09/2015 10:00
Reported: 06/22/2015 13:32

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

KNT-9

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	Methyl Tertiary Butyl Ether	1634-04-4	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/MS Semivolatiles	**SW-846 8270C SIM**		**ug/l**		**ug/l**	**ug/l**	
08357	Benzo(a)anthracene	56-55-3	N.D.		0.010	0.051	1
08357	Benzo(a)pyrene	50-32-8	N.D.		0.010	0.051	1
08357	Benzo(b)fluoranthene	205-99-2	N.D.		0.010	0.051	1
08357	Benzo(k)fluoranthene	207-08-9	N.D.		0.010	0.051	1
08357	Chrysene	218-01-9	N.D.		0.010	0.051	1
08357	Dibenz(a,h)anthracene	53-70-3	N.D.		0.010	0.051	1
08357	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.		0.010	0.051	1
08357	1-Methylnaphthalene	90-12-0	N.D.		0.010	0.051	1
08357	2-Methylnaphthalene	91-57-6	N.D.		0.010	0.051	1
08357	Naphthalene	91-20-3	N.D.		0.030	0.061	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
GC Petroleum Hydrocarbons w/Si	**ECY 97-602 NWTPH-Dx modified**		**ug/l**		**ug/l**	**ug/l**	
02211	DRO C12-C24 w/Si Gel	n.a.	N.D.		29	95	1
02211	HRO C24-C40 w/Si Gel	n.a.	N.D.		67	240	1
Metals	**SW-846 6020**		**ug/l**		**ug/l**	**ug/l**	
06035	Lead	7439-92-1	0.15	J	0.082	1.0	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/MTBE	SW-846 8260B	1	L151681AA	06/17/2015 09:52	Stephanie A Selis	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	L151681AA	06/17/2015 09:52	Stephanie A Selis	1
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	15163WAZ026	06/17/2015 17:13	Holly B Ziegler	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	15163WAZ026	06/12/2015 17:00	Ryan A Schafran	1

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

Sample Description: MW-9-06052015 Grab Water
BP 5544
19918 68th Ave S - Kent, WA

LL Sample # WW 7920868
LL Group # 1567600
Account # 13255

Project Name: WA-5544

Collected: 06/05/2015 11:12 by CP

Submitted: 06/09/2015 10:00
Reported: 06/22/2015 13:32

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

KNT-9

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	15162A53A	06/11/2015 13:37	Marie D Beamenderfer	1
01146	GC VOA Water Prep	SW-846 5030B	1	15162A53A	06/11/2015 13:37	Marie D Beamenderfer	1
02211	NWTPH-Dx water w/Si Gel	ECY 97-602 NWTPH-Dx modified	1	151610035A	06/12/2015 20:43	Christine E Dolman	1
02135	Extraction - DRO Water Special	ECY 97-602 NWTPH-Dx 06/97	1	151610035A	06/11/2015 09:30	David S Schrum	1
06035	Lead	SW-846 6020	1	151636050001A	06/17/2015 07:34	Choon Y Tian	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	151636050001	06/15/2015 23:30	Annamaria Kuhns	1

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

Sample Description: MW-10-06052015 Grab Water
BP 5544
19918 68th Ave S - Kent, WA

LL Sample # WW 7920870
LL Group # 1567600
Account # 13255

Project Name: WA-5544

Collected: 06/05/2015 13:10 by CP

Submitted: 06/09/2015 10:00
Reported: 06/22/2015 13:32

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

KNT10

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	4.6		0.50	1.0	1
10335	Methyl Tertiary Butyl Ether	1634-04-4	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	8.0		0.50	1.0	1
GC/MS Semivolatiles	**SW-846 8270C SIM**		**ug/l**		**ug/l**	**ug/l**	
08357	Benzo(a)anthracene	56-55-3	N.D.		0.010	0.050	1
08357	Benzo(a)pyrene	50-32-8	N.D.		0.010	0.050	1
08357	Benzo(b)fluoranthene	205-99-2	N.D.		0.010	0.050	1
08357	Benzo(k)fluoranthene	207-08-9	N.D.		0.010	0.050	1
08357	Chrysene	218-01-9	N.D.		0.010	0.050	1
08357	Dibenz(a,h)anthracene	53-70-3	0.013	J	0.010	0.050	1
08357	Indeno(1,2,3-cd)pyrene	193-39-5	0.011	J	0.010	0.050	1
08357	1-Methylnaphthalene	90-12-0	0.13		0.010	0.050	1
08357	2-Methylnaphthalene	91-57-6	0.14		0.010	0.050	1
08357	Naphthalene	91-20-3	0.87		0.030	0.060	1
GC Volatiles	**ECY 97-602 NWTPH-Gx**		**ug/l**		**ug/l**	**ug/l**	
08273	NWTPH-Gx water C7-C12	n.a.	120	J	50	250	1
GC Petroleum Hydrocarbons w/Si	**ECY 97-602 NWTPH-Dx modified**		**ug/l**		**ug/l**	**ug/l**	
02211	DRO C12-C24 w/Si Gel	n.a.	N.D.		29	95	1
02211	HRO C24-C40 w/Si Gel	n.a.	N.D.		67	240	1
Metals	**SW-846 6020**		**ug/l**		**ug/l**	**ug/l**	
06035	Lead	7439-92-1	N.D.		0.082	1.0	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/MTBE	SW-846 8260B	1	L151681AA	06/17/2015 10:14	Stephanie A Selis	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	L151681AA	06/17/2015 10:14	Stephanie A Selis	1
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	15163WAZ026	06/17/2015 17:41	Holly B Ziegler	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	15163WAZ026	06/12/2015 17:00	Ryan A Schafran	1

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

Sample Description: MW-10-06052015 Grab Water
BP 5544
19918 68th Ave S - Kent, WA

LL Sample # WW 7920870
LL Group # 1567600
Account # 13255

Project Name: WA-5544

Collected: 06/05/2015 13:10 by CP

Submitted: 06/09/2015 10:00
Reported: 06/22/2015 13:32

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

KNT10

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	15162A53A	06/11/2015 14:05	Marie D Beamenderfer	1
01146	GC VOA Water Prep	SW-846 5030B	1	15162A53A	06/11/2015 14:05	Marie D Beamenderfer	1
02211	NWTPH-Dx water w/Si Gel	ECY 97-602 NWTPH-Dx modified	1	151610035A	06/12/2015 21:04	Christine E Dolman	1
02135	Extraction - DRO Water Special	ECY 97-602 NWTPH-Dx 06/97	1	151610035A	06/11/2015 09:30	David S Schrum	1
06035	Lead	SW-846 6020	1	151636050001A	06/17/2015 07:36	Choon Y Tian	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	151636050001	06/15/2015 23:30	Annamaria Kuhns	1

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

Sample Description: MW-11-06052015 Grab Water
BP 5544
19918 68th Ave S - Kent, WA

LL Sample # WW 7920872
LL Group # 1567600
Account # 13255

Project Name: WA-5544

Collected: 06/05/2015 10:33 by CP

Submitted: 06/09/2015 10:00
Reported: 06/22/2015 13:32

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

KNT11

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	Methyl Tertiary Butyl Ether	1634-04-4	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/MS Semivolatiles	**SW-846 8270C SIM**		**ug/l**	**ug/l**	**ug/l**	
08357	Benzo(a)anthracene	56-55-3	N.D.	0.010	0.052	1
08357	Benzo(a)pyrene	50-32-8	N.D.	0.010	0.052	1
08357	Benzo(b)fluoranthene	205-99-2	N.D.	0.010	0.052	1
08357	Benzo(k)fluoranthene	207-08-9	N.D.	0.010	0.052	1
08357	Chrysene	218-01-9	N.D.	0.010	0.052	1
08357	Dibenz(a,h)anthracene	53-70-3	N.D.	0.010	0.052	1
08357	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.010	0.052	1
08357	1-Methylnaphthalene	90-12-0	N.D.	0.010	0.052	1
08357	2-Methylnaphthalene	91-57-6	N.D.	0.010	0.052	1
08357	Naphthalene	91-20-3	N.D.	0.031	0.062	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
GC Petroleum Hydrocarbons w/Si	**ECY 97-602 NWTPH-Dx modified**		**ug/l**	**ug/l**	**ug/l**	
02211	DRO C12-C24 w/Si Gel	n.a.	N.D.	28	95	1
02211	HRO C24-C40 w/Si Gel	n.a.	N.D.	66	240	1
Metals	**SW-846 6020**		**ug/l**	**ug/l**	**ug/l**	
06035	Lead	7439-92-1	1.2	0.082	1.0	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/MTBE	SW-846 8260B	1	L151681AA	06/17/2015 10:36	Stephanie A Selis	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	L151681AA	06/17/2015 10:36	Stephanie A Selis	1
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	15163WAZ026	06/17/2015 18:09	Holly B Ziegler	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	15163WAZ026	06/12/2015 17:00	Ryan A Schafran	1

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

Sample Description: MW-11-06052015 Grab Water
BP 5544
19918 68th Ave S - Kent, WA

LL Sample # WW 7920872
LL Group # 1567600
Account # 13255

Project Name: WA-5544

Collected: 06/05/2015 10:33 by CP

Submitted: 06/09/2015 10:00
Reported: 06/22/2015 13:32

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

KNT11

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	15162A53A	06/11/2015 14:33	Marie D Beamenderfer	1
01146	GC VOA Water Prep	SW-846 5030B	1	15162A53A	06/11/2015 14:33	Marie D Beamenderfer	1
02211	NWTPH-Dx water w/Si Gel	ECY 97-602 NWTPH-Dx modified	1	151610035A	06/15/2015 21:28	Christine E Dolman	1
02135	Extraction - DRO Water Special	ECY 97-602 NWTPH-Dx 06/97	1	151610035A	06/11/2015 09:30	David S Schrum	1
06035	Lead	SW-846 6020	1	151636050001A	06/17/2015 07:37	Choon Y Tian	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	151636050001	06/15/2015 23:30	Annamaria Kuhns	1

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

Sample Description: MW-12-06052015 Grab Water
BP 5544
19918 68th Ave S - Kent, WA

LL Sample # WW 7920874
LL Group # 1567600
Account # 13255

Project Name: WA-5544

Collected: 06/05/2015 11:42 by CP

Submitted: 06/09/2015 10:00
Reported: 06/22/2015 13:32

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

KNT12

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	120		0.50	1.0	1
10335	Ethylbenzene	100-41-4	610		5.0	10	10
10335	Methyl Tertiary Butyl Ether	1634-04-4	N.D.		0.50	1.0	1
10335	Toluene	108-88-3	3.2		0.50	1.0	1
10335	Xylene (Total)	1330-20-7	480		0.50	1.0	1
GC/MS Semivolatiles	**SW-846 8270C SIM**		**ug/l**		**ug/l**	**ug/l**	
08357	Benzo(a)anthracene	56-55-3	N.D.		0.010	0.051	1
08357	Benzo(a)pyrene	50-32-8	N.D.		0.010	0.051	1
08357	Benzo(b)fluoranthene	205-99-2	N.D.		0.010	0.051	1
08357	Benzo(k)fluoranthene	207-08-9	N.D.		0.010	0.051	1
08357	Chrysene	218-01-9	N.D.		0.010	0.051	1
08357	Dibenz(a,h)anthracene	53-70-3	N.D.		0.010	0.051	1
08357	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.		0.010	0.051	1
08357	1-Methylnaphthalene	90-12-0	1.8		0.010	0.051	1
08357	2-Methylnaphthalene	91-57-6	0.082		0.010	0.051	1
08357	Naphthalene	91-20-3	12		0.31	0.61	10
GC Volatiles	**ECY 97-602 NWTPH-Gx**		**ug/l**		**ug/l**	**ug/l**	
08273	NWTPH-Gx water C7-C12	n.a.	4,800		50	250	1
GC Petroleum Hydrocarbons w/Si	**ECY 97-602 NWTPH-Dx modified**		**ug/l**		**ug/l**	**ug/l**	
02211	DRO C12-C24 w/Si Gel	n.a.	570		28	95	1
02211	HRO C24-C40 w/Si Gel	n.a.	N.D.		66	240	1
Metals	**SW-846 6020**		**ug/l**		**ug/l**	**ug/l**	
06035	Lead	7439-92-1	0.30	J	0.082	1.0	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/MTBE	SW-846 8260B	1	L151681AA	06/17/2015 10:57	Stephanie A Selis	1
10335	VOCs 8260 BTEX/MTBE	SW-846 8260B	1	L151681AA	06/17/2015 11:19	Stephanie A Selis	10
01163	GC/MS VOA Water Prep	SW-846 5030B	1	L151681AA	06/17/2015 10:57	Stephanie A Selis	1
01163	GC/MS VOA Water Prep	SW-846 5030B	2	L151681AA	06/17/2015 11:19	Stephanie A Selis	10
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	15163WAZ026	06/17/2015 18:38	Holly B Ziegler	1

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

Sample Description: MW-12-06052015 Grab Water
BP 5544
19918 68th Ave S - Kent, WA

LL Sample # WW 7920874
LL Group # 1567600
Account # 13255

Project Name: WA-5544

Collected: 06/05/2015 11:42 by CP

Submitted: 06/09/2015 10:00
Reported: 06/22/2015 13:32

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

KNT12

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	15163WAZ026	06/18/2015 01:01	Catherine E Bachman	10
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	15163WAZ026	06/12/2015 17:00	Ryan A Schafran	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	15162A53A	06/11/2015 18:15	Marie D Beamenderfer	1
01146	GC VOA Water Prep	SW-846 5030B	1	15162A53A	06/11/2015 18:15	Marie D Beamenderfer	1
02211	NWTPH-Dx water w/Si Gel	ECY 97-602 NWTPH-Dx modified	1	151610035A	06/12/2015 22:30	Christine E Dolman	1
02135	Extraction - DRO Water Special	ECY 97-602 NWTPH-Dx 06/97	1	151610035A	06/11/2015 09:30	David S Schrum	1
06035	Lead	SW-846 6020	1	151636050001A	06/17/2015 07:39	Choon Y Tian	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	151636050001	06/15/2015 23:30	Annamaria Kuhns	1

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

Sample Description: MW-13-06052015 Grab Water
BP 5544
19918 68th Ave S - Kent, WA

LL Sample # WW 7920876
LL Group # 1567600
Account # 13255

Project Name: WA-5544

Collected: 06/05/2015 12:40 by CP

Submitted: 06/09/2015 10:00
Reported: 06/22/2015 13:32

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

KNT13

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	1.0		0.50	1.0	1
10335	Ethylbenzene	100-41-4	80		0.50	1.0	1
10335	Methyl Tertiary Butyl Ether	1634-04-4	17		0.50	1.0	1
10335	Toluene	108-88-3	0.71	J	0.50	1.0	1
10335	Xylene (Total)	1330-20-7	470		0.50	1.0	1
GC/MS Semivolatiles	**SW-846 8270C SIM**		**ug/l**		**ug/l**	**ug/l**	
08357	Benzo(a)anthracene	56-55-3	N.D.		0.10	0.51	10
08357	Benzo(a)pyrene	50-32-8	N.D.		0.10	0.51	10
08357	Benzo(b)fluoranthene	205-99-2	N.D.		0.10	0.51	10
08357	Benzo(k)fluoranthene	207-08-9	N.D.		0.10	0.51	10
08357	Chrysene	218-01-9	N.D.		0.10	0.51	10
08357	Dibenz(a,h)anthracene	53-70-3	N.D.		0.10	0.51	10
08357	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.		0.10	0.51	10
08357	1-Methylnaphthalene	90-12-0	28		0.10	0.51	10
08357	2-Methylnaphthalene	91-57-6	29		0.10	0.51	10
08357	Naphthalene	91-20-3	190		3.0	6.1	100
GC Volatiles	**ECY 97-602 NWTPH-Gx**		**ug/l**		**ug/l**	**ug/l**	
08273	NWTPH-Gx water C7-C12	n.a.	9,200		250	1,300	5
GC Petroleum Hydrocarbons w/Si	**ECY 97-602 NWTPH-Dx modified**		**ug/l**		**ug/l**	**ug/l**	
02211	DRO C12-C24 w/Si Gel	n.a.	1,000		28	95	1
02211	HRO C24-C40 w/Si Gel	n.a.	N.D.		66	240	1
Metals	**SW-846 6020**		**ug/l**		**ug/l**	**ug/l**	
06035	Lead	7439-92-1	0.19	J	0.082	1.0	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/MTBE	SW-846 8260B	1	L151681AA	06/17/2015 11:41	Stephanie A Selis	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	L151681AA	06/17/2015 11:41	Stephanie A Selis	1
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	15163WAZ026	06/18/2015 01:29	Catherine E Bachman	10
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	15163WAZ026	06/18/2015 01:57	Catherine E Bachman	100

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

Sample Description: MW-13-06052015 Grab Water
BP 5544
19918 68th Ave S - Kent, WA

LL Sample # WW 7920876
LL Group # 1567600
Account # 13255

Project Name: WA-5544

Collected: 06/05/2015 12:40 by CP

Submitted: 06/09/2015 10:00
Reported: 06/22/2015 13:32

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

KNT13

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	15163WAZ026	06/12/2015 17:00	Ryan A Schafran	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	15162A53A	06/11/2015 21:01	Marie D Beamenderfer	5
01146	GC VOA Water Prep	SW-846 5030B	1	15162A53A	06/11/2015 21:01	Marie D Beamenderfer	5
02211	NWTPH-Dx water w/Si Gel	ECY 97-602 NWTPH-Dx modified	1	151610035A	06/15/2015 21:50	Christine E Dolman	1
02135	Extraction - DRO Water Special	ECY 97-602 NWTPH-Dx 06/97	1	151610035A	06/11/2015 09:30	David S Schrum	1
06035	Lead	SW-846 6020	1	151636050001A	06/17/2015 07:41	Choon Y Tian	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	151636050001	06/15/2015 23:30	Annamaria Kuhns	1

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

Sample Description: BD-5544-06052015 Grab Water
BP 5544
19918 68th Ave S - Kent, WA

LL Sample # WW 7920878
LL Group # 1567600
Account # 13255

Project Name: WA-5544

Collected: 06/05/2015 by CP

Submitted: 06/09/2015 10:00
Reported: 06/22/2015 13:32

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

KNTBD

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	3.5		0.50	1.0	1
10335	Ethylbenzene	100-41-4	520		5.0	10	10
10335	Methyl Tertiary Butyl Ether	1634-04-4	0.56	J	0.50	1.0	1
10335	Toluene	108-88-3	1.3		0.50	1.0	1
10335	Xylene (Total)	1330-20-7	590		0.50	1.0	1
GC/MS Semivolatiles	**SW-846 8270C SIM**		**ug/l**		**ug/l**	**ug/l**	
08357	Benzo(a)anthracene	56-55-3	N.D.		0.10	0.51	10
08357	Benzo(a)pyrene	50-32-8	N.D.		0.10	0.51	10
08357	Benzo(b)fluoranthene	205-99-2	N.D.		0.10	0.51	10
08357	Benzo(k)fluoranthene	207-08-9	N.D.		0.10	0.51	10
08357	Chrysene	218-01-9	N.D.		0.10	0.51	10
08357	Dibenz(a,h)anthracene	53-70-3	N.D.		0.10	0.51	10
08357	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.		0.10	0.51	10
08357	1-Methylnaphthalene	90-12-0	22		0.10	0.51	10
08357	2-Methylnaphthalene	91-57-6	23		0.10	0.51	10
08357	Naphthalene	91-20-3	200		3.0	6.1	100
GC Volatiles	**ECY 97-602 NWTPH-Gx**		**ug/l**		**ug/l**	**ug/l**	
08273	NWTPH-Gx water C7-C12	n.a.	7,700		250	1,300	5
GC Petroleum Hydrocarbons w/Si	**ECY 97-602 NWTPH-Dx modified**		**ug/l**		**ug/l**	**ug/l**	
02211	DRO C12-C24 w/Si Gel	n.a.	2,700		29	95	1
02211	HRO C24-C40 w/Si Gel	n.a.	N.D.		67	240	1
Metals	**SW-846 6020**		**ug/l**		**ug/l**	**ug/l**	
06035	Lead	7439-92-1	0.34	J	0.082	1.0	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/MTBE	SW-846 8260B	1	L151681AA	06/17/2015 12:03	Stephanie A Selis	1
10335	VOCs 8260 BTEX/MTBE	SW-846 8260B	1	L151681AA	06/17/2015 12:25	Stephanie A Selis	10
01163	GC/MS VOA Water Prep	SW-846 5030B	1	L151681AA	06/17/2015 12:03	Stephanie A Selis	1
01163	GC/MS VOA Water Prep	SW-846 5030B	2	L151681AA	06/17/2015 12:25	Stephanie A Selis	10
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	15163WAZ026	06/18/2015 02:26	Catherine E Bachman	10

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

Sample Description: BD-5544-06052015 Grab Water
BP 5544
19918 68th Ave S - Kent, WA

LL Sample # WW 7920878
LL Group # 1567600
Account # 13255

Project Name: WA-5544

Collected: 06/05/2015 by CP

Submitted: 06/09/2015 10:00
Reported: 06/22/2015 13:32

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

KNTBD

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	15163WAZ026	06/18/2015 02:54	Catherine E Bachman	100
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	15163WAZ026	06/12/2015 17:00	Ryan A Schafran	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	15162A53A	06/11/2015 21:29	Marie D Beamenderfer	5
01146	GC VOA Water Prep	SW-846 5030B	1	15162A53A	06/11/2015 21:29	Marie D Beamenderfer	5
02211	NWTPH-Dx water w/Si Gel	ECY 97-602 NWTPH-Dx modified	1	151610035A	06/15/2015 22:11	Christine E Dolman	1
02135	Extraction - DRO Water Special	ECY 97-602 NWTPH-Dx 06/97	1	151610035A	06/11/2015 09:30	David S Schrum	1
06035	Lead	SW-846 6020	1	151636050001A	06/17/2015 07:43	Choon Y Tian	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	151636050001	06/15/2015 23:30	Annamaria Kuhns	1

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

Quality Control Summary

Client Name: Atlantic Richfield c/o ARCADIS Group Number: 1567600
Reported: 06/22/2015 13:32

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

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

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL**	Blank LOQ	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: L151681AA	Sample number(s): 7920862,7920864,7920866,7920868,7920870,7920872,7920874,7920876,7920878								
Benzene	N.D.	0.50	1.0	ug/l	102		78-120		
Ethylbenzene	N.D.	0.50	1.0	ug/l	104		80-120		
Methyl Tertiary Butyl Ether	N.D.	0.50	1.0	ug/l	98		75-120		
Toluene	N.D.	0.50	1.0	ug/l	104		80-120		
Xylene (Total)	N.D.	0.50	1.0	ug/l	105		80-120		
Batch number: 15163WAZ026	Sample number(s): 7920862,7920864,7920866,7920868,7920870,7920872,7920874,7920876,7920878								
Benzo(a)anthracene	N.D.	0.010	0.050	ug/l	94	91	71-127	3	30
Benzo(a)pyrene	N.D.	0.010	0.050	ug/l	92	93	64-132	2	30
Benzo(b)fluoranthene	N.D.	0.010	0.050	ug/l	98	97	71-139	1	30
Benzo(k)fluoranthene	N.D.	0.010	0.050	ug/l	97	100	63-136	3	30
Chrysene	N.D.	0.010	0.050	ug/l	94	97	72-132	3	30
Dibenz(a,h)anthracene	N.D.	0.010	0.050	ug/l	98	98	37-142	0	30
Indeno(1,2,3-cd)pyrene	N.D.	0.010	0.050	ug/l	96	95	45-136	1	30
1-Methylnaphthalene	N.D.	0.010	0.050	ug/l	86	88	65-122	2	30
2-Methylnaphthalene	N.D.	0.010	0.050	ug/l	81	82	59-124	1	30
Naphthalene	N.D.	0.030	0.060	ug/l	83	84	69-119	1	30
Batch number: 15162A53A	Sample number(s): 7920866,7920868,7920870,7920872,7920874,7920876,7920878								
NWTPH-Gx water C7-C12	N.D.	50.	250	ug/l	101	99	80-123	2	30
Batch number: 15163A53A	Sample number(s): 7920862,7920864								
NWTPH-Gx water C7-C12	N.D.	50.	250	ug/l	102	104	80-123	1	30
Batch number: 151610035A	Sample number(s): 7920862,7920864,7920866,7920868,7920870,7920872,7920874,7920876,7920878								
DRO C12-C24 w/Si Gel	N.D.	30.	100	ug/l	76	82	32-117	8	20
HRO C24-C40 w/Si Gel	N.D.	70.	250	ug/l					
Batch number: 151626050001A	Sample number(s): 7920862								
Lead	N.D.	0.082	1.0	ug/l	103		80-120		
Batch number: 151636050001A	Sample number(s): 7920864,7920866,7920868,7920870,7920872,7920874,7920876,7920878								
Lead	0.38 J	0.082	1.0	ug/l	101		80-120		

Sample Matrix Quality Control

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

Quality Control Summary

Client Name: Atlantic Richfield c/o ARCADIS Group Number: 1567600
Reported: 06/22/2015 13:32
Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc		DUP Conc		DUP RPD	Dup RPD Max
Batch number: L151681AA	Sample number(s): 7920862,7920864,7920866,7920868,7920870,7920872,7920874,7920876,7920878 UNSPK: P918686										
Benzene	106	107	72-134	1	30						
Ethylbenzene	108	110	71-134	2	30						
Methyl Tertiary Butyl Ether	97	99	72-126	3	30						
Toluene	108	110	80-125	2	30						
Xylene (Total)	109	110	79-125	2	30						
Batch number: 151626050001A	Sample number(s): 7920862 UNSPK: 7920862 BKG: 7920862										
Lead	104	105	75-125	1	20	0.32	J	0.32	J	1 (1)	20
Batch number: 151636050001A	Sample number(s): 7920864,7920866,7920868,7920870,7920872,7920874,7920876,7920878 UNSPK: P924123 BKG: P924123										
Lead	103	102	75-125	0	20	0.40	J	0.41	J	3 (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/MTBE
Batch number: L151681AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
7920862	99	101	99	95
7920864	99	100	99	97
7920866	99	100	99	96
7920868	99	100	100	97
7920870	98	102	99	97
7920872	98	100	98	96
7920874	100	99	99	96
7920876	97	98	100	96
7920878	99	100	99	96
Blank	99	100	98	96
LCS	101	100	99	97
MS	100	100	100	97
MSD	98	99	99	97
Limits:	80-116	77-113	80-113	78-113

Analysis Name: PAHs in waters by SIM
Batch number: 15163WAZ026

	Fluoranthene-d10	Benzo(a)pyrene-d12	1-Methylnaphthalene-d10
7920862	125	97	127
7920864	87	100	98
7920866	109	82	111
7920868	109	105	97
7920870	109	106	92

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

Quality Control Summary

Client Name: Atlantic Richfield c/o ARCADIS Group Number: 1567600
Reported: 06/22/2015 13:32

Surrogate Quality Control

7920872	103	82	89
7920874	112	95	91
7920876	100	72	98
7920878	101	84	113
Blank	105	104	92
LCS	111	110	94
LCSD	104	107	91
Limits:	56-134	26-158	52-127

Analysis Name: NWTPH-Gx water C7-C12
Batch number: 15162A53A

	Trifluorotoluene-F
7920866	102
7920868	112
7920870	109
7920872	97
7920874	104
7920876	100
7920878	99
Blank	109
LCS	113
LCSD	113
Limits:	63-135

Analysis Name: NWTPH-Gx water C7-C12
Batch number: 15163A53A

	Trifluorotoluene-F
7920862	102
7920864	112
Blank	116
LCS	111
LCSD	115
Limits:	63-135

Analysis Name: NWTPH-Dx water w/Si Gel
Batch number: 151610035A

	Orthoterphenyl
7920862	112
7920864	102
7920866	107
7920868	88
7920870	93
7920872	93
7920874	101
7920876	98
7920878	72
Blank	83
LCS	94
LCSD	99
Limits:	50-150

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

Revised COC

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

Section A – Required Client Information:

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

Section B – Required Project Information:

Report To:	Ryan Brauchla
Copy To:	
Purchase Order No.	
Client Project ID:	ARCO 5544
Project Number:	GP09BPNA.WA39.N0000

Section C – Invoice Information:

Attention:	Ryan Brauchla
Company Name:	ARCADIS
Address:	1100 Olive Way Suite 800, Seattle, WA
Lancaster Project Manager	Stacy Butt
Lancaster Profile #	

Regulatory Agency: State / Location: WA

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

ITEM#	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test (Y/N)	GRO (NWTPH-Gx)	BTEX (8260B)	MTBE (8260B)	DRO (NWTPH-Dx) w/SGC	HO (NWTPH-Dx) w/SGC	Total Lead (6020)	**Dissolved Lead (6020)	cPAHs (8270c SIM)	Residual Chlorine (Y/N)	**Dissolved Lead On Hold pending total lead results. Contact Arcadis for instructions. Dissolved lead to be lab filtered.
1	MW-2-06052015	WT	G			6/5/15	0933		12	X		X	X						X	X	X	X	X	X	X	
2	MW-5-06052015	WT	G				0906		12	X		X	X						X	X	X	X	X	X	X	
3	MW-6-06052015	WT	G				1855		12	X		X	X						X	X	X	X	X	X	X	
4	MW-9-06052015	WT	G				1112		12	X		X	X						X	X	X	X	X	X	X	
5	MW-10-06052015	WT	G				1310		12	X		X	X						X	X	X	X	X	X	X	
6	MW-11-06052015	WT	G				1033		12	X		X	X						X	X	X	X	X	X	X	
7	MW-12-06052015	WT	G				1142		12	X		X	X						X	X	X	X	X	X	X	
8	MW-13-06052015	WT	G				1240		12	X		X	X						X	X	X	X	X	X	X	
9	BD-5544-06052015	WT	G				-		12	X		X	X						X	X	X	X	X	X	X	
10	TB-5544-06052015	WT				↓	0715		2				X						X	X	X					on Hold
11																										
12																										

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	Craig Petar	6/5/15	1500							

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Craig Petar

SIGNATURE of SAMPLER: Craig Petar

DATE Signed: 6/5/15

See revised COC

A-13255
G-1567600
S-7920862-80

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	ARCADIS	Report To:	Ryan Brauchla	Attention:	Ryan Brauchla
Address:	1100 Olive Way Suite 800	Copy To:		Company Name:	ARCADIS
	Seattle, WA 98101			Address:	1100 Olive Way Suite 800, Seattle, WA
Email To:	ryan.brauchla@arcadis-us.com	Purchase Order No.			
Phone:	206-726-4720 Fax 206-325-8218	Client Project ID:	ARCO 5544	Lancaster Project Manager	Stacy Butt
Requested Due Date/TAT:	10 Day (Default)	Project Number:	GP09BPNA.WA39.N0000	Lancaster Profile #	

Regulatory Agency
State / Location
WA

SAMPLE ID: One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique

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

Collection columns: MATRIX CODE (see valid codes to left); SAMPLE TYPE (G=GRAB C=COMP); COLLECTED START DATE/TIME, END DATE/TIME; SAMPLE TEMP AT COLLECTION; # OF CONTAINERS. Preservative columns printed but not used: H2SO4, NaOH, Na2S2O3, Methanol, Other.

ITEM#	SAMPLE ID	MATRIX CODE	SAMPLE TYPE	START DATE	START TIME	END DATE	END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	HNO3	HCl
1	MW-2-06052015	WT	G			6/5/15	0953		12	X	X	X
2	MW-5-06052015	WT	G			↓	0906		12	X	X	X
3	MW-6-06052015	WT	G			↓	1355		12	X	X	X
4	MW-9-06052015	WT	G			↓	1112		12	X	X	X
5	MW-10-06052015	WT	G			↓	1310		12	X	X	X
6	MW-11-06052015	WT	G			↓	1033		12	X	X	X
7	MW-12-06052015	WT	G			↓	1142		12	X	X	X
8	MW-13-06052015	WT	G			↓	1240		12	X	X	X
9	BD-5544-06052015	WT	G			↓	-		12	X	X	X
10	TB-5544-06052015	WT				↓	0715		2			X
11												
12												

Analyses Test (Y/N); Requested Analysis Filtered (Y/N). Residual Chlorine (Y/N) column not filled in.

ITEM#	GRO (NWTPH-Gx)	BTEX (8260B)	MTBE (8260B)	DRO (NWTPH-Dx) w/SGC	HO (NWTPH-Dx) w/SGC	Total Lead (6020)	**Dissolved Lead (6020)	**Dissolved Lead On Hold pending total lead results. Contact Arcadis for instructions. Dissolved lead to be lab filtered.
1	X	X	X	X	X	X	X	
2	X	X	X	X	X	X	X	
3	X	X	X	X	X	X	X	
4	X	X	X	X	X	X	X	
5	X	X	X	X	X	X	X	
6	X	X	X	X	X	X	X	
7	X	X	X	X	X	X	X	
8	X	X	X	X	X	X	X	
9	X	X	X	X	X	X	X	
10	X	X	X					on Hold
11								
12								

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
	Craig Pet[illegible]	6/5/15	1500	[illegible signature] / ELLE	6/8/15	10:45
				C. Eshl[illegible] ELLE	6/9/15	1000

SAMPLE CONDITIONS

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

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Craig Peters

SIGNATURE of SAMPLER: Craig Pet[illegible] DATE Signed: 6/5/15

eurofins | Lancaster Laboratories Environmental

Sample Administration Receipt Documentation Log

Doc Log ID: 75298

Group Number(s): 1567600

Client: ARCADIS

ARCO 5544

Delivery and Receipt Information

Delivery Method:	SeaTac	Arrival Timestamp:	06/09/2015 10:00
Number of Packages:	4	Number of Projects:	1
State/Province of Origin:	WA		

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 ≥ 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 Corey Eshleman (3647) at 10:49 on 06/09/2015

Samples Chilled Details: ARCO 5544

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	2.0	DT	Wet	Y	Bagged	N
2	DT121	1.4	DT	Wet	Y	Bagged	N
3	DT121	2.2	DT	Wet	Y	Bagged	N
4	DT121	0.5	DT	Wet	Y	Bagged	N

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

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 ≥ 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, ISO17025) 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.

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

January 06, 2016

Project: WA-5544

Submittal Date: 12/18/2015
Group Number: 1618843
PO Number: GP09BPNA.WA39
State of Sample Origin: WA

Client Sample Description	Lancaster Labs (LL) #
MW-2-12152015 Grab Water	8182964
MW-5-12152015 Grab Water	8182965
MW-6-12152015 Grab Water	8182966
MW-9-12152015 Grab Water	8182967
MW-10-12152015 Grab Water	8182968
MW-11-12152015 Grab Water	8182969
MW-12-12152015 Grab Water	8182970
MW-13-12152015 Grab Water	8182971
BD-5544-12152015 Grab Water	8182972

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-5544
LL Group #: 1618843

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-2-12152015 Grab Water
WA-5544
19918 68th Ave S - Kent, WA

LL Sample # WW 8182964
LL Group # 1618843
Account # 13255

Project Name: WA-5544

Collected: 12/15/2015 15:20 by CP

Submitted: 12/18/2015 10:15
Reported: 01/06/2016 13:47

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

68KM2

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	0.50	J	0.50	1.0	1
10335	Ethylbenzene	100-41-4	27		0.50	1.0	1
10335	Methyl Tertiary Butyl Ether	1634-04-4	1.2		0.50	1.0	1
10335	Toluene	108-88-3	N.D.		0.50	1.0	1
10335	Xylene (Total)	1330-20-7	5.8		0.50	1.0	1
GC/MS Semivolatiles	**SW-846 8270C SIM**		**ug/l**		**ug/l**	**ug/l**	
08357	Benzo(a)anthracene	56-55-3	N.D.		0.010	0.051	1
08357	Benzo(a)pyrene	50-32-8	N.D.		0.010	0.051	1
08357	Benzo(b)fluoranthene	205-99-2	0.019	J	0.010	0.051	1
08357	Benzo(k)fluoranthene	207-08-9	0.015	J	0.010	0.051	1
08357	Chrysene	218-01-9	N.D.		0.010	0.051	1
08357	Dibenz(a,h)anthracene	53-70-3	0.026	J	0.010	0.051	1
08357	Indeno(1,2,3-cd)pyrene	193-39-5	0.026	J	0.010	0.051	1
08357	1-Methylnaphthalene	90-12-0	4.3		0.010	0.051	1
08357	2-Methylnaphthalene	91-57-6	0.39		0.010	0.051	1
08357	Naphthalene	91-20-3	2.2		0.031	0.061	1
GC Volatiles	**ECY 97-602 NWTPH-Gx**		**ug/l**		**ug/l**	**ug/l**	
08273	NWTPH-Gx water C7-C12	n.a.	830		50	250	1
GC Petroleum Hydrocarbons w/Si	**ECY 97-602 NWTPH-Dx modified**		**ug/l**		**ug/l**	**ug/l**	
02211	DRO C12-C24 w/Si Gel	n.a.	140		28	94	1
02211	HRO C24-C40 w/Si Gel	n.a.	N.D.		66	240	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/MTBE	SW-846 8260B	1	N153601AA	12/26/2015 18:07	Kathrine K Muramatsu	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	N153601AA	12/26/2015 18:07	Kathrine K Muramatsu	1
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	15355WAC026	01/05/2016 03:47	Kelli M Barto	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	15355WAC026	12/21/2015 23:00	Nicholas W Shroyer	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	15355A53A	12/22/2015 15:58	Jeremy C Giffin	1
01146	GC VOA Water Prep	SW-846 5030B	1	15355A53A	12/22/2015 15:58	Jeremy C Giffin	1

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

Sample Description: MW-2-12152015 Grab Water
WA-5544
19918 68th Ave S - Kent, WA

LL Sample # WW 8182964
LL Group # 1618843
Account # 13255

Project Name: WA-5544

Collected: 12/15/2015 15:20 by CP

Submitted: 12/18/2015 10:15
Reported: 01/06/2016 13:47

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

68KM2

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02211	NWTPH-Dx water w/Si Gel	ECY 97-602 NWTPH-Dx modified	1	153580009A	12/28/2015 20:43	Thomas C Wildermuth	1
02135	Extraction - DRO Water Special	ECY 97-602 NWTPH-Dx 06/97	1	153580009A	12/27/2015 08:10	Denise L Trimby	1

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

Sample Description: MW-5-12152015 Grab Water
WA-5544
19918 68th Ave S - Kent, WA

LL Sample # WW 8182965
LL Group # 1618843
Account # 13255

Project Name: WA-5544

Collected: 12/15/2015 15:55 by CP

Submitted: 12/18/2015 10:15
Reported: 01/06/2016 13:47

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

68KM5

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	Methyl Tertiary Butyl Ether	1634-04-4	85		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/MS Semivolatiles	**SW-846 8270C SIM**		**ug/l**		**ug/l**	**ug/l**	
08357	Benzo(a)anthracene	56-55-3	N.D.		0.010	0.051	1
08357	Benzo(a)pyrene	50-32-8	N.D.		0.010	0.051	1
08357	Benzo(b)fluoranthene	205-99-2	N.D.		0.010	0.051	1
08357	Benzo(k)fluoranthene	207-08-9	N.D.		0.010	0.051	1
08357	Chrysene	218-01-9	N.D.		0.010	0.051	1
08357	Dibenz(a,h)anthracene	53-70-3	N.D.		0.010	0.051	1
08357	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.		0.010	0.051	1
08357	1-Methylnaphthalene	90-12-0	0.055		0.010	0.051	1
08357	2-Methylnaphthalene	91-57-6	N.D.		0.010	0.051	1
08357	Naphthalene	91-20-3	0.22		0.030	0.061	1
GC Volatiles	**ECY 97-602 NWTPH-Gx**		**ug/l**		**ug/l**	**ug/l**	
08273	NWTPH-Gx water C7-C12	n.a.	73	J	50	250	1
GC Petroleum Hydrocarbons w/Si	**ECY 97-602 NWTPH-Dx modified**		**ug/l**		**ug/l**	**ug/l**	
02211	DRO C12-C24 w/Si Gel	n.a.	N.D.		28	94	1
02211	HRO C24-C40 w/Si Gel	n.a.	N.D.		66	230	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/MTBE	SW-846 8260B	1	N153601AA	12/26/2015 18:31	Kathrine K Muramatsu	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	N153601AA	12/26/2015 18:31	Kathrine K Muramatsu	1
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	15355WAC026	01/05/2016 04:14	Kelli M Barto	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	15355WAC026	12/21/2015 23:00	Nicholas W Shroyer	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	15355A53A	12/22/2015 16:26	Jeremy C Giffin	1
01146	GC VOA Water Prep	SW-846 5030B	1	15355A53A	12/22/2015 16:26	Jeremy C Giffin	1

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

Sample Description: MW-5-12152015 Grab Water
WA-5544
19918 68th Ave S - Kent, WA

LL Sample # WW 8182965
LL Group # 1618843
Account # 13255

Project Name: WA-5544

Collected: 12/15/2015 15:55 by CP

Submitted: 12/18/2015 10:15
Reported: 01/06/2016 13:47

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

68KM5

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02211	NWTPH-Dx water w/Si Gel	ECY 97-602 NWTPH-Dx modified	1	153580009A	12/28/2015 20:21	Thomas C Wildermuth	1
02135	Extraction - DRO Water Special	ECY 97-602 NWTPH-Dx 06/97	1	153580009A	12/27/2015 08:10	Denise L Trimby	1

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

Sample Description: MW-6-12152015 Grab Water
WA-5544
19918 68th Ave S - Kent, WA

LL Sample # WW 8182966
LL Group # 1618843
Account # 13255

Project Name: WA-5544

Collected: 12/15/2015 15:00 by CP

Submitted: 12/18/2015 10:15
Reported: 01/06/2016 13:47

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

68KM6

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	0.89	J	0.50	1.0	1
10335	Ethylbenzene	100-41-4	6.6		0.50	1.0	1
10335	Methyl Tertiary Butyl Ether	1634-04-4	7.7		0.50	1.0	1
10335	Toluene	108-88-3	N.D.		0.50	1.0	1
10335	Xylene (Total)	1330-20-7	3.8		0.50	1.0	1
GC/MS Semivolatiles	**SW-846 8270C SIM**		**ug/l**		**ug/l**	**ug/l**	
08357	Benzo(a)anthracene	56-55-3	N.D.		0.010	0.051	1
08357	Benzo(a)pyrene	50-32-8	N.D.		0.010	0.051	1
08357	Benzo(b)fluoranthene	205-99-2	N.D.		0.010	0.051	1
08357	Benzo(k)fluoranthene	207-08-9	N.D.		0.010	0.051	1
08357	Chrysene	218-01-9	N.D.		0.010	0.051	1
08357	Dibenz(a,h)anthracene	53-70-3	N.D.		0.010	0.051	1
08357	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.		0.010	0.051	1
08357	1-Methylnaphthalene	90-12-0	8.8		0.010	0.051	1
08357	2-Methylnaphthalene	91-57-6	1.6		0.010	0.051	1
08357	Naphthalene	91-20-3	6.6		0.030	0.061	1
GC Volatiles	**ECY 97-602 NWTPH-Gx**		**ug/l**		**ug/l**	**ug/l**	
08273	NWTPH-Gx water C7-C12	n.a.	2,400		50	250	1
GC Petroleum Hydrocarbons w/Si	**ECY 97-602 NWTPH-Dx modified**		**ug/l**		**ug/l**	**ug/l**	
02211	DRO C12-C24 w/Si Gel	n.a.	170		28	94	1
02211	HRO C24-C40 w/Si Gel	n.a.	N.D.		66	240	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/MTBE	SW-846 8260B	1	N153601AA	12/26/2015 18:54	Kathrine K Muramatsu	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	N153601AA	12/26/2015 18:54	Kathrine K Muramatsu	1
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	15355WAC026	01/05/2016 04:40	Kelli M Barto	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	15355WAC026	12/21/2015 23:00	Nicholas W Shroyer	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	15355A53A	12/22/2015 19:13	Jeremy C Giffin	1
01146	GC VOA Water Prep	SW-846 5030B	1	15355A53A	12/22/2015 19:13	Jeremy C Giffin	1

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

Sample Description: MW-6-12152015 Grab Water
WA-5544
19918 68th Ave S - Kent, WA

LL Sample # WW 8182966
LL Group # 1618843
Account # 13255

Project Name: WA-5544

Collected: 12/15/2015 15:00 by CP

Submitted: 12/18/2015 10:15
Reported: 01/06/2016 13:47

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

68KM6

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02211	NWTPH-Dx water w/Si Gel	ECY 97-602 NWTPH-Dx modified	1	153580009A	12/28/2015 19:59	Thomas C Wildermuth	1
02135	Extraction - DRO Water Special	ECY 97-602 NWTPH-Dx 06/97	1	153580009A	12/27/2015 08:10	Denise L Trimby	1

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

Sample Description: MW-9-12152015 Grab Water
WA-5544
19918 68th Ave S - Kent, WA

LL Sample # WW 8182967
LL Group # 1618843
Account # 13255

Project Name: WA-5544

Collected: 12/15/2015 16:25 by CP

Submitted: 12/18/2015 10:15
Reported: 01/06/2016 13:47

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

68KM9

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	Methyl Tertiary Butyl Ether	1634-04-4	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/MS Semivolatiles	**SW-846 8270C SIM**		**ug/l**	**ug/l**	**ug/l**	
08357	Benzo(a)anthracene	56-55-3	N.D.	0.010	0.051	1
08357	Benzo(a)pyrene	50-32-8	N.D.	0.010	0.051	1
08357	Benzo(b)fluoranthene	205-99-2	N.D.	0.010	0.051	1
08357	Benzo(k)fluoranthene	207-08-9	N.D.	0.010	0.051	1
08357	Chrysene	218-01-9	N.D.	0.010	0.051	1
08357	Dibenz(a,h)anthracene	53-70-3	N.D.	0.010	0.051	1
08357	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.010	0.051	1
08357	1-Methylnaphthalene	90-12-0	N.D.	0.010	0.051	1
08357	2-Methylnaphthalene	91-57-6	N.D.	0.010	0.051	1
08357	Naphthalene	91-20-3	N.D.	0.030	0.061	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
GC Petroleum Hydrocarbons w/Si	**ECY 97-602 NWTPH-Dx modified**		**ug/l**	**ug/l**	**ug/l**	
02211	DRO C12-C24 w/Si Gel	n.a.	N.D.	28	94	1
02211	HRO C24-C40 w/Si Gel	n.a.	N.D.	66	230	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/MTBE	SW-846 8260B	1	W153601AA	12/26/2015 19:47	Kathrine K Muramatsu	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	W153601AA	12/26/2015 19:47	Kathrine K Muramatsu	1
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	15355WAC026	01/05/2016 05:07	Kelli M Barto	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	15355WAC026	12/21/2015 23:00	Nicholas W Shroyer	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	15355A53A	12/22/2015 19:41	Jeremy C Giffin	1
01146	GC VOA Water Prep	SW-846 5030B	1	15355A53A	12/22/2015 19:41	Jeremy C Giffin	1

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

Sample Description: MW-9-12152015 Grab Water
WA-5544
19918 68th Ave S - Kent, WA

LL Sample # WW 8182967
LL Group # 1618843
Account # 13255

Project Name: WA-5544

Collected: 12/15/2015 16:25 by CP

Submitted: 12/18/2015 10:15
Reported: 01/06/2016 13:47

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

68KM9

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02211	NWTPH-Dx water w/Si Gel	ECY 97-602 NWTPH-Dx modified	1	153580009A	12/28/2015 19:38	Thomas C Wildermuth	1
02135	Extraction - DRO Water Special	ECY 97-602 NWTPH-Dx 06/97	1	153580009A	12/27/2015 08:10	Denise L Trimby	1

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

Sample Description: MW-10-12152015 Grab Water
WA-5544
19918 68th Ave S - Kent, WA

LL Sample # WW 8182968
LL Group # 1618843
Account # 13255

Project Name: WA-5544

Collected: 12/15/2015 15:27 by CP

Submitted: 12/18/2015 10:15
Reported: 01/06/2016 13:47

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

68K10

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	Methyl Tertiary Butyl Ether	1634-04-4	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/MS Semivolatiles	**SW-846 8270C SIM**		**ug/l**	**ug/l**	**ug/l**	
08357	Benzo(a)anthracene	56-55-3	N.D.	0.010	0.050	1
08357	Benzo(a)pyrene	50-32-8	N.D.	0.010	0.050	1
08357	Benzo(b)fluoranthene	205-99-2	N.D.	0.010	0.050	1
08357	Benzo(k)fluoranthene	207-08-9	N.D.	0.010	0.050	1
08357	Chrysene	218-01-9	N.D.	0.010	0.050	1
08357	Dibenz(a,h)anthracene	53-70-3	N.D.	0.010	0.050	1
08357	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.010	0.050	1
08357	1-Methylnaphthalene	90-12-0	N.D.	0.010	0.050	1
08357	2-Methylnaphthalene	91-57-6	N.D.	0.010	0.050	1
08357	Naphthalene	91-20-3	N.D.	0.030	0.060	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
GC Petroleum Hydrocarbons w/Si	**ECY 97-602 NWTPH-Dx modified**		**ug/l**	**ug/l**	**ug/l**	
02211	DRO C12-C24 w/Si Gel	n.a.	N.D.	29	95	1
02211	HRO C24-C40 w/Si Gel	n.a.	N.D.	67	240	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/MTBE	SW-846 8260B	1	W153601AA	12/26/2015 20:11	Kathrine K Muramatsu	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	W153601AA	12/26/2015 20:11	Kathrine K Muramatsu	1
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	15355WAC026	01/05/2016 05:34	Kelli M Barto	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	15355WAC026	12/21/2015 23:00	Nicholas W Shroyer	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	15355A53A	12/22/2015 20:09	Jeremy C Giffin	1
01146	GC VOA Water Prep	SW-846 5030B	1	15355A53A	12/22/2015 20:09	Jeremy C Giffin	1

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

Sample Description: MW-10-12152015 Grab Water
WA-5544
19918 68th Ave S - Kent, WA

LL Sample # WW 8182968
LL Group # 1618843
Account # 13255

Project Name: WA-5544

Collected: 12/15/2015 15:27 by CP

Submitted: 12/18/2015 10:15
Reported: 01/06/2016 13:47

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

68K10

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02211	NWTPH-Dx water w/Si Gel	ECY 97-602 NWTPH-Dx modified	1	153580009A	12/28/2015 19:16	Thomas C Wildermuth	1
02135	Extraction - DRO Water Special	ECY 97-602 NWTPH-Dx 06/97	1	153580009A	12/27/2015 08:10	Denise L Trimby	1

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

Sample Description: MW-11-12152015 Grab Water
WA-5544
19918 68th Ave S - Kent, WA

LL Sample # WW 8182969
LL Group # 1618843
Account # 13255

Project Name: WA-5544

Collected: 12/15/2015 17:00 by CP

Submitted: 12/18/2015 10:15
Reported: 01/06/2016 13:47

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

68K11

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	Methyl Tertiary Butyl Ether	1634-04-4	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/MS Semivolatiles	**SW-846 8270C SIM**		**ug/l**	**ug/l**	**ug/l**	
08357	Benzo(a)anthracene	56-55-3	N.D.	0.010	0.050	1
08357	Benzo(a)pyrene	50-32-8	N.D.	0.010	0.050	1
08357	Benzo(b)fluoranthene	205-99-2	N.D.	0.010	0.050	1
08357	Benzo(k)fluoranthene	207-08-9	N.D.	0.010	0.050	1
08357	Chrysene	218-01-9	N.D.	0.010	0.050	1
08357	Dibenz(a,h)anthracene	53-70-3	N.D.	0.010	0.050	1
08357	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.010	0.050	1
08357	1-Methylnaphthalene	90-12-0	N.D.	0.010	0.050	1
08357	2-Methylnaphthalene	91-57-6	N.D.	0.010	0.050	1
08357	Naphthalene	91-20-3	N.D.	0.030	0.060	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
GC Petroleum Hydrocarbons w/Si	**ECY 97-602 NWTPH-Dx modified**		**ug/l**	**ug/l**	**ug/l**	
02211	DRO C12-C24 w/Si Gel	n.a.	N.D.	28	94	1
02211	HRO C24-C40 w/Si Gel	n.a.	N.D.	66	230	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/MTBE	SW-846 8260B	1	W153601AA	12/26/2015 20:34	Kathrine K Muramatsu	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	W153601AA	12/26/2015 20:34	Kathrine K Muramatsu	1
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	15355WAC026	01/05/2016 06:01	Kelli M Barto	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	15355WAC026	12/21/2015 23:00	Nicholas W Shroyer	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	15355A53A	12/22/2015 20:36	Jeremy C Giffin	1
01146	GC VOA Water Prep	SW-846 5030B	1	15355A53A	12/22/2015 20:36	Jeremy C Giffin	1

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

Sample Description: MW-11-12152015 Grab Water
WA-5544
19918 68th Ave S - Kent, WA

LL Sample # WW 8182969
LL Group # 1618843
Account # 13255

Project Name: WA-5544

Collected: 12/15/2015 17:00 by CP

Submitted: 12/18/2015 10:15
Reported: 01/06/2016 13:47

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

68K11

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02211	NWTPH-Dx water w/Si Gel	ECY 97-602 NWTPH-Dx modified	1	153580009A	12/28/2015 23:14	Thomas C Wildermuth	1
02135	Extraction - DRO Water Special	ECY 97-602 NWTPH-Dx 06/97	1	153580009A	12/27/2015 08:10	Denise L Trimby	1

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

Sample Description: MW-12-12152015 Grab Water
WA-5544
19918 68th Ave S - Kent, WA

LL Sample # WW 8182970
LL Group # 1618843
Account # 13255

Project Name: WA-5544

Collected: 12/15/2015 16:29 by CP

Submitted: 12/18/2015 10:15
Reported: 01/06/2016 13:47

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

68K12

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	10	0.50	1.0	1
10335	Ethylbenzene	100-41-4	51	0.50	1.0	1
10335	Methyl Tertiary Butyl Ether	1634-04-4	110	0.50	1.0	1
10335	Toluene	108-88-3	N.D.	0.50	1.0	1
10335	Xylene (Total)	1330-20-7	15	0.50	1.0	1
GC/MS Semivolatiles	**SW-846 8270C SIM**		**ug/l**	**ug/l**	**ug/l**	
08357	Benzo(a)anthracene	56-55-3	N.D.	0.010	0.051	1
08357	Benzo(a)pyrene	50-32-8	N.D.	0.010	0.051	1
08357	Benzo(b)fluoranthene	205-99-2	N.D.	0.010	0.051	1
08357	Benzo(k)fluoranthene	207-08-9	N.D.	0.010	0.051	1
08357	Chrysene	218-01-9	N.D.	0.010	0.051	1
08357	Dibenz(a,h)anthracene	53-70-3	N.D.	0.010	0.051	1
08357	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.010	0.051	1
08357	1-Methylnaphthalene	90-12-0	0.13	0.010	0.051	1
08357	2-Methylnaphthalene	91-57-6	0.084	0.010	0.051	1
08357	Naphthalene	91-20-3	9.1	0.031	0.061	1
GC Volatiles	**ECY 97-602 NWTPH-Gx**		**ug/l**	**ug/l**	**ug/l**	
08273	NWTPH-Gx water C7-C12	n.a.	550	50	250	1
GC Petroleum Hydrocarbons w/Si	**ECY 97-602 NWTPH-Dx modified**		**ug/l**	**ug/l**	**ug/l**	
02211	DRO C12-C24 w/Si Gel	n.a.	110	28	94	1
02211	HRO C24-C40 w/Si Gel	n.a.	N.D.	66	230	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/MTBE	SW-846 8260B	1	W153621AA	12/28/2015 17:48	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	W153621AA	12/28/2015 17:48	Daniel H Heller	1
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	15355WAC026	01/05/2016 06:28	Kelli M Barto	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	15355WAC026	12/21/2015 23:00	Nicholas W Shroyer	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	15355A53A	12/22/2015 21:04	Jeremy C Giffin	1
01146	GC VOA Water Prep	SW-846 5030B	1	15355A53A	12/22/2015 21:04	Jeremy C Giffin	1
02211	NWTPH-Dx water w/Si Gel	ECY 97-602 NWTPH-Dx modified	1	153580009A	12/28/2015 23:18	Thomas C Wildermuth	1

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

Sample Description: MW-12-12152015 Grab Water
WA-5544
19918 68th Ave S - Kent, WA

LL Sample # WW 8182970
LL Group # 1618843
Account # 13255

Project Name: WA-5544

Collected: 12/15/2015 16:29 by CP

Submitted: 12/18/2015 10:15
Reported: 01/06/2016 13:47

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

68K12

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02135	Extraction - DRO Water Special	ECY 97-602 NWTPH-Dx 06/97	1	153580009A	12/27/2015 08:10	Denise L Trimby	1

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

Sample Description: MW-13-12152015 Grab Water
WA-5544
19918 68th Ave S - Kent, WA

LL Sample # WW 8182971
LL Group # 1618843
Account # 13255

Project Name: WA-5544

Collected: 12/15/2015 15:56 by CP

Submitted: 12/18/2015 10:15
Reported: 01/06/2016 13:47

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

68K13

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	1.1	0.50	1.0	1
10335	Ethylbenzene	100-41-4	43	0.50	1.0	1
10335	Methyl Tertiary Butyl Ether	1634-04-4	13	0.50	1.0	1
10335	Toluene	108-88-3	N.D.	0.50	1.0	1
10335	Xylene (Total)	1330-20-7	150	0.50	1.0	1
GC/MS Semivolatiles	**SW-846 8270C SIM**		**ug/l**	**ug/l**	**ug/l**	
08357	Benzo(a)anthracene	56-55-3	N.D.	0.010	0.051	1
08357	Benzo(a)pyrene	50-32-8	N.D.	0.010	0.051	1
08357	Benzo(b)fluoranthene	205-99-2	N.D.	0.010	0.051	1
08357	Benzo(k)fluoranthene	207-08-9	N.D.	0.010	0.051	1
08357	Chrysene	218-01-9	N.D.	0.010	0.051	1
08357	Dibenz(a,h)anthracene	53-70-3	N.D.	0.010	0.051	1
08357	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.010	0.051	1
08357	1-Methylnaphthalene	90-12-0	11	0.10	0.51	10
08357	2-Methylnaphthalene	91-57-6	5.2	0.010	0.051	1
08357	Naphthalene	91-20-3	43	0.30	0.61	10
GC Volatiles	**ECY 97-602 NWTPH-Gx**		**ug/l**	**ug/l**	**ug/l**	
08273	NWTPH-Gx water C7-C12	n.a.	6,000	250	1,300	5
GC Petroleum Hydrocarbons w/Si	**ECY 97-602 NWTPH-Dx modified**		**ug/l**	**ug/l**	**ug/l**	
02211	DRO C12-C24 w/Si Gel	n.a.	410	29	95	1
02211	HRO C24-C40 w/Si Gel	n.a.	N.D.	67	240	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/MTBE	SW-846 8260B	1	N153611AA	12/27/2015 22:00	Kathrine K Muramatsu	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	N153611AA	12/27/2015 22:00	Kathrine K Muramatsu	1
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	15355WAC026	01/05/2016 06:55	Kelli M Barto	1
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	15355WAC026	01/05/2016 16:13	Holly B Ziegler	10
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	15355WAC026	12/21/2015 23:00	Nicholas W Shroyer	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	15357A20A	12/29/2015 05:54	Marie D Beamenderfer	5

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

Sample Description: MW-13-12152015 Grab Water
WA-5544
19918 68th Ave S - Kent, WA

LL Sample # WW 8182971
LL Group # 1618843
Account # 13255

Project Name: WA-5544

Collected: 12/15/2015 15:56 by CP

Submitted: 12/18/2015 10:15
Reported: 01/06/2016 13:47

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

68K13

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01146	GC VOA Water Prep	SW-846 5030B	1	15357A20A	12/29/2015 05:54	Marie D Beamenderfer	5
02211	NWTPH-Dx water w/Si Gel	ECY 97-602 NWTPH-Dx modified	1	153580009A	12/28/2015 23:57	Thomas C Wildermuth	1
02135	Extraction - DRO Water Special	ECY 97-602 NWTPH-Dx 06/97	1	153580009A	12/27/2015 08:10	Denise L Trimby	1

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

Sample Description: BD-5544-12152015 Grab Water
WA-5544
19918 68th Ave S - Kent, WA

LL Sample # WW 8182972
LL Group # 1618843
Account # 13255

Project Name: WA-5544

Collected: 12/15/2015 by CP

Submitted: 12/18/2015 10:15
Reported: 01/06/2016 13:47

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

68KBD

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	29	0.50	1.0	1
10335	Methyl Tertiary Butyl Ether	1634-04-4	1.3	0.50	1.0	1
10335	Toluene	108-88-3	N.D.	0.50	1.0	1
10335	Xylene (Total)	1330-20-7	8.7	0.50	1.0	1
GC/MS Semivolatiles	**SW-846 8270C SIM**		**ug/l**	**ug/l**	**ug/l**	
08357	Benzo(a)anthracene	56-55-3	N.D.	0.010	0.051	1
08357	Benzo(a)pyrene	50-32-8	N.D.	0.010	0.051	1
08357	Benzo(b)fluoranthene	205-99-2	N.D.	0.010	0.051	1
08357	Benzo(k)fluoranthene	207-08-9	N.D.	0.010	0.051	1
08357	Chrysene	218-01-9	N.D.	0.010	0.051	1
08357	Dibenz(a,h)anthracene	53-70-3	N.D.	0.010	0.051	1
08357	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.010	0.051	1
08357	1-Methylnaphthalene	90-12-0	4.3	0.010	0.051	1
08357	2-Methylnaphthalene	91-57-6	0.25	0.010	0.051	1
08357	Naphthalene	91-20-3	1.9	0.031	0.062	1
GC Volatiles	**ECY 97-602 NWTPH-Gx**		**ug/l**	**ug/l**	**ug/l**	
08273	NWTPH-Gx water C7-C12	n.a.	960	50	250	1
GC Petroleum Hydrocarbons w/Si	**ECY 97-602 NWTPH-Dx modified**		**ug/l**	**ug/l**	**ug/l**	
02211	DRO C12-C24 w/Si Gel	n.a.	110	29	98	1
02211	HRO C24-C40 w/Si Gel	n.a.	N.D.	69	240	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/MTBE	SW-846 8260B	1	N153611AA	12/27/2015 18:53	Kathrine K Muramatsu	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	N153611AA	12/27/2015 18:53	Kathrine K Muramatsu	1
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	15355WAC026	01/05/2016 07:22	Kelli M Barto	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	15355WAC026	12/21/2015 23:00	Nicholas W Shroyer	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	15355A53A	12/22/2015 22:00	Jeremy C Giffin	1
01146	GC VOA Water Prep	SW-846 5030B	1	15355A53A	12/22/2015 22:00	Jeremy C Giffin	1

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

Sample Description: BD-5544-12152015 Grab Water
WA-5544
19918 68th Ave S - Kent, WA

LL Sample # WW 8182972
LL Group # 1618843
Account # 13255

Project Name: WA-5544

Collected: 12/15/2015 by CP

Submitted: 12/18/2015 10:15
Reported: 01/06/2016 13:47

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

68KBD

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02211	NWTPH-Dx water w/Si Gel	ECY 97-602 NWTPH-Dx modified	1	153580029A	12/29/2015 20:22	Christine E Dolman	1
02135	Extraction - DRO Water Special	ECY 97-602 NWTPH-Dx 06/97	1	153580029A	12/28/2015 12:35	Denise L Trimby	1

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

Quality Control Summary

Client Name: Atlantic Richfield c/o ARCADIS Group Number: 1618843
Reported: 01/06/2016 13:47

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

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

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL**	Blank LOQ	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: N153601AA	Sample number(s): 8182964-8182966								
Benzene	N.D.	0.50	1.0	ug/l	102	102	78-120	0	30
Ethylbenzene	N.D.	0.50	1.0	ug/l	103	103	78-120	0	30
Methyl Tertiary Butyl Ether	N.D.	0.50	1.0	ug/l	92	93	75-120	1	30
Toluene	N.D.	0.50	1.0	ug/l	105	105	80-120	0	30
Xylene (Total)	N.D.	0.50	1.0	ug/l	104	103	80-120	0	30
Batch number: N153611AA	Sample number(s): 8182971-8182972								
Benzene	N.D.	0.50	1.0	ug/l	106	106	78-120	0	30
Ethylbenzene	N.D.	0.50	1.0	ug/l	104	105	78-120	0	30
Methyl Tertiary Butyl Ether	N.D.	0.50	1.0	ug/l	92	93	75-120	1	30
Toluene	N.D.	0.50	1.0	ug/l	105	106	80-120	1	30
Xylene (Total)	N.D.	0.50	1.0	ug/l	103	103	80-120	1	30
Batch number: W153601AA	Sample number(s): 8182967-8182969								
Benzene	N.D.	0.50	1.0	ug/l	102	101	78-120	1	30
Ethylbenzene	N.D.	0.50	1.0	ug/l	103	103	78-120	0	30
Methyl Tertiary Butyl Ether	N.D.	0.50	1.0	ug/l	88	90	75-120	2	30
Toluene	N.D.	0.50	1.0	ug/l	106	105	80-120	0	30
Xylene (Total)	N.D.	0.50	1.0	ug/l	103	103	80-120	0	30
Batch number: W153621AA	Sample number(s): 8182970								
Benzene	N.D.	0.50	1.0	ug/l	99		78-120		
Ethylbenzene	N.D.	0.50	1.0	ug/l	101		78-120		
Methyl Tertiary Butyl Ether	N.D.	0.50	1.0	ug/l	93		75-120		
Toluene	N.D.	0.50	1.0	ug/l	101		80-120		
Xylene (Total)	N.D.	0.50	1.0	ug/l	102		80-120		
Batch number: 15355WAC026	Sample number(s): 8182964-8182972								
Benzo(a)anthracene	N.D.	0.010	0.050	ug/l	90	90	76-119	1	30
Benzo(a)pyrene	N.D.	0.010	0.050	ug/l	81	81	70-120	0	30
Benzo(b)fluoranthene	N.D.	0.010	0.050	ug/l	89	90	76-132	1	30
Benzo(k)fluoranthene	N.D.	0.010	0.050	ug/l	79	79	69-126	1	30
Chrysene	N.D.	0.010	0.050	ug/l	87	88	76-121	1	30
Dibenz(a,h)anthracene	N.D.	0.010	0.050	ug/l	52	59	47-136	12	30
Indeno(1,2,3-cd)pyrene	N.D.	0.010	0.050	ug/l	61	64	56-129	4	30
1-Methylnaphthalene	N.D.	0.010	0.050	ug/l	99	96	65-122	3	30
2-Methylnaphthalene	N.D.	0.010	0.050	ug/l	92	89	59-124	3	30
Naphthalene	N.D.	0.030	0.060	ug/l	105	100	60-122	5	30
Batch number: 15355A53A	Sample number(s): 8182964-8182970,8182972								

*- 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 Group Number: 1618843
Reported: 01/06/2016 13:47

Analysis Name	Blank Result	Blank MDL**	Blank LOQ	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
NWTPH-Gx water C7-C12	N.D.	50.	250	ug/l	90		80-123		
Batch number: 15357A20A	Sample number(s): 8182971								
NWTPH-Gx water C7-C12	N.D.	50.	250	ug/l	91	91	80-123	1	30
Batch number: 153580009A	Sample number(s): 8182964-8182971								
DRO C12-C24 w/Si Gel	N.D.	30.	100	ug/l	91	91	32-117	0	20
HRO C24-C40 w/Si Gel	N.D.	70.	250	ug/l					
Batch number: 153580029A	Sample number(s): 8182972								
DRO C12-C24 w/Si Gel	N.D.	30.	100	ug/l	86		32-117		
HRO C24-C40 w/Si Gel	N.D.	70.	250	ug/l					

Sample Matrix Quality Control

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

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: W153621AA	Sample number(s): 8182970 UNSPK: P179760								
Benzene	109	108	78-120	0	30				
Ethylbenzene	107	109	78-120	1	30				
Methyl Tertiary Butyl Ether	97	99	75-120	2	30				
Toluene	108	110	80-120	2	30				
Xylene (Total)	107	109	80-120	2	30				
Batch number: 15355A53A	Sample number(s): 8182964-8182970,8182972 UNSPK: P183241								
NWTPH-Gx water C7-C12	101	101	80-123	0	30				
Batch number: 153580029A	Sample number(s): 8182972 UNSPK: P183241								
DRO C12-C24 w/Si Gel	94	84	32-117	10	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/MTBE
Batch number: N153601AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8182964	106	104	97	101
8182965	108	105	98	85
8182966	102	102	99	93
Blank	103	101	97	88
LCS	101	99	99	97
LCSD	101	100	100	96

*- 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 Group Number: 1618843
Reported: 01/06/2016 13:47

Surrogate Quality Control

Limits:	80-116	77-113	80-113	78-113

Analysis Name: VOCs 8260 BTEX/MTBE
Batch number: N153611AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8182971	103	102	98	98
8182972	104	101	99	95
Blank	104	102	97	89
LCS	100	100	100	96
LCSD	102	101	100	96
Limits:	80-116	77-113	80-113	78-113

Analysis Name: VOCs 8260 BTEX/MTBE
Batch number: W153601AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8182967	98	100	98	90
8182968	100	101	97	92
8182969	99	104	98	91
Blank	97	101	99	92
LCS	98	101	100	94
LCSD	98	103	101	96
Limits:	80-116	77-113	80-113	78-113

Analysis Name: VOCs 8260 BTEX/MTBE
Batch number: W153621AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8182970	99	101	98	96
Blank	100	101	97	94
LCS	99	101	99	97
MS	102	102	97	95
MSD	102	101	100	98
Limits:	80-116	77-113	80-113	78-113

Analysis Name: PAHs in waters by SIM
Batch number: 15355WAC026

	Fluoranthene-d10	Benzo(a)pyrene-d12	1-Methylnaphthalene-d10
8182964	92	66	91
8182965	99	82	96
8182966	90	85	97
8182967	102	61	95
8182968	99	88	95
8182969	101	80	93
8182970	97	70	90
8182971	96	81	97
8182972	95	75	87
Blank	109	106	100
LCS	100	86	104
LCSD	99	88	97
Limits:	56-134	44-149	52-127

Analysis Name: NWTPH-Gx water C7-C12

*- 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 Group Number: 1618843
Reported: 01/06/2016 13:47

Surrogate Quality Control

Batch number: 15355A53A

	Trifluorotoluene-F
8182964	97
8182965	95
8182966	100
8182967	92
8182968	107
8182969	114
8182970	103
8182972	109
Blank	108
LCS	108
MS	113
MSD	113
Limits:	63-135

Analysis Name: NWTPH-Gx water C7-C12
Batch number: 15357A20A

	Trifluorotoluene-F
8182971	90
Blank	89
LCS	102
LCSD	102
Limits:	63-135

Analysis Name: NWTPH-Dx water w/Si Gel
Batch number: 153580009A

	Orthoterphenyl
8182964	119
8182965	104
8182966	116
8182967	111
8182968	104
8182969	104
8182970	108
8182971	112
Blank	108
LCS	125
LCSD	120
Limits:	50-150

Analysis Name: NWTPH-Dx water w/Si Gel
Batch number: 153580029A

	Orthoterphenyl
8182972	114
Blank	109
LCS	114
MS	111
MSD	104
Limits:	50-150

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
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 Group Number: 1618843
Reported: 01/06/2016 13:47

*- 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.
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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 | 1618843 | 8182964-73

CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	ARCADIS	Report To:	Ryan Brauchla	Attention:	Ryan Brauchla
Address:	1100 Olive Way Suite 800	Copy To:		Company Name:	ARCADIS
	Seattle, WA 98101			Address:	1100 Olive Way Suite 800, Seattle, WA
Email To:	ryan.brauchla@arcadis-us.com	Purchase Order No.			
Phone:	206-726-4720 Fax 206-325-8218	Client Project ID:	ARCO 5544	Lancaster Project Manager	Stacy Butt
Requested Due Date/TAT:	10 Day (Default)	Project Number:	GP09BPNA.WA39.N0000	Lancaster Profile :	

Regulatory Agency	
State / Location	WA

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

ITEM#	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	GRO (NWTPH-Gx)	BTEX (8260B)	MTBE (8260B)	PAH (8270C SIM)	DRO (NWTPH-Dx) w/SGC	HO (NWTPH-Dx) w/SGC	Total Lead (6020)	**Dissolved Lead (6020)	Residual Chlorine (Y/N)	**Dissolved Lead On Hold pending total lead results. Contact Arcadis for instructions. Dissolved lead to be lab filtered.
1	MW-2-12152015	WT	G			12/15/15	1520		10	X			X						X	X	X	X	X	X				
2	MW-5-12152015	WT	G				1555		10	X			X						X	X	X	X	X	X				
3	MW-6-12152015	WT	G				1500		10	X			X						X	X	X	X		X				
4	MW-9-12152015	WT	G				1625		10	X			X						X	X	X	X	X	X				
5	MW-10-12152015	WT	G				1527		10	X			X						X	X	X	X	X	X				
6	MW-11-12152015	WT	G				1700		10	X			X						X	X	X	X	X	X				
7	MW-12-12152015	WT	G				1629		10	X			X						X	X	X	X	X	X				
8	MW-13-12152015	WT	G				1556		10	X			X						X	X	X	X	X	X				
9	TB-5544-12152015	WT	G				—		10	X			X						X	X	X	X	X	X				
10	TB-5544-12152015	WT	G			↓	1400		2				X						X	X	X							on Hold
11																												
12																												

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	Craig Peters	12/15/15	1730	[illegible] / CLC	12/16/15	1550				
				[illegible] / ELLE	12.16.15	1015	TEMP in C: 0.2-0.8	Received on Ice (Y/N): Y	Custody Sealed Cooler (Y/N): Y	Samples Intact (Y/N): Y

SAMPLER NAME AND SIGNATURE		
PRINT Name of SAMPLER:	Craig Peters / Vince Landi	
SIGNATURE of SAMPLER:		DATE Signed: 12/15/15

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Sample Administration Receipt Documentation Log

Doc Log ID: 131284

Group Number(s): 1618843

Client: ARCADIS

Delivery and Receipt Information

Delivery Method:	SeaTac	Arrival Timestamp:	12/18/2015 10:15
Number of Packages:	5	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 ≥ 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 Timothy Cubberley (6520) at 10:45 on 12/18/2015

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	0.4	DT	Wet	Y	Bagged	N
2	DT131	0.2	DT	Wet	Y	Bagged	N
3	DT131	0.6	DT	Wet	Y	Bagged	N
4	DT131	0.8	DT	Wet	Y	Bagged	N
5	DT131	0.5	DT	Wet	Y	Bagged	N

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Lancaster, PA 17605-2425

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Explanation of Symbols and Abbreviations

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

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

<	less than
>	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 ≥ 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.

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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