

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

Subject:

Annual Site Status Report 2012
ARCO Facility No. 5544
Ecology Facility ID: 84544811
VCP No: NW2362
19918 68th Avenue South
Kent, Washington 98032

Dear Ms. Goldstein:

On behalf of BP West Coast Products, LLC. (BP), ARCADIS U.S., Inc. (ARCADIS) is pleased to submit this Annual Site Status Report 2012 and a summary of the installation of an Air Sparge (AS)/Soil Vapor Extraction (SVE) system for the above referenced facility (the site). The site currently operates as an active retail gasoline station located at 19918 68th Avenue South in Kent, Washington. A Site Location Map is presented on **Figure 1**. A Site Aerial Map is presented on **Figure 2**.

First Semi-Annual Groundwater Monitoring Event

On March 16, 2012, ARCADIS conducted a semi-annual groundwater monitoring event at the site. During the semi-annual groundwater monitoring event, monitoring wells MW-1 through MW-10 were gauged and sampled using no-purge sampling techniques. Groundwater from monitoring wells MW-1 through MW-10 was sampled with a disposable bailer. Field data sheets are included as **Attachment A**. Groundwater samples collected were analyzed for the following constituents of concern (COCs):

- Total petroleum hydrocarbons (TPH) - gasoline range organics (GRO) according to Washington State Department of Ecology (Ecology) Northwest Method NWTPH-Gx;
- Benzene, toluene, ethylbenzene, and total xylenes (BTEX collectively), and methyl tertiary-butyl ether (MTBE) according to Environmental Protection Agency (EPA) Method 8260; and
- Total and dissolved lead by EPA Method 6010.

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ENVIRONMENT

Date:

May 3, 2013

Contact:

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Our ref:

GP09BPNA.WA39.N0000

Groundwater samples were collected in laboratory provided bottles and were placed in a cooler with ice. Samples were submitted to Pace Analytical Laboratories (Pace) in Seattle, Washington, under standard chain-of-custody protocols. The laboratory analytical report and chain-of-custody documentation are included as **Attachment B**.

Groundwater conditions at the site remained generally consistent with previous sampling events. The depth to groundwater during the March 16, 2012 sampling event ranged between 5.58 feet below top of casing (btoc) in monitoring well MW-1 to 7.56 feet btoc in monitoring well MW-5. Groundwater elevations during this sampling event ranged from 19.97 feet above mean sea level (msl) in monitoring well MW-5 to 20.54 feet above msl in monitoring well MW-1. The inferred direction of groundwater flow during this event was to the northwest.

Analytical results for the groundwater samples indicate concentrations of the following COCs are present above the Ecology Model Toxics Control Act (MTCA) Method A Cleanup Levels (Method A CLs):

- GRO was detected above the Method A CL of 800 micrograms per liter (µg/L) at concentrations of 30,800 µg/L (MW-2) and 46,000 µg/L (MW-6).
- Benzene was detected above the Method A CL of 5 µg/L at concentrations of 32.5 µg/L (MW-2), and 304 µg/L (MW-6).
- Ethylbenzene was detected above the Method A CL of 700 µg/L at concentrations of 1,960 µg/L (MW-2) and 1,640 µg/L (MW-6).
- Total xylenes were detected above the Method A CL of 1,000 µg/L at concentrations of 3,050 µg/L (MW-2) and 4,990 µg/L (MW-6).

Remaining COCs detected above laboratory reporting limits (RLs) did not exceed Method A CLs. Groundwater gauging data and select analytical results are summarized in **Table 1**. Groundwater contour and analytical results are presented on **Figure 3**.

Second Semi-Annual Groundwater Monitoring Event

On July 26, 2012, ARCADIS conducted the second semi-annual groundwater monitoring event at the site. During this event, monitoring wells MW-1 through MW-10 were gauged, and monitoring wells MW-2, MW-5, and MW-6 were sampled using no-purge sampling techniques. Groundwater from monitoring wells MW-2, MW-5, and MW-6 were sampled with a disposable bailer. Field data sheets are included as **Attachment A**. Groundwater samples were analyzed for the following COCs:

- GRO according to Ecology Northwest Method NWTPH-Gx;
- BTEX and MTBE according to EPA Method 8260; and,
- Total and dissolved lead by EPA Method 6010.

Samples were collected in laboratory provided bottles and were placed in a cooler with ice. Samples were submitted to Pace under standard chain-of-custody protocols. The laboratory analytical report and chain-of-custody documentation are included as **Attachment B**.

The depth to groundwater during the July 26, 2011 sampling event ranged between 8.52 feet btoc in monitoring well MW-8 to 9.83 feet btoc in monitoring well MW-5. Groundwater elevations during this sampling event ranged from 17.38 feet above msl in monitoring well MW-7 to 17.93 feet above msl in monitoring well MW-3. The inferred direction of groundwater flow during this event was to the northeast.

Analytical results for the groundwater samples indicate concentrations of the following COCs are present above the Method A CLs:

- GRO was detected above the Method A CL of 800 $\mu\text{g/L}$, at concentrations of 42,600 $\mu\text{g/L}$ (MW-2) and 51,100 $\mu\text{g/L}$ (MW-6).
- Benzene was detected above the Method A CL of 5 $\mu\text{g/L}$, at concentrations of 49.6 $\mu\text{g/L}$ (MW-2) and 233 $\mu\text{g/L}$ (MW-6).
- Ethylbenzene was detected above the Method A CL of 700 $\mu\text{g/L}$, at concentrations of 2,090 $\mu\text{g/L}$ (MW-2) and 1,790 $\mu\text{g/L}$ (MW-6).
- Total xylenes were detected above the Method A CL of 1,000 $\mu\text{g/L}$, at concentrations of 4,330 $\mu\text{g/L}$ (MW-2) and 5,670 $\mu\text{g/L}$ (MW-6).

Remaining COCs detected above laboratory RLs did not exceed Method A CLs. Groundwater gauging data and select analytical results are summarized in **Table 1**. Groundwater elevations and analytical results are presented on **Figure 4**.

AS/SVE System installation and Startup

Based on persistent dissolved-phase GRO, benzene, ethylbenzene and total xylenes concentrations in monitoring wells MW-2 and MW-6, ARCADIS determined the operation of an AS/SVE system will be utilized to continue active remediation at the site. Delta Environmental Consultants, Inc. (Delta) installed and operated an AS/SVE remediation system in the third quarter of 2003. The AS/SVE system operated intermittently until the end of 2005. The system operated for approximately 9,311 hours removing approximately 6,188 pounds of Volatile Petroleum

Hydrocarbons (VPH). After an evaluation of the historical AS/SVE operation data, ARCADIS determined that additional AS/SVE would be effective at remediating the remainder of the dissolved-phase plume.

In November 2011, ARCADIS installed four AS wells (AS-8, AS-9, AS-10, and AS-11). The AS wells were installed to depths ranging from 21 feet below ground surface (bgs) at AS wells AS-8 and AS-9 to 24.5 feet bgs at AS well AS-11. The AS wells were installed at the south end of the station fuel dispensers/canopy, adjacent to existing monitoring wells MW-2 and MW-6. AS wells were completed as 2-inch diameter with 2 feet of stainless steel 0.020 inch wire wrapped screen and schedule 80 polyvinyl chloride (PVC) well casings. No soil samples were collected during advancement and installation of the AS wells. AS well locations are shown on **Figure 5**. Boring logs of the AS wells installed in 2011 are included as **Appendix C**. Soil generated during the installation of the AS wells was characterized and disposed of at Republic Services, Inc. Roosevelt Regional Landfill facility. The waste profile is included as **Appendix D**.

From October 22 through October 29, 2012, ARCADIS conducted trenching activities at the site to connect the new AS wells to the existing AS/SVE system located in the northeast corner of the site. AS wells AS-8 through AS-11 were connected to the previously installed AS conveyance piping installed in 2003. AS wells AS-1 through AS-7 and SVE wells SVE-1 through SVE-6 were installed in 2003, when Delta installed an AS/SVE system on-site. The previously installed AS/SVE was shut down in 2005 following two years of operation. The AS/SVE system components were evaluated in 2012 and were found to be non-operational. However, the below-ground conveyance piping was pressure tested in 2011 by H2 Oil Recovery Equipment, Inc. of Bend Oregon and determined to be in usable condition. In October 2012 the previous AS/SVE system was decommissioned and removed from the site. A new skid-mounted AS/SVE unit was installed on-site at the existing equipment pad in November 2012. The AS/SVE system, AS wells and SVE well locations are shown on **Figure 5**.

ARCADIS began AS/SVE system startup activities in December 2012. ARCADIS startup activities were performed by testing the newly installed AS wells AS-8 through AS-11 and operating SVE wells SVE-3 through SVE-5, located in the area of the target monitoring wells MW-2 and MW-6. Optimization of the system continued throughout the month of December. Upon the completion of system startup and optimization operations and maintenance (O&M) were implemented on a monthly basis, which will continue throughout system operation.

AS/SVE system O&M includes gauging of monitoring wells, recording pressure and vacuum data from AS and SVE wells, collection of influent and effluent PID readings and the collection of vapor samples for laboratory analysis. Vapor samples are collected from the influent and effluent streams each event and vapor samples are collected from individual SVE wells on a quarterly basis depending on observed site conditions. Analytical vapor samples will be collected and submitted to Pace for the following analysis:

- Total Hydrocarbons (THC)-Gas and BTEX by Method TO-3

The influent vapor stream will be treated by a FLACO 100 Catalytic Oxidizer with VCV (CATOX). Effluent analytical data from the CATOX will be collected and monitored to ensure the system operation meets the Puget Sound Clean Air Agency (PSCAA) permit No. 24941 requirements. A copy of the PSCAA Permit is included in **Appendix E**.

System operation performance and monitoring data for 2013 will be reported in the 2013 Annual Site Status Report. Further details about the installation of the AS/SVE system are described in the Remedial Action Plan (RAP), submitted by ARCADIS and dated July 5, 2012.

Groundwater monitoring and sampling at the site will be performed on a quarterly schedule in 2013. The next quarterly sampling event is scheduled for first quarter 2013. Monitoring wells MW-2, MW-3, MW-5, MW-6 and MW-10 will continue to be monitored and sampled using no-purge sampling techniques. AS/SVE system operation will continue throughout 2013.

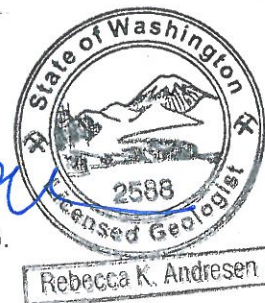
Should you have any questions or if ARCADIS can be of further assistance, please contact Richard Rodriguez at (206) 726-4721.

Sincerely,

ARCADIS U.S., Inc.

Richard Rodriguez
 Staff Geologist

Rebecca Andresen, L.G.
 Technical Expert



cc: Hadi Kerawala

Attachments:

Table 1	Groundwater Gauging Data and Select Analytical Results
Figure 1	Site Location Map
Figure 2	Site Aerial Map
Figure 3	Groundwater Contours with Analytical Results-March 16, 2012
Figure 4	Groundwater Elevations with Analytical Results-July 26, 2012
Figure 5	AS/SVE System Layout Map
Appendix A	Groundwater Monitoring Field Data Sheets
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Appendix D	Waste Profile
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ARCADIS

Tables

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

19860 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 (CLs) 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	0.0	18.42	<50	--	--	<1.0	<1.0	<1.0	<3	<1.0	--	--	--	--
MW-1	6/22/2010	(NP)	26.12	7.14	0.0	18.98	<50	--	--	<0.50	<0.50	<0.50	<1.0	<1.0	--	--	--	--
MW-1	6/22/2010	(Dup)(NP)	26.12	7.14	0.0	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-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	--

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

19860 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 (CLs) in µg/L							800/1,000	500	500	5	1,000	700	1,000	20	0.01	5	15	15
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
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-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	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
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	--	--	--	--

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

19860 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 (CLs) in µg/L							800/1,000	500	500	5	1,000	700	1,000	20	0.01	5	15	15
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	0.0	18.94	<50	--	--	<1.0	<1.0	<1.0	<3	<1.0	--	--	--	--
MW-3	3/22/2010	(Dup)(NP)	26.83	7.89	0.0	18.94	<50	--	--	<1.0	<1.0	<1.0	<3	<1.0	--	--	--	--
MW-3	6/22/2010	(NP)	26.83	7.44	0.0	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-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	--
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	0.0	18.29	<50	--	--	<1.0	<1.0	<1.0	<3	<1.0	--	--	--	--
MW-4	6/22/2010	(NP, H)	27.01	8.14	0.0	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-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	--	--	--	--	--	--	--	--	--	--	--	--

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

19860 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 (CLs) in µg/L							800/1,000	500	500	5	1,000	700	1,000	20	0.01	5	15	15
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
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	0.0	18.60	64	--	--	<1.0	<1.0	<1.0	<3	<1.0	--	--	--	--
MW-5	6/22/2010	(NP, H)	27.53	8.61	0.0	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-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	--	--	--	--

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

19860 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 (CLs) in µg/L							800/1,000	500	500	5	1,000	700	1,000	20	0.01	5	15	15
MW-6	9/4/2007	(P)	198.24	10.41	0.0	187.83	91,800	--	--	1,350	2,500	3,480	14,900	<1.00	--	--	--	--
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	0.0	18.73	100,000	--	--	480	390	2,500	19,400	6.2	--	--	--	--
MW-6	6/22/2010	(NP, H)	27.50	8.39	0.0	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-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	0.0	18.25	<50	--	--	<1.0	<1.0	<1.0	<3	<1.0	--	--	--	--
MW-7	6/22/2010	(NP, H)	26.64	7.82	0.0	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-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	--

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

19860 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 (CLs) in µg/L							800/1,000	500	500	5	1,000	700	1,000	20	0.01	5	15	15
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	0.0	18.41	<50	--	--	<1.0	<1.0	<1.0	<3	<1.0	--	--	--	--
MW-8	6/22/2010	(NP, H)	26.00	7.23	0.0	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	--	--	--	--	--	--	--	--	--	--	--	--
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	--	--	--	--

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

19860 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 (CLs) in µg/L							800/1,000	500	500	5	1,000	700	1,000	20	0.01	5	15	15
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	0.0	18.35	<50	--	--	<1.0	<1.0	<1.0	<3	<1.0	--	--	--	--
MW-9	6/22/2010	(NP, H)	26.76	7.88	0.0	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-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	0.0	18.83	<50	--	--	<1.0	<1.0	<1.0	<3	<1.0	--	--	--	--
MW-10	6/22/2010	(NP, H)	27.01	7.98	0.0	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	--	--	--	--	--	--	--	--	--	--	--	--

msl = Mean sea level
TOC = Top of casing
GWE = Groundwater elevation above msl
DTW = Depth to water below TOC
All analytical results are in micrograms per liter (µg/L)

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

19860 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 (CLs) in µg/L							800/1,000	500	500	5	1,000	700	1,000	20	0.01	5	15	15

TOC/DTW/LNAPL/GWE measurements are in feet (ft)

ND = Not detected at or above the laboratory reporting limit

-- = Not analyzed/not applicable

NE = Top of casing not established

DUP = Duplicate sample

NS = Not Sampled

NAPL = Non-Aqueous Phase Liquid Thickness

GRO = Total Petroleum Hydrocarbons - Gasoline Range Organics

DRO = Total Petroleum Hydrocarbons - Diesel Range Organics

HO = Total Petroleum Hydrocarbons- Heavy Oil Range Organics

EDB = Ethylene Dibromide

EDC = 1,2-Dichloroethane

MTBE = Methyl Tertiary Butyl Ether

BTEX = Benzene, Toluene, Ethylbenzene and Total Xylenes

P = Purge sampling

LFP = Low flow purge sampling

NP = No purge sampling

GRO, DRO, HO methods by Ecology NW Methods; BTEX, MTBE and EDB by 8260B, lead by EPA 6000/7000 Series, EDC by EPA 8011

Historic analysis by former consultant of BTEX, MTBE and EDB by EPA 8021B and confirmed with EPA 8260B if necessary

Groundwater Elevation - If NAPL is present, the elevation is corrected according to the following formula, (TOC elevation - depth to water) + (0.8 X NAPL Thickness)

800/1,000 = GRO MTCA cleanup levels with benzene present (800) and without (1,000)

Data collected prior to 2010 have been provided by previous consultants and are included as historical reference only

Site resurveyed in 2010. TOC elevation in reference to vertical datum N.A.V.D. 88 and horizontal datum NAD 83/98

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

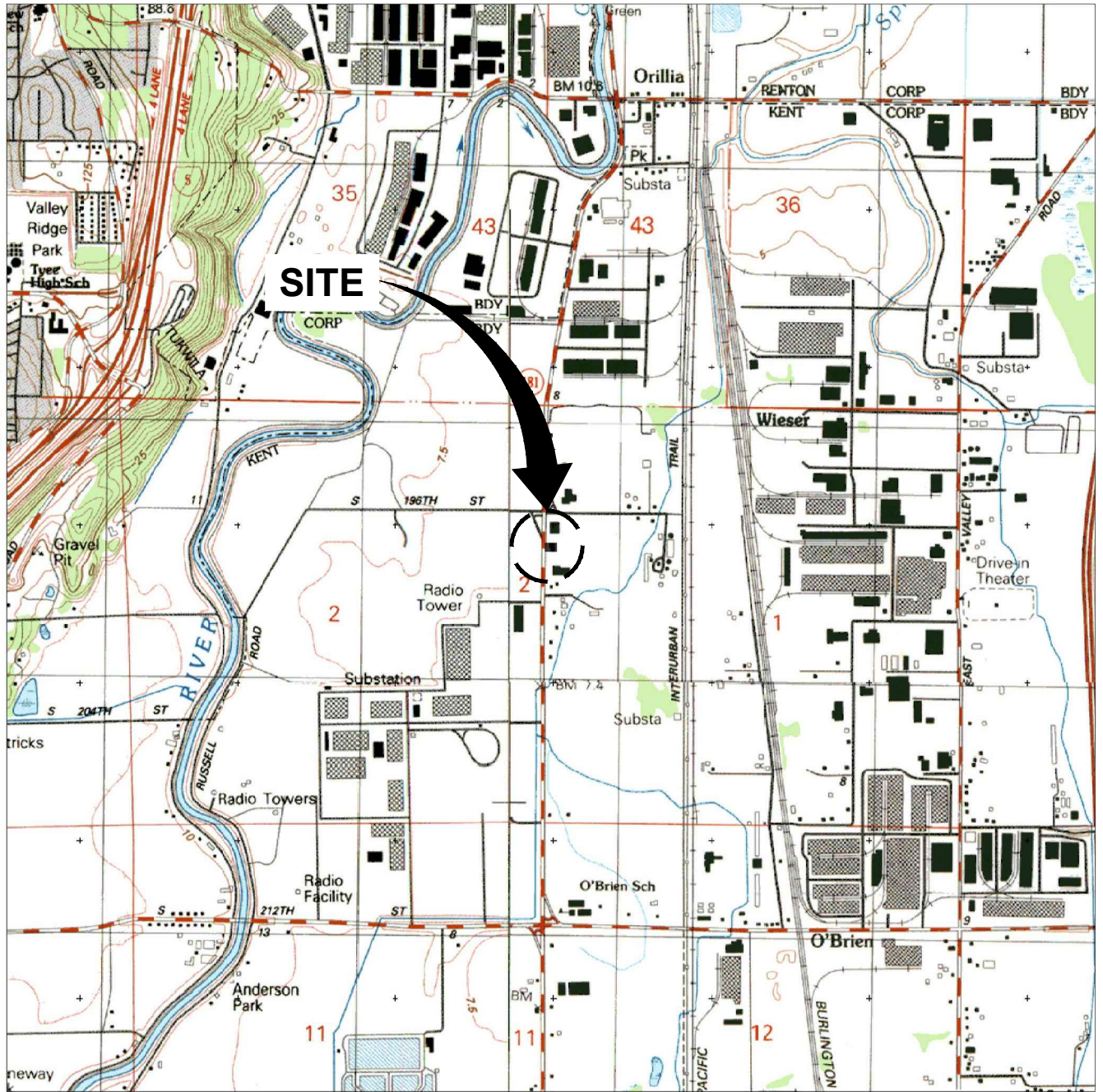
Y = The chromatographic response resembles a typical fuel pattern

BOLD constituent detected above MTCA Cleanup Levels

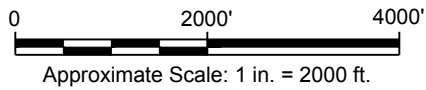
ARCADIS

Figures

CITY:(Rept) DIV:(Group):(Rept) DB:(Rept) LD:(Opt) PIC:(Opt) PM:(Rept) TM:(Opt) LYR:(Opt)ON="OFF"REF:
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 XREFS: IMAGES: PROJECTNAME: SITE 5544 TOPOGRAPHIC.jpg



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



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 19918 68TH AVENUE SOUTH, KENT, WASHINGTON
ANNUAL SITE STATUS REPORT 2012

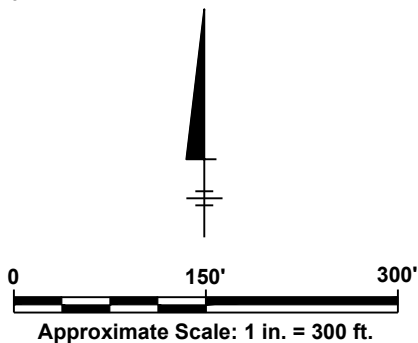
SITE LOCATION MAP



FIGURE
1



GENERAL NOTES:
AERIAL PHOTOGRAPH
DATED 6/13/02

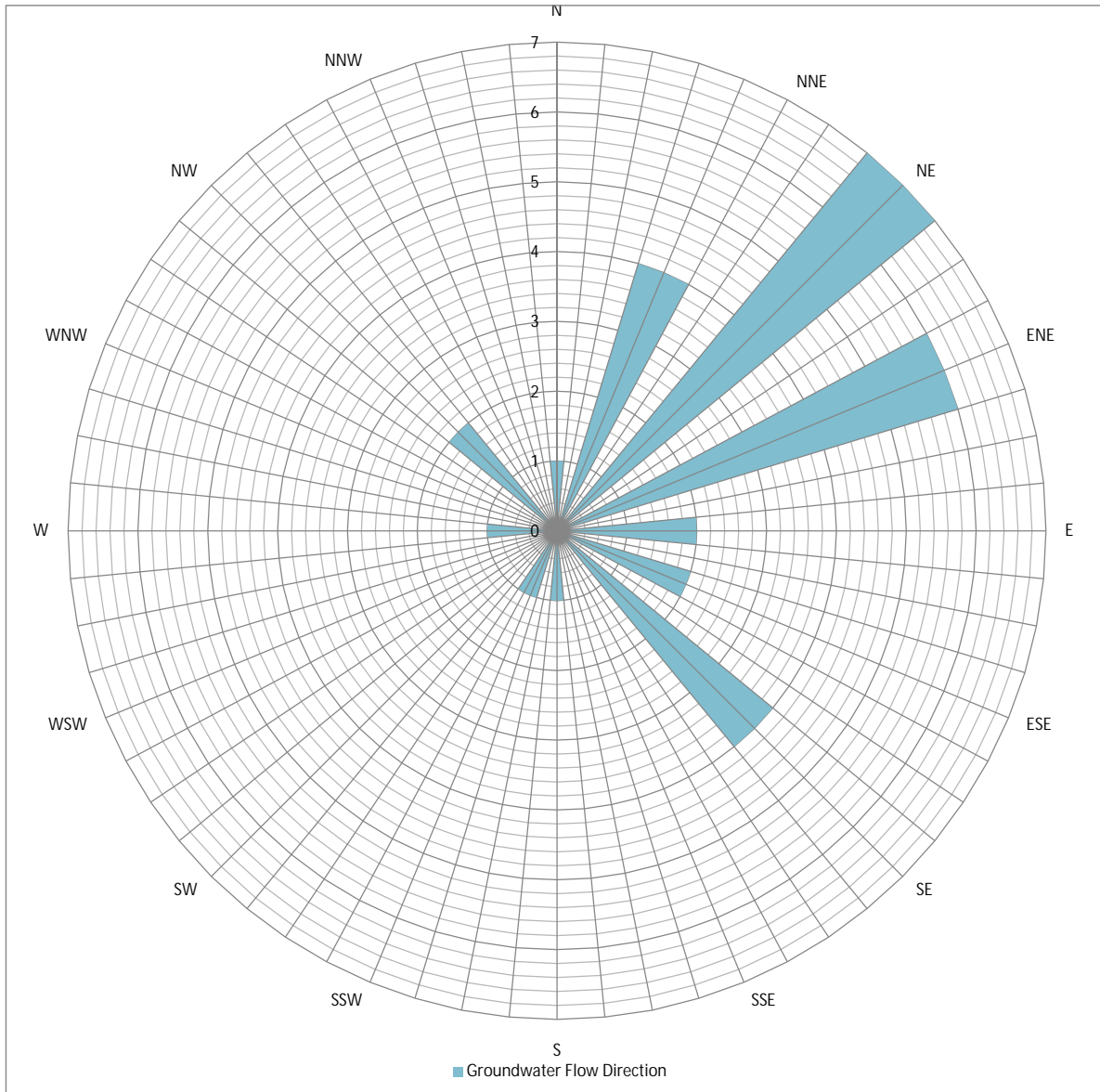


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FORMER ARCO FACILITY No. 5544
19860 68TH AVENUE SOUTH, KENT, WASHINGTON
ANNUAL SITE STATUS REPORT 2012

SITE AERIAL MAP



FIGURE
2



Rose diagram based on three-point calculations from groundwater elevations of 30 monitoring events.

- 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

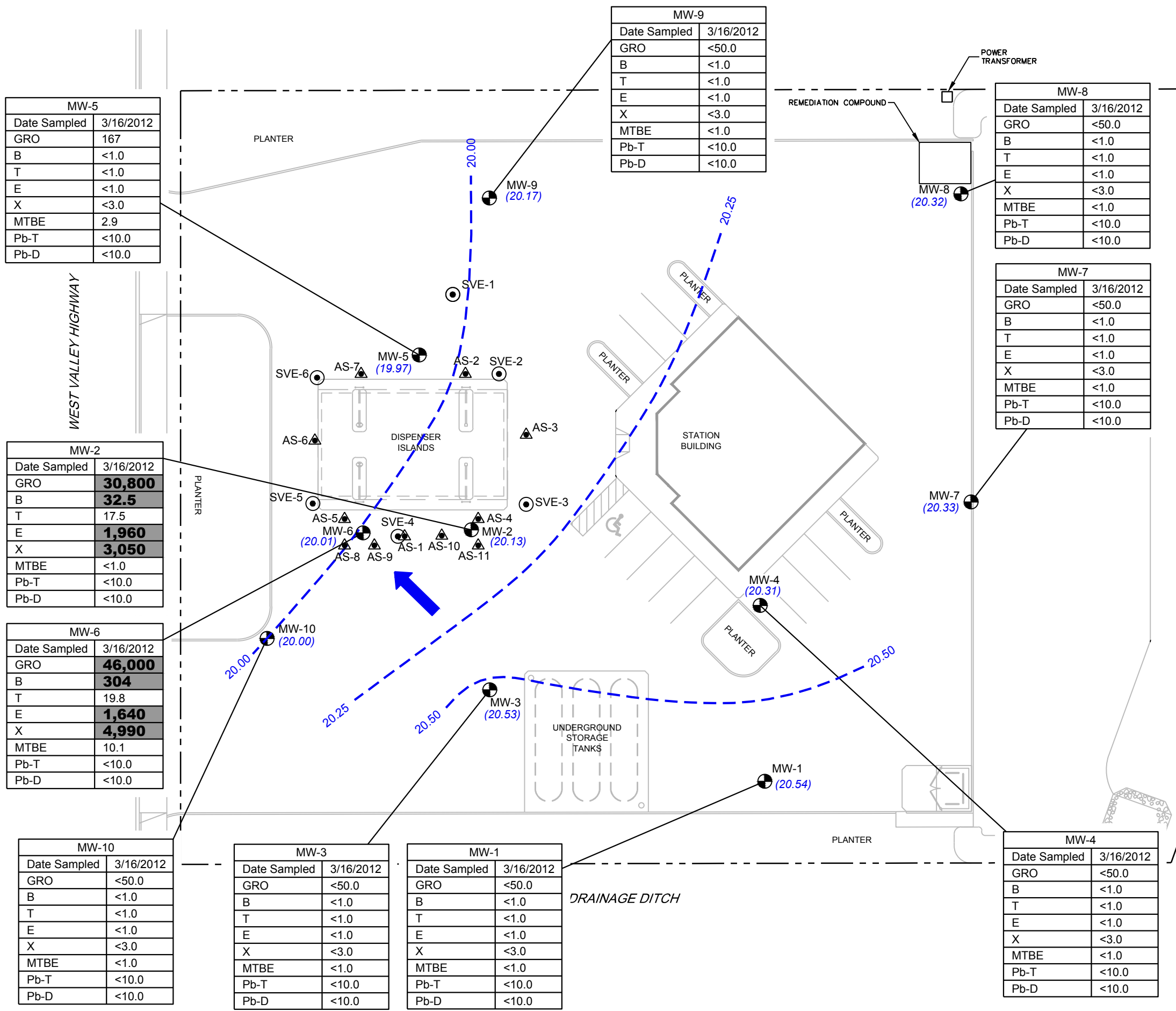
BP West Coast Products, LLC.
Former ARCO Facility #5544
19918 68th Avenue South
Kent, Washington
Annual Site Status Report

Historical Groundwater Flow Direction Rose Diagram



FIGURE
3

CITY:\Read\ DIV\GROUP:\Read\ DB:\(Read) LD:\(Opt) PIC:\(Opt) PM:\(Read) TM:\(Opt) LVR:\(Option)* OFF:\(Ref)
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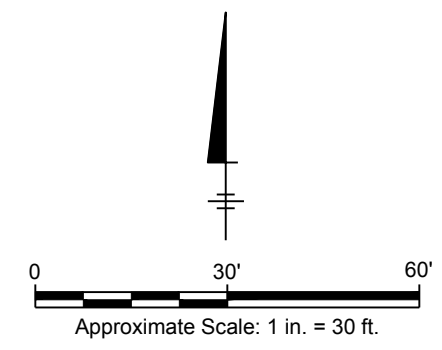


LEGEND:

- PROPERTY BOUNDARY
- MW-1 ● MONITORING WELL LOCATION
- VE-1 ⊙ VAPOR EXTRACTION WELL LOCATION
- AS-1 ▲ AIR SPARGE WELL LOCATION
- (17.60) GROUNDWATER ELEVATION (FEET ABOVE MEAN SEA LEVEL [MSL])
- < LESS THAN LABORATORY DETECTION LIMITS
- INFERRED GROUNDWATER CONTOUR (FEET ABOVE MSL)
- ← GROUNDWATER FLOW DIRECTION

LOCATION ID	
Date	DATE COLLECTED
GRO	GASOLINE RANGE ORGANICS
B	BENZENE
T	TOLUENE
E	ETHYLBENZENE
X	TOTAL XYLENES
MTBE	METHYL TERTIARY BUTYL ETHER
Pb-T	TOTAL LEAD
Pb-D	DISSOLVED LEAD

NOTES:
 ALL CONCENTRATIONS ARE MEASURED IN MICROGRAMS PER LITER (µg/L)
BOLD = ANALYTE DETECTED ABOVE MODEL TOXICS CONTROL ACT (MTCA) METHOD A CLEANUP LEVELS



MW-5	
Date Sampled	3/16/2012
GRO	167
B	<1.0
T	<1.0
E	<1.0
X	<3.0
MTBE	2.9
Pb-T	<10.0
Pb-D	<10.0

MW-9	
Date Sampled	3/16/2012
GRO	<50.0
B	<1.0
T	<1.0
E	<1.0
X	<3.0
MTBE	<1.0
Pb-T	<10.0
Pb-D	<10.0

MW-8	
Date Sampled	3/16/2012
GRO	<50.0
B	<1.0
T	<1.0
E	<1.0
X	<3.0
MTBE	<1.0
Pb-T	<10.0
Pb-D	<10.0

MW-7	
Date Sampled	3/16/2012
GRO	<50.0
B	<1.0
T	<1.0
E	<1.0
X	<3.0
MTBE	<1.0
Pb-T	<10.0
Pb-D	<10.0

MW-2	
Date Sampled	3/16/2012
GRO	30,800
B	32.5
T	17.5
E	1,960
X	3,050
MTBE	<1.0
Pb-T	<10.0
Pb-D	<10.0

MW-6	
Date Sampled	3/16/2012
GRO	46,000
B	304
T	19.8
E	1,640
X	4,990
MTBE	10.1
Pb-T	<10.0
Pb-D	<10.0

MW-10	
Date Sampled	3/16/2012
GRO	<50.0
B	<1.0
T	<1.0
E	<1.0
X	<3.0
MTBE	<1.0
Pb-T	<10.0
Pb-D	<10.0

MW-3	
Date Sampled	3/16/2012
GRO	<50.0
B	<1.0
T	<1.0
E	<1.0
X	<3.0
MTBE	<1.0
Pb-T	<10.0
Pb-D	<10.0

MW-1	
Date Sampled	3/16/2012
GRO	<50.0
B	<1.0
T	<1.0
E	<1.0
X	<3.0
MTBE	<1.0
Pb-T	<10.0
Pb-D	<10.0

MW-4	
Date Sampled	3/16/2012
GRO	<50.0
B	<1.0
T	<1.0
E	<1.0
X	<3.0
MTBE	<1.0
Pb-T	<10.0
Pb-D	<10.0

BP WEST COAST PRODUCTS, LLC.
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 19918 68TH AVENUE SOUTH, KENT, WASHINGTON
ANNUAL SITE STATUS REPORT 2012

**GROUNDWATER ELEVATION CONTOURS
 WITH ANALYTICAL RESULTS
 MARCH 16, 2012**

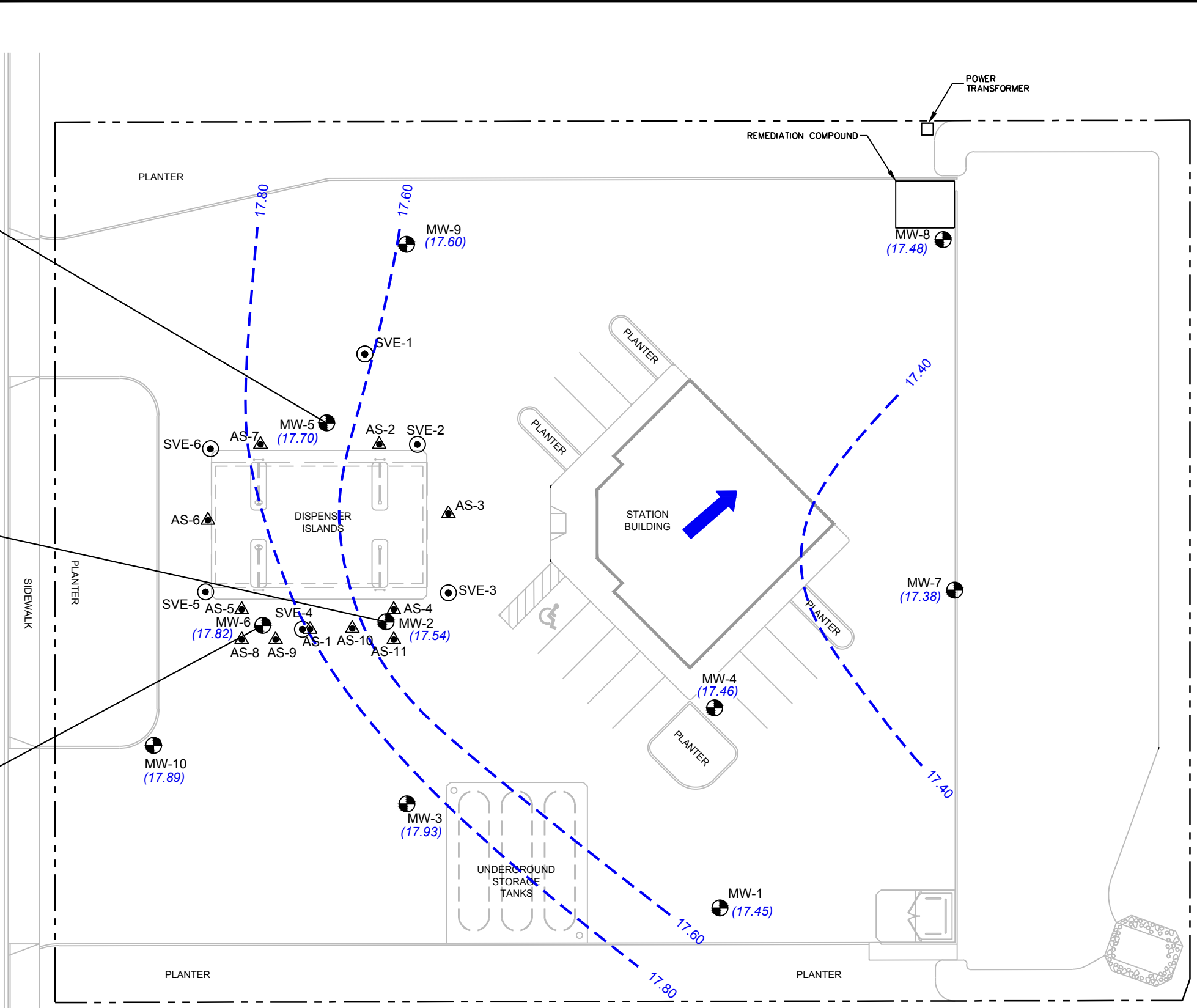
FIGURE
4

CITY:(Read) DIV:(GROUP:Read) DB:(Read) LD:(Opt) PIC:(Opt) PM:(Read) TM:(Opt) LVR:(Opt)ON="OFF"=REF*
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MW-5	
Date	7/26/12
GRO	627
B	1.3
T	< 1.0
E	1.1
X	11.2
MTBE	< 1.0
Pb-T	< 10.0
Pb-D	< 10.0

MW-2	
Date	7/26/12
GRO	42,600
B	49.6
T	9.5
E	2,090
X	4,330
MTBE	< 1.0
Pb-T	< 10.0
Pb-D	< 10.0

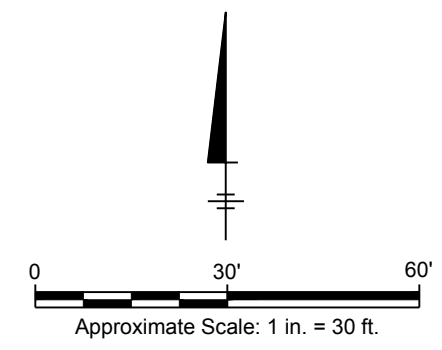
MW-6	
Date	7/26/12
GRO	51,100
B	233
T	20.5
E	1,790
X	5,670
MTBE	7.3
Pb-T	< 10.0
Pb-D	< 10.0



- LEGEND:**
- PROPERTY BOUNDARY
 - MW-1 ● MONITORING WELL LOCATION
 - VE-1 ⊙ VAPOR EXTRACTION WELL LOCATION
 - AS-1 ▲ AIR SPARGE WELL LOCATION
 - (17.48) GROUNDWATER ELEVATION (FEET ABOVE MEAN SEA LEVEL [MSL])
 - < LESS THAN LABORATORY DETECTION LIMITS
 - - - - - INFERRED GROUNDWATER CONTOUR (FEET ABOVE MSL)
 - ← GROUNDWATER FLOW DIRECTION

LOCATION ID	
Date	DATE COLLECTED
GRO	GASOLINE RANGE ORGANICS
B	BENZENE
T	TOLUENE
E	ETHYLBENZENE
X	TOTAL XYLENES
MTBE	METHYL TERTIARY BUTYL ETHER
Pb-T	TOTAL LEAD
Pb-D	DISSOLVED LEAD

NOTES:
 ALL CONCENTRATIONS ARE MEASURED IN MICROGRAMS PER LITER (µg/L)
BOLD = ANALYTE DETECTED ABOVE MODEL TOXICS CONTROL ACT (MTCA) METHOD A CLEANUP LEVELS

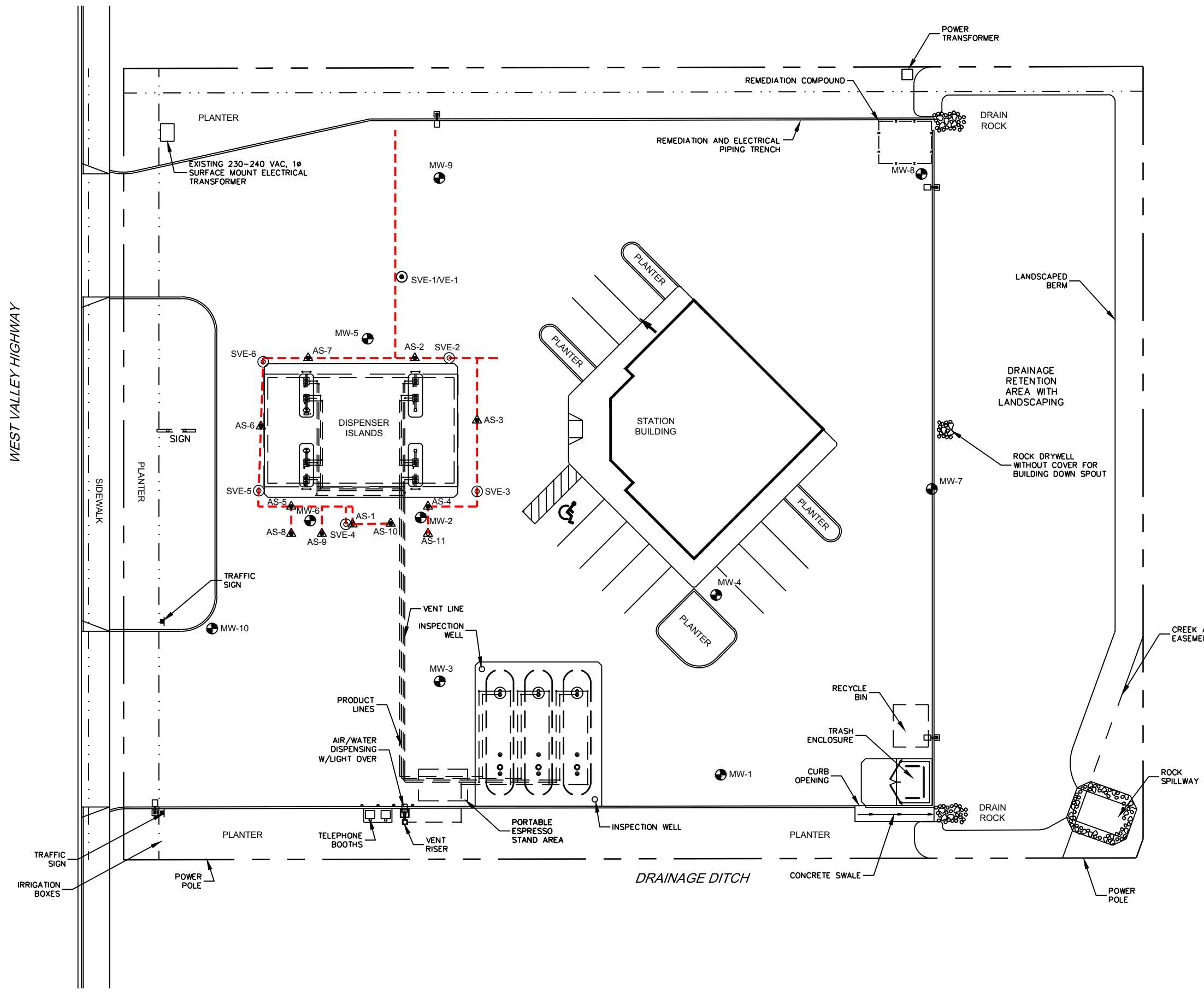


BP WEST COAST PRODUCTS, LLC.
 FORMER ARCO FACILITY No. 5544
 19918 68TH AVENUE SOUTH, KENT, WASHINGTON
ANNUAL SITE STATUS REPORT 2012
GROUNDWATER ELEVATION CONTOURS WITH ANALYTICAL RESULTS
JULY 26, 2012



FIGURE
5

CITY: (Read) DIV: (Read) DB: (Read) LD: (Opt) PIC: (Opt) PM: (Reqd) TM: (Opt) LYN: (Opt) ON: "OFF=REF" G:\ENVCAD\Emeryville\ACT\GF09BPN\WA39\0000\2012 Annual Status\DWG\GF09BPN\WA39 B06.dwg LAYOUT: 6 SAVED: 4/8/2013 1:05 PM ACADVER: 18.1S (LMS TECH) PAGES: 18 PLOTSTYLETABLE: ARCADIS.CTB PLOTTED: 4/8/2013 1:06 PM BY: REYES, ALEC

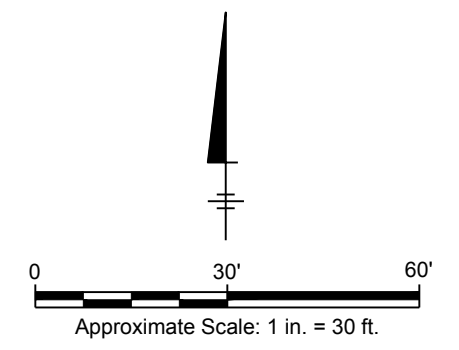


LEGEND:

- MW-1 ● MONITORING WELL LOCATION
- SVE-1 ● VAPOR EXTRACTION WELL LOCATION
- AS-1 ▲ AIR SPARGE WELL LOCATION
- - - - REMEDIATION AND ELECTRICAL PIPING TRENCH

NOTE:

AS-1 IS NO LONGER CONNECTED TO THE REMEDIAL SYSTEM. AS-10 WAS CONNECTED TO THE SPARGE LINE FORMERLY CONNECTED TO AS-1



BP WEST COAST PRODUCTS, LLC. FORMER ARCO FACILITY No. 5544 19918 68TH AVENUE SOUTH, KENT, WASHINGTON ANNUAL SITE STATUS REPORT 2012	
SITE PLAN	
	FIGURE 6

ARCADIS

Attachment A

**Groundwater Monitoring
Field Data Sheets**



Groundwater Monitoring Well Gauging Form

Site ID: WA-05544

Project #: GP09BPNA.WA39.N0000

Site Address: 19918 68th Ave S, Kent, WA

Date: 03/16/2012

Well ID	Time	Sheen/ Odor	LNAPL Depth	LNAPL Thickness	DTW	TD	TFO Notes
MW-1	0852 0836 EE	None inane EE	—	—	5.58	19.14	0.0 ppm
MW-7	0858 0840 EE	None	—	—	8 EE 6.31	18.98	0.0 ppm
MW-4	0902	None	—	—	6.70	19.38	0.0 ppm
MW-8	0911	None	—	—	5.68	19.13	0.0 ppm
MW-9	0915	None	—	—	6.59	18.21	0.0 ppm
MW-5	0922	None	—	—	7.56	18.95	0.0 ppm
MW-10	0934	None	—	—	7.01	18.74	0.0 ppm
MW-2	0942	None	—	—	7.19	18.94	16.8 ppm
MW-3	0957	None	—	—	6.30	19.17	0.0 ppm
MW-6	0948	None	—	—	7.49	18.81	245 ppm

ARCADIS Groundwater Sampling Form

Page 1 of 10

Project No. GP09BPNA.WA39.N0000 Well ID MW - 1

Date 03/16/12

Project Name/Location WA-05544 / 19918 68th Ave S, Kent, WA

Weather overcast, drizzle

Measuring Pt. TOC Screen Setting (ft-bmp) Refer to Const. Casing Diameter (in.) 2 Well Material PVC SS

Static Water Level (ft-btoc) 5.58 Total Depth (ft-btoc) 19.14 Water Column/ Gallons in Well 13.56 / 2.17 Initial PID Reading (ppm) 6.0

TOC Elevation NM Pump Intake (ft-btoc) Mid-Screen Purge Method: Disposable Bailer Centrifugal Submersible Other Sample Method Grab

Pump On/Off / Volumes Purged NA

Sample Time: Label 1135 Replicate/ Code No. NA

Start End

Sampled by EE / RH

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft)	Gallons Purged	pH	Cond. (µMhos) (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C) (°F)	Redox (mV)	Appearance	
											Color	Odor
<u>08:52</u>	<u>-</u>	<u>-</u>	<u>5.58</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>ND</u>
<u>11:35</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>6.40</u>	<u>0.180</u>	<u>-</u>	<u>4.73</u>	<u>5.07</u>	<u>230</u>	<u>3000</u>	<u>None</u>

Constituents Sampled	Container	Number	Preservative
<u>GRO</u>	<u>Refer to COC</u>	<u>Refer to COC</u>	<u>Refer to COC</u>
<u>BTEX / MTBE</u>	<u>Refer to COC</u>	<u>Refer to COC</u>	<u>Refer to COC</u>
<u>Total Lead</u>	<u>Refer to COC</u>	<u>Refer to COC</u>	<u>Refer to COC</u>
<u>Dissolved Lead</u>	<u>Refer to COC</u>	<u>Refer to COC</u>	<u>Refer to COC</u>

Well Casing Volumes

Gallons/Foot	1" = 0.04	1.5" = 0.09	2.5" = 0.26	3.5" = 0.50	6" = 1.47
	1.25" = 0.06	<u>2" = 0.16</u>	3" = 0.37	4" = 0.65	

Well Information

Well Location: SE corner of site Well Locked at Arrival: Yes / No

Condition of Well: oil Well Locked at Departure: Yes / No

Well Completion: Flush Mount / Stick Up Key Number To Well: NA

Project No. GP09BPNA.WA39.N0000 Well ID MW - 2

Date 03/16/12

Project Name/Location WA-05544 / 19918 68th Ave S, Kent, WA

Weather Sunny, 50s

Measuring Pt. TOC Screen Setting (ft-bmp) Refer to Const. Casing Diameter (in.) 2

Well Material X PVC SS

Static Water Level (ft-btoc) 7.19 Total Depth (ft-btoc) 18.94 Water Column/ Gallons in Well 11.75 / 186

Initial PID Reading (ppm) 16.8

TOC Elevation NM Pump Intake (ft-btoc) Mid-Screen Purge Method: Disposable Bailer

Sample Method Grab

Pump On/Off / Volumes Purged NA Centrifugal Submersible Other Other

Sample Time: Label 1410 Replicate/ Code No. NA
Start End

Sampled by EE / RH

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft)	Gallons Purged	pH	Cond. (µMhos) (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°F)	Redox (mV)	Appearance	
											Color	Odor
<u>0942</u>	<u>-</u>	<u>-</u>	<u>6.19</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
<u>1410</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>6.36</u>	<u>1.25</u>	<u>-</u>	<u>NM</u>	<u>12.72</u>	<u>-</u>	<u>-</u>	<u>-</u>

Constituents Sampled	Container	Number	Preservative
<u>GRO</u>	<u>Refer to COC</u>	<u>Refer to COC</u>	<u>Refer to COC</u>
<u>BTEX / MTBE</u>	<u>Refer to COC</u>	<u>Refer to COC</u>	<u>Refer to COC</u>
<u>Total Lead</u>	<u>Refer to COC</u>	<u>Refer to COC</u>	<u>Refer to COC</u>
<u>Dissolved Lead</u>	<u>Refer to COC</u>	<u>Refer to COC</u>	<u>Refer to COC</u>

Well Casing Volumes

Gallons/Foot	1" = 0.04	1.5" = 0.09	2.5" = 0.26	3.5" = 0.50	6" = 1.47
	1.25" = 0.06	<u>2" = 0.16</u>	3" = 0.37	4" = 0.65	

Well Information

Well Location: SE corner of deep 15' canopy Well Locked at Arrival: Yes / NO

Condition of Well: OK Well Locked at Departure: Yes / NO

Well Completion: Flush Mount / Stick Up Key Number To Well: NA

ARCADIS Groundwater Sampling Form

Project No. GP09BPNA.WA39.N0000 Well ID MW - 3

Date 03/16/12

Project Name/Locator WA-05544 / 19918 68th Ave S, Kent, WA

Weather drizzle, cool, overcast

Measuring Pt. Screen Casing 2
 Description TOC Setting (ft-bmp) Refer to Const. Diameter (in.) 2

Well Material X PVC
SS

Static Water Level (ft-btoc) 6.30 Total Depth (ft-btoc) 19.17
 Water Column/ Gallons in Well 12.67 / 206

Initial PID Reading (ppm) 0.0

TOC Elevation NM Pump Intake (ft-btoc) Mid-Screen Purge Method: Disposable Bailer
 Pump On/Off 1 Volumes Purged NA Centrifugal Submersible Other Other

Sample Method Grab

Sample Time: Label 10:30 Replicate/ Code No. NA
 Start End

Sampled by EE / RH

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft)	Gallons Purged	pH	Cond. (µMhos) (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C) (°F)	Redox (mV)	Appearance	
											Color	Odor
09:57	-	-	6.30	-	-	-	-	-	-	-	-	ND
10:30	-	-	-	<1	6.07	0.351	NA	5.61	10.62	57.1	14.1	ND

Constituents Sampled	Container	Number	Preservative
GRO	Refer to COC	Refer to COC	Refer to COC
BTEX / MTBE	Refer to COC	Refer to COC	Refer to COC
Total Lead	Refer to COC	Refer to COC	Refer to COC
Dissolved Lead	Refer to COC	Refer to COC	Refer to COC

Well Casing Volumes

Gallons/Foot	1" = 0.04	1.5" = 0.09	2.5" = 0.26	3.5" = 0.50	6" = 1.47
	1.25" = 0.06	<u>2" = 0.16</u>	3" = 0.37	4" = 0.65	

Well Information

Well Location: <u>S part of site E at espresso stand</u>	Well Locked at Arrival: Yes / <u>NO</u>
Condition of Well: <u>OK</u>	Well Locked at Departure: Yes / <u>NO</u>
Well Completion: <u>Flush Mount / Stick Up</u>	Key Number To Well: <u>NA</u>

Project No. GP09BPNA.WA39.N0000 Well ID MW - 4

Date 03/16/12

Project Name/Location WA-05544 / 19918 68th Ave S, Kent, WA

Weather overcast, drizzle

Measuring Pt. Screen Casing 2
 Description TOC Setting (ft-bmp) Refer to Const. Diameter (in.) 2

Well Material X PVC
SS

Static Water Level (ft-btoc) 6.70 Total Depth (ft-btoc) 19.36 Water Column/ Gallons in Well

Initial PID Reading (ppm) 0.0

TOC Elevation NM Pump Intake (ft-btoc) Mid-Screen Purge Method: Disposable Bailer

Sample Method Grab

Pump On/Off / Volumes Purged NA

Centrifugal
 Submersible
 Other

Sample Time: Label 1735 Replicate/ Code No. NA
 Start
 End

Sampled by EE / RH

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft)	Gallons Purged	pH	Cond. (µMhos) (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C) (°F)	Redox (mV)	Appearance	
											Color	Odor
9:02	-	-	6.70	-	-	-	-	-	-	-	-	-
1135	-	-	-	-	6.28	0.18	-	1.12	10.72	12.4	Clear	None
					5.70							

Constituents Sampled	Container	Number	Preservative
GRO	Refer to COC	Refer to COC	Refer to COC
BTEX / MTBE	Refer to COC	Refer to COC	Refer to COC
Total Lead	Refer to COC	Refer to COC	Refer to COC
Dissolved Lead	Refer to COC	Refer to COC	Refer to COC

Well Casing Volumes

Gallons/Foot	1" = 0.04	1.5" = 0.09	2.5" = 0.26	3.5" = 0.50	6" = 1.47
	1.25" = 0.06	2" = 0.16	3" = 0.37	4" = 0.85	

Well Information

Well Location: road SE corner

Condition of Well: Flush Mount / Stick Up

Well Completion: Flush Mount / Stick Up

Well Locked at Arrival: Yes / No

Well Locked at Departure: Yes / No

Key Number To Well: NA

Project No. GP09BPNA.WA39.N0000 Well ID MW - 5

Date 03/16/12

Project Name/Locator WA-05544 / 19918 68th Ave S, Kent, WA

Weather Sunny, 50°

Measuring Pt. Screen Setting (ft-bmp) Refer to Const. Casing Diameter (in.) 2

Well Material X PVC SS

Static Water Level (ft-btoc) 7.56 Total Depth (ft-btoc) 18.95 Water Column/ Gallons in Well 11.39 / 1.82

Initial PID Reading (ppm) 0.0

TOC Elevation NM Pump Intake (ft-btoc) Mid-Screen Purge Method: Disposable Bailer

Sample Method Grab

Pump On/Off / Volumes Purged NA Centrifugal Submersible Other Other

Sample Time: Label 13:35 Replicate/ Code No. NA
 Start End

Sampled by EE / RH

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft)	Gallons Purged	pH	Cond. (µMhos) (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C) (°F)	Redox (mV)	Appearance	
											Color	Odor
<u>09:22</u>	<u>/</u>	<u>/</u>	<u>7.56</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>No</u>
<u>13:35</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u><1</u>	<u>6.10</u>	<u>0.837</u>	<u>NA</u>	<u>1.90</u>	<u>12.43</u>	<u>-58.8</u>	<u>yellow colored</u>	<u>No</u>

Constituents Sampled	Container	Number	Preservative
<u>GRO</u>	<u>Refer to COC</u>	<u>Refer to COC</u>	<u>Refer to COC</u>
<u>BTEX / MTBE</u>	<u>Refer to COC</u>	<u>Refer to COC</u>	<u>Refer to COC</u>
<u>Total Lead</u>	<u>Refer to COC</u>	<u>Refer to COC</u>	<u>Refer to COC</u>
<u>Dissolved Lead</u>	<u>Refer to COC</u>	<u>Refer to COC</u>	<u>Refer to COC</u>

2.5
11.39
.16
68.34
113.90
182.24

Well Casing Volumes

Gallons/Foot	1" = 0.04	1.5" = 0.09	2.5" = 0.26	3.5" = 0.50	6" = 1.47
	1.25" = 0.06	<u>2" = 0.16</u>	3" = 0.37	4" = 0.65	

Well Information

Well Location: North of and between dup. islands Well Locked at Arrival: Yes / No

Condition of Well: fair Well Locked at Departure: Yes / No

Well Completion: Flush Mount / Stick Up Key Number To Well: NA

Project No. GP09BPNA.WA39.N0000 Well ID MW - 6

Date 03/16/12

Project Name/Location WA-05544 / 19918 68th Ave S, Kent, WA

Weather Sunny, 46°

Measuring Pt. TOC Screen Refer to Const. Casing 2
 Description TOC Setting (ft-bmp) Refer to Const. Diameter (in.) 2

Well Material X PVC SS

Static Water Level (ft-btoc) 7.49 Total Depth (ft-btoc) 18.81 Water Column/ Gallons in Well 11.32' / 1.61

Initial PID Reading (ppm) 345

TOC Elevation NM Pump Intake (ft-btoc) Mid-Screen Purge Method: Disposable Bailer

Sample Method Grab

Pump On/Off 1 Volumes Purged NA Centrifugal Submersible Other Other

Sample Time: Label 1430 Replicate/ Code No. NA
 Start End

Sampled by EE / RH

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft)	Gallons Purged	pH	Cond. (µMhos) (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C) (°F)	Redox (mV)	Appearance	
											Color	Odor
<u>0948</u>	<u>-</u>	<u>-</u>	<u>2.49</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
<u>1430</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>6.33</u>	<u>1.349</u>	<u>-</u>	<u>2.78</u>	<u>13.4</u>	<u>-88.1</u>	<u>Green</u>	<u>Slight</u>

Constituents Sampled	Container	Number	Preservative
<u>GRO</u>	<u>Refer to COC</u>	<u>Refer to COC</u>	<u>Refer to COC</u>
<u>BTEX/ MTBE</u>	<u>Refer to COC</u>	<u>Refer to COC</u>	<u>Refer to COC</u>
<u>Total Lead</u>	<u>Refer to COC</u>	<u>Refer to COC</u>	<u>Refer to COC</u>
<u>Dissolved Lead</u>	<u>Refer to COC</u>	<u>Refer to COC</u>	<u>Refer to COC</u>

Well Casing Volumes

Gallons/Foot	1" = 0.04	1.5" = 0.09	2.5" = 0.26	3.5" = 0.50	6" = 1.47
	1.25" = 0.06	<u>2" = 0.16</u>	3" = 0.37	4" = 0.65	

Well Information

Well Location: SE corner of disp. is. camp Well Locked at Arrival: Yes / No

Condition of Well: ok Well Locked at Departure: Yes / No

Well Completion: Flush Mount / Stick Up Key Number To Well: NA

Project No. GP09BPNA.WA39.N0000 Well ID MW - 7

Date 03/16/12

Project Name/Location WA-05544 / 19918 68th Ave S, Kent, WA

Weather overcast, cool

Measuring Pt. TOC Screen Setting (ft-bmp) Refer to Const. Casing Diameter (in.) 2

Well Material X PVC SS

Static Water Level (ft-btoc) 6.31 Total Depth (ft-btoc) 16.96 Water Column/ Gallons in Well 2.67 / 1.93

Initial PID Reading (ppm) 0.0

TOC Elevation NM Pump Intake (ft-btoc) Mid-Screen Purge Method: Disposable Bailer

Sample Method Grab

Pump On/Off / Volumes Purged NA Centrifugal Submersible Other Other

Sample Time: Label 11:50 Replicate/ Code No. NA
Start End

Sampled by EE / RH

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft)	Gallons Purged	pH	Cond. (µMhos) (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C) (°F)	Redox (mV)	Appearance	
											Color	Odor
<u>8:50</u>	<u>/</u>	<u>/</u>	<u>6.31</u>	<u>/</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>/</u>	<u>No</u>
<u>11:50</u>	<u>/</u>	<u>/</u>	<u>-</u>	<u>< 1</u>	<u>6.07</u>	<u>0.481</u>	<u>NA</u>	<u>5.32</u>	<u>10.60</u>	<u>117.9</u>	<u>clear</u>	<u>No</u>

7.7
12.67
.16
76.02
12670
9272

Constituents Sampled	Container	Number	Preservative
<u>GRO</u>	<u>Refer to COC</u>	<u>Refer to COC</u>	<u>Refer to COC</u>
<u>BTEX / MTBE</u>	<u>Refer to COC</u>	<u>Refer to COC</u>	<u>Refer to COC</u>
<u>Total Lead</u>	<u>Refer to COC</u>	<u>Refer to COC</u>	<u>Refer to COC</u>
<u>Dissolved Lead</u>	<u>Refer to COC</u>	<u>Refer to COC</u>	<u>Refer to COC</u>

Well Casing Volumes

Gallons/Foot	1" = 0.04	1.5" = 0.09	2.5" = 0.26	3.5" = 0.50	6" = 1.47
	1.25" = 0.06	<u>2" = 0.16</u>	3" = 0.37	4" = 0.65	

Well Information

Well Location: E site drive, behind station Well Locked at Arrival: Yes / NO

Condition of Well: good Well Locked at Departure: Yes / NO

Well Completion: Flush Mount / Stick Up Key Number To Well: NA

Project No. GP09BPNA.WA39.N0000 Well ID MW - 8

Date 03/16/12

Project Name/Locator WA-05544 / 19918 68th Ave S, Kent, WA

Weather Rain, 40c

Measuring Pt. TOC Screen Setting (ft-bmp) Refer to Const. Casing Diameter (in.) 2

Well Material PVC SS

Static Water Level (ft-btoc) 5.68 Total Depth (ft-btoc) 19.13 Water Column/ Gallons in Well 13.45 / 2.23

Initial PID Reading (ppm) 0.0

TOC Elevation NM Pump Intake (ft-btoc) Mid-Screen Purge Method: Disposable Bailer

Sample Method Grab

Pump On/Off / Volumes Purged NA Centrifugal Submersible Other

Sample Time: Label 1210 Replicate/ Code No. NA
Start
End

Sampled by EE / RH

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft)	Gallons Purged	pH	Cond. (µMhos) (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C) (°F)	Redox (mV)	Appearance	
											Color	Odor
0911	-	-	5.68	-	-	-	-	-	-	-	-	-
1210	/	/	-	<1	5.89	0.094	NA	0.04	8.76	104.6	Light yellow	N

Constituents Sampled	Container	Number	Preservative
GRO	Refer to COC	Refer to COC	Refer to COC
BTEX / MTBE	Refer to COC	Refer to COC	Refer to COC
Total Lead	Refer to COC	Refer to COC	Refer to COC
Dissolved Lead	Refer to COC	Refer to COC	Refer to COC

Well Casing Volumes

Gallons/Foot	1" = 0.04	1.5" = 0.09	2.5" = 0.26	3.5" = 0.50	6" = 1.47
	1.25" = 0.06	<u>2" = 0.16</u>	3" = 0.37	4" = 0.65	

Well Information

Well Location: NE corner of site Well Locked at Arrival: Yes / No

Condition of Well: Good Well Locked at Departure: Yes / No

Well Completion: Flush Mount / Stick Up Key Number To Well: AAA

ARCADIS Groundwater Sampling Form

Project No. GP09BPNA.WA39.N0000

Well ID MW - MW-9

Date 03/16/12

Project Name/Location WA-05544 / 19918 68th Ave S, Kent, WA

Weather Sunny, 60c

Measuring Pt. TOC Screen Setting (ft-bmp) Refer to Const. Casing Diameter (in.) 2 Well Material PVC SS

Static Water Level (ft-btoc) 6.59 Total Depth (ft-btoc) 18.21 Water Column/ Gallons in Well 11.52 / 1.84 Initial PID Reading (ppm) 0.0

TOC Elevation NM Pump Intake (ft-btoc) Mid-Screen Purge Method: Disposable Bailer Centrifugal Submersible Other Sample Method Grab

Pump On/Off / Volumes Purged NA

Sample Time: Label 1305 Replicate/ Code No. NA Sampled by EE / RH

Start End

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft)	Gallons Purged	pH	Cond. (uMhos) (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp (°C) (°F)	Redox (mV)	Appearance	
											Color	Odor
<u>0915</u>	<u>-</u>	<u>-</u>	<u>6.59</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
<u>1305</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>5.65</u>	<u>0.416</u>	<u>-</u>	<u>1.66</u>	<u>12.72</u>	<u>111.0</u>	<u>Clear</u>	<u>None</u>

Constituents Sampled	Container	Number	Preservative
<u>GRO</u>	<u>Refer to COC</u>	<u>Refer to COC</u>	<u>Refer to COC</u>
<u>BTEX / MTBE</u>	<u>Refer to COC</u>	<u>Refer to COC</u>	<u>Refer to COC</u>
<u>Total Lead</u>	<u>Refer to COC</u>	<u>Refer to COC</u>	<u>Refer to COC</u>
<u>Dissolved Lead</u>	<u>Refer to COC</u>	<u>Refer to COC</u>	<u>Refer to COC</u>

Well Casing Volumes

Gallons/Foot	1" = 0.04	1.5" = 0.09	2.5" = 0.26	3.5" = 0.50	6" = 1.47
	1.25" = 0.06	<u>2" = 0.16</u>	3" = 0.37	4" = 0.85	

Well Information

Well Location: N side of site Well Locked at Arrival: Yes / No

Condition of Well: good Well Locked at Departure: Yes / No

Well Completion: Flush Mount / Stick Up Key Number To Well: NA

Project No. GP09BPNA.WA39.N0000 Well ID MW - 10

Date 03/16/12

Project Name/Location WA-05544 / 19918 68th Ave S, Kent, WA

Weather rain, overcast, 40°

Measuring Pt. TOC Screen Setting (ft-bmp) Refer to Const. Casing Diameter (in.) 2

Well Material X PVC SS

Static Water Level (ft-btoc) 7.01 Total Depth (ft-btoc) 16.74 Water Column/ Gallons in Well 11.73 / 1.88

Initial PID Reading (ppm) 0.0

TOC Elevation NM Pump Intake (ft-btoc) Mid-Screen Purge Method: Disposable Bailer

Sample Method Grab

Pump On/Off / Volumes Purged NA Centrifugal Submersible Other

Sample Time: Label 10:10 Replicate/ Code No. NA
Start End

Sampled by EE / RH

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft)	Gallons Purged	pH	Cond. (µMhos) (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C) (°F)	Redox (mV)	Appearance	
											Color	Odor
09:34	-	-	7.01	-	-	-	-	-	-	-	-	ND
10:10	-	-	"	<1	5.59	0.162	NA	2.45	9.45	-	-	

Constituents Sampled	Container	Number	Preservative
GRO	Refer to COC	Refer to COC	Refer to COC
BTEX / MTBE	Refer to COC	Refer to COC	Refer to COC
Total Lead	Refer to COC	Refer to COC	Refer to COC
Dissolved Lead	Refer to COC	Refer to COC	Refer to COC

Well Casing Volumes

Gallons/Foot	1" = 0.04	1.5" = 0.09	2.5" = 0.26	3.5" = 0.50	6" = 1.47
	1.25" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65	

Well Information

Well Location: SW corner of prop, N of SW driveway Well Locked at Arrival: Yes / (No)

Condition of Well: good Well Locked at Departure: Yes / (No)

Well Completion: Flush Mount / Stick Up Key Number To Well: AAA

BP Tranche 2
Groundwater Monitoring
Field Data Forms

1/2



GWM Event Field Notes Form

Site ID: WA-05544

Project #: GP09BPNA.WA39.N0000

Site Address: 19918 68th Ave S, Kent, WA

Date: 03/16/2012

Site Conditions / Additional Field Notes:

Scope: GWS (No Purge)

Weather: Rain, 40s

0800 - On site. Re Henneck and G. Eppie on site. Check in with attendants. HSTO. Put on PPE.

0825 - Calibrate PID. Prepare equipment for Gauging. Begin Gauging.

1000 - Finish Gauging wells. Refer to gauging sheet.

~~1000~~ Calibrated YSI. Begin No Purge

1010 - Sampled MW-10

1050 - Sampled MW-3.

1105 - Sampled MW-1.

1135 - Sampled MW-4.

1150 - Sampled MW-7.

1210 - Sampled ~~MW-10~~ eg MW-8.

1305 - Sampled MW-9. Break for Lunch

~~1320~~ eg



1315 - H. Shammington on site to conducting TEP: HSTB.

1335 - Sampled MW-5.

1410 - Sampled MW-2.

1430 - Sampled MW-6.

2/2

BP Tranche 2
Groundwater Monitoring
Field Data Forms



GWM Event Field Notes Form

Site ID: WA-05544

Project #: GP09BPNA.WA39.N0000

Site Address: 19918 68th Ave S, Kent, WA

Date: 03/16/2012

Site Conditions / Additional Field Notes:

1435- Packing and Decon equipment.

1440- Disposed of Purge Water in on site drum. 210% Full.
Updating COC. Note: ASR Spurge well patch is cracked significantly and will need repair. Indicated to H. Shanmugam while she was on site (Left site @ ~ 1400.)

1505- Called H. Shanmugam to review HEE COC.

1510- offsite.



Site ID: WA-05544

Project #: GP09BPNA.WA39.N0000

Site Address: 19918 68th Ave S, Kent, WA 98032

Date: 07/26/2012

Sample
order

2

1

B

Well ID	Time	Sheen/ Odor	LNAPL Depth	LNAPL Thickness	DTW	TD	Notes
MW-1	11:45	—	—	—	8.67	19.00	0.0 ppm
MW-2	13:40 13:40	—	—	—	9.78 9.78	18.75 18.75	4.7 ppm
MW-3	10:10	—	—	—	8.90	19.21	0.0 ppm
MW-4	12:10	—	—	—	9.55	19.40	0.0 ppm
MW-5	13:00	—	—	—	9.83	19.01	18.6 ppm
MW-6	14:00	slight odor	—	—	9.68	18.56	92.4 ppm
MW-7	11:15	—	—	—	9.26	19.08	0.0 ppm
MW-8	11:05	—	—	—	8.52	19.18	0.0 ppm
MW-9	10:50	—	—	—	9.16	18.75	0.0 ppm
MW-10	10:35	—	—	—	9.12	18.88	0.0 ppm



Groundwater Sampling Form

Page 1 of 3

Project No. GP09BPNA.WA39.N0000

Well ID MW-5

Date 7/26/2012

Project Name/Location 11918 68th Avenue South, Kent, WA 98032

Weather Sunny

Measuring Pt. Description TOC Screen Setting (ft-bmp) NA

Casing Diameter (in.) 2"

Well Material X PVC SS

Static Water Level (ft-btoc) 9.83 Total Depth (ft-btoc) 19.01

Water Column/ Gallons in Well 1.49

Initial PID Reading (ppm) 18.6

TOC Elevation NA Pump Intake (ft-btoc) NA

Purge Method: No Purge

Sample Method Bailer

Pump On/Off NA Volumes Purged NA

Centrifugal Submersible Other

Sample Time: Label 13:15 Replicate/ Code No. No Duplicates Start 13:10 End 13:15

Sampled by Kyle Haslam

Stabilized Range: ~.5 ft 0.1 3% 10% 3%

Table with 13 columns: Time, Minutes Elapsed, Rate (gpm), Depth to Water (ft), Gallons Purged, pH, Cond. (µMhos), Turbidity (NTU), Dissolved Oxygen (mg/L), Temp. (°C), Redox ORP (mV), Appearance Color, Appearance Odor. Row 1: 13:15, -, -, 9.83, 0, -, -, -, -, -, -, clear, none.

Table with 4 columns: Constituents Sampled, Container, Number, Preservative. Rows include GRO, BTEX, MTBE, Total/Dissolved Lead.

Well Casing Volumes table with columns for Gallons/Foot and rows for 1", 1.25", 1.5", 2", 2.5", 3", 3.5", 4", 6" diameters.

Well Information section with fields for Well Location (N of Pump Island), Condition of Well (Good), Well Completion (Flush Mount / Stick Up), Well Locked at Arrival/Departure (Yes/No), and Key Number To Well (04).



Groundwater Sampling Form

Project No. GP09BPNA.WA39.N0000

Well ID MW-2

Date 7/26/2012

Project Name/Location 11918 68th Avenue South, Kent, WA 98032

Weather

Measuring Pt. Description TOC Screen Setting (ft-bmp) NA

Casing Diameter (in.) 2

Well Material X PVC SS

Static Water Level (ft-btoc) 9.78 Total Depth (ft-btoc) 18.75

Water Column/ Gallons in Well 1.45

Initial PID Reading (ppm) 4.7

TOC Elevatio: NA Pump Intake (ft-btoc) NA

Purge Method: No Purge

Sample Method Bailer

Pump On/Off NA Volumes Purged NA

Centrifugal Submersible Other

Sample Time: Label 13:45 Replicate/ Code No. No Duplicates Start 13:35 End 13:40

Sampled by Kyle Haslam

Stabilized Range: ~.5 ft 0.1 3% 10% 3%

Table with columns: Time, Minutes Elapsed, Rate (gpm), Depth to Water (ft), Gallons Purged, pH, Cond. (µMhos), Turbidity (NTU), Dissolved Oxygen (mg/L), Temp. (°C), Redox ORP (mV), Appearance (Color, Odor). Includes handwritten data for 13:45.

Table with columns: Constituents Sampled, Container, Number, Preservative. Rows include GRO, BTEX, MTBE, Total/Dissolved Lead.

Well Casing Volumes table with columns: Gallons/Foot, 1" = 0.04, 1.25" = 0.06, 1.5" = 0.09, 2" = 0.162, 2.5" = 0.26, 3" = 0.37, 3.5" = 0.50, 4" = 0.653, 6" = 1.47

Well Information: Well Location: S of E Pray Islands, Well Locked at Arrival: Yes / No, Condition of Well: Good, Well Locked at Departure: Yes / No, Well Completion: Flush Mount, Key Number To Well: NA



Groundwater Sampling Form

Project No. GP09BPNA.WA39.N0000

Well ID MW-6

Date 7/26/2012

Project Name/Location 11918 68th Avenue South, Kent, WA 98032

Weather Sunny

Measuring Pt. Description TOC Screen Setting (ft-bmp) NA

Casing Diameter (in.) 2

Well Material X PVC SS

Static Water Level (ft-btoc) 9.68 Total Depth (ft-btoc) 18.56

Water Column/ Gallons in Well 1.44

Initial PID Reading (ppm) 92.4

TOC Elevation NA Pump Intake (ft-btoc) NA

Purge Method: No Purge

Sample Method Bailer

Pump On/Off NA Volumes Purged NA

Centrifugal Submersible Other

Sample Time: Label 7/25/12 Replicate/ Code No. No Duplicates Start 14:10 End 14:20

Sampled by Kyle Haslam

Stabilized Range: ~.5 ft 0.1 3% 10% 3%

Table with columns: Time, Minutes Elapsed, Rate (gpm), Depth to Water (ft), Gallons Purged, pH, Cond. (µMhos), Turbidity (NTU), Dissolved Oxygen (mg/L), Temp. (°C), Redox ORP (mV), Appearance (Color, Odor). Row 1: 14:25, -, -, 9.68, 0, -, -, -, -, -, -, clear, strong.

Table with columns: Constituents Sampled, Container, Number, Preservative. Rows include GRO, BTEX, MTBE, Total/Dissolved Lead.

Well Casing Volumes table with columns: Gallons/Foot, 1", 1.25", 1.5", 2", 2.5", 3", 3.5", 4", 6".

Well Information: Well Location: S of W Pump Islands; Condition of Well: Good; Well Completion: Flush Mount / Stick Up; Well Locked at Arrival: Yes / No; Well Locked at Departure: Yes / No; Key Number To Well: NA

7-13-2017

Location WA-05544

Date 7-26-12 137

Project / Client BP West Coast Products, LLC

GMM (2SA) page 1

Supper: Ganga all wells; Sample 3

Personnel: Kyle Haslam - AUS

Weather: Sunny a mid 70s

9:45 Arrive onsite; conduct Has Meeting

10:00 Calibrate PIP (cal reading = 99.7)

10:20 Begin gauging wells

11:30 Al Kahal (AUS) arrived onsite
to conduct TIP11:45 Conducted second TGSM
Completed gauging

12:15 Took lunch

12:30 Setup on MW-5
Bought Ice for coolers13:15 Sampled MW-5
At offsite

13:30 Setup on MW-2

AMH

S	13:45	Sampled MW-2
P		
E	14:05	Setup on MW-6
W	14:20	Sampled MW-6
14	14:35	Decontaminated all equipment Emptied down water into drum Packed samples Completed COC
15	15:00	Called Harini to discuss COC
15	15:15	Offsite

Drum Count:

1 Drum w/ approximately 10 gallons
of space available

End of
Notes

13A

ARCADIS

Attachment B

**Laboratory Reports and
Chain-of-Custody Documentation**

March 30, 2012

Chris Robinson
Arcadis U.S., Inc.
2300 Eastlake Ave E.
Seattle, WA 98102

RE: Project: WA-05544
Pace Project No.: 2511269

Dear Chris Robinson:

Enclosed are the analytical results for sample(s) received by the laboratory on March 16, 2012. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Andy Brownfield

andy.brownfield@pacelabs.com
Project Manager

Enclosures

cc: Jonathan Flomerfelt, Arcadis U.S., Inc.
Rick Rodriguez, Arcadis U.S., Inc.
Harini Shanmugam, Arcadis U.S., Inc.



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: WA-05544

Pace Project No.: 2511269

Washington Certification IDs

940 South Harney Street, Seattle, WA 98108

Alaska CS Certification #: UST-025

Arizona Certification #: AZ0770

California Certification #: 01153CA

Florida/NELAP Certification #: E87617

Oregon Certification #: WA200007

Washington Certification #: C555

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: WA-05544
Pace Project No.: 2511269

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
2511269001	MW-1	EPA 6010	BGA	1	PASI-S
		EPA 6010	BGA	1	PASI-S
		EPA 5030B/8260	LNH	9	PASI-S
		NWTPH-Gx	LNH	2	PASI-S
2511269002	MW-2	EPA 6010	BGA	1	PASI-S
		EPA 6010	BGA	1	PASI-S
		EPA 5030B/8260	LNH	9	PASI-S
		NWTPH-Gx	LNH	2	PASI-S
2511269003	MW-3	EPA 6010	BGA	1	PASI-S
		EPA 6010	BGA	1	PASI-S
		EPA 5030B/8260	LNH	9	PASI-S
		NWTPH-Gx	LNH	2	PASI-S
2511269004	MW-4	EPA 6010	BGA	1	PASI-S
		EPA 6010	BGA	1	PASI-S
		EPA 5030B/8260	CC	9	PASI-S
		NWTPH-Gx	CC	2	PASI-S
2511269005	MW-5	EPA 6010	BGA	1	PASI-S
		EPA 6010	BGA	1	PASI-S
		EPA 5030B/8260	CC	9	PASI-S
		NWTPH-Gx	CC	2	PASI-S
2511269006	MW-6	EPA 6010	BGA	1	PASI-S
		EPA 6010	BGA	1	PASI-S
		EPA 5030B/8260	CC	9	PASI-S
		NWTPH-Gx	CC	2	PASI-S
2511269007	MW-7	EPA 6010	BGA	1	PASI-S
		EPA 6010	BGA	1	PASI-S
		EPA 5030B/8260	CC	9	PASI-S
		NWTPH-Gx	CC	2	PASI-S
2511269008	MW-8	EPA 6010	BGA	1	PASI-S
		EPA 6010	BGA	1	PASI-S
		EPA 5030B/8260	CC	9	PASI-S
		NWTPH-Gx	CC	2	PASI-S
2511269009	MW-9	EPA 6010	BGA	1	PASI-S
		EPA 6010	BGA	1	PASI-S
		EPA 5030B/8260	CC	9	PASI-S
		NWTPH-Gx	CC	2	PASI-S
2511269010	MW-10	EPA 6010	BGA	1	PASI-S

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: WA-05544

Pace Project No.: 2511269

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 6010	BGA	1	PASI-S
		EPA 5030B/8260	CC	9	PASI-S
		NWTPH-Gx	CC	2	PASI-S
2511269011	Trip Blank	EPA 5030B/8260	CC	9	PASI-S
		NWTPH-Gx	CC	2	PASI-S

REPORT OF LABORATORY ANALYSIS

PROJECT NARRATIVE

Project: WA-05544

Pace Project No.: 2511269

Method: EPA 6010

Description: 6010 MET ICP

Client: Arcadis U.S., Inc.

Date: March 30, 2012

General Information:

10 samples were analyzed for EPA 6010. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3010 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

Page 5 of 28

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PROJECT NARRATIVE

Project: WA-05544

Pace Project No.: 2511269

Method: EPA 6010

Description: 6010 MET ICP, Dissolved (LF)

Client: Arcadis U.S., Inc.

Date: March 30, 2012

General Information:

10 samples were analyzed for EPA 6010. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3010 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

Page 6 of 28

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PROJECT NARRATIVE

Project: WA-05544

Pace Project No.: 2511269

Method: EPA 5030B/8260

Description: 8260 MSV

Client: Arcadis U.S., Inc.

Date: March 30, 2012

General Information:

11 samples were analyzed for EPA 5030B/8260. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: MSV/6657

A matrix spike and matrix spike duplicate (MS/MSD) were performed on the following sample(s): 2511310001

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 108219)
 - Benzene
 - Ethylbenzene
 - Methyl-tert-butyl ether
 - Xylene (Total)
- MSD (Lab ID: 108220)
 - Benzene
 - Ethylbenzene
 - Methyl-tert-butyl ether
 - Xylene (Total)

QC Batch: MSV/6710

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

REPORT OF LABORATORY ANALYSIS

PROJECT NARRATIVE

Project: WA-05544

Pace Project No.: 2511269

Method: EPA 5030B/8260

Description: 8260 MSV

Client: Arcadis U.S., Inc.

Date: March 30, 2012

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Analyte Comments:

QC Batch: MSV/6657

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

- MS (Lab ID: 108219)
 - Benzene
 - Ethylbenzene
 - Methyl-tert-butyl ether
 - Xylene (Total)
- MSD (Lab ID: 108220)
 - Benzene
 - Ethylbenzene
 - Methyl-tert-butyl ether
 - Xylene (Total)

REPORT OF LABORATORY ANALYSIS

Page 8 of 28

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PROJECT NARRATIVE

Project: WA-05544

Pace Project No.: 2511269

Method: NWTPH-Gx

Description: NWTPH-Gx MSV

Client: Arcadis U.S., Inc.

Date: March 30, 2012

General Information:

11 samples were analyzed for NWTPH-Gx. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Analyte Comments:

QC Batch: MSV/6673

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

- MS (Lab ID: 108222)
 - Gasoline Range Organics
- MSD (Lab ID: 108223)
 - Gasoline Range Organics

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: WA-05544
Pace Project No.: 2511269

Sample: MW-1		Lab ID: 2511269001	Collected: 03/16/12 11:05	Received: 03/16/12 15:43	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP		Analytical Method: EPA 6010 Preparation Method: EPA 3010						
Lead	ND ug/L		10.0	1	03/20/12 09:06	03/21/12 10:34	7439-92-1	
6010 MET ICP, Dissolved (LF)		Analytical Method: EPA 6010 Preparation Method: EPA 3010						
Lead, Dissolved	ND ug/L		10.0	1	03/22/12 08:07	03/27/12 15:18	7439-92-1	
8260 MSV		Analytical Method: EPA 5030B/8260						
Benzene	ND ug/L		1.0	1		03/22/12 01:18	71-43-2	
Ethylbenzene	ND ug/L		1.0	1		03/22/12 01:18	100-41-4	
Methyl-tert-butyl ether	ND ug/L		1.0	1		03/22/12 01:18	1634-04-4	
Toluene	ND ug/L		1.0	1		03/22/12 01:18	108-88-3	
Xylene (Total)	ND ug/L		3.0	1		03/22/12 01:18	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	112 %		79-121	1		03/22/12 01:18	460-00-4	
Dibromofluoromethane (S)	96 %		81-119	1		03/22/12 01:18	1868-53-7	
1,2-Dichloroethane-d4 (S)	95 %		72-127	1		03/22/12 01:18	17060-07-0	
Toluene-d8 (S)	98 %		77-120	1		03/22/12 01:18	2037-26-5	
NWTPH-Gx MSV		Analytical Method: NWTPH-Gx						
Gasoline Range Organics	ND ug/L		50.0	1		03/22/12 01:18		
Surrogates								
4-Bromofluorobenzene (S)	112 %		50-150	1		03/22/12 01:18	460-00-4	

Sample: MW-2		Lab ID: 2511269002	Collected: 03/16/12 14:10	Received: 03/16/12 15:43	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP		Analytical Method: EPA 6010 Preparation Method: EPA 3010						
Lead	ND ug/L		10.0	1	03/20/12 09:06	03/21/12 10:38	7439-92-1	
6010 MET ICP, Dissolved (LF)		Analytical Method: EPA 6010 Preparation Method: EPA 3010						
Lead, Dissolved	ND ug/L		10.0	1	03/22/12 08:07	03/27/12 15:22	7439-92-1	
8260 MSV		Analytical Method: EPA 5030B/8260						
Benzene	32.5 ug/L		1.0	1		03/22/12 01:35	71-43-2	
Ethylbenzene	1960 ug/L		25.0	25		03/28/12 23:16	100-41-4	
Methyl-tert-butyl ether	ND ug/L		1.0	1		03/22/12 01:35	1634-04-4	
Toluene	17.5 ug/L		1.0	1		03/22/12 01:35	108-88-3	
Xylene (Total)	3050 ug/L		75.0	25		03/28/12 23:16	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	87 %		79-121	1		03/22/12 01:35	460-00-4	
Dibromofluoromethane (S)	91 %		81-119	1		03/22/12 01:35	1868-53-7	
1,2-Dichloroethane-d4 (S)	91 %		72-127	1		03/22/12 01:35	17060-07-0	
Toluene-d8 (S)	100 %		77-120	1		03/22/12 01:35	2037-26-5	

ANALYTICAL RESULTS

Project: WA-05544
Pace Project No.: 2511269

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
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Sample: MW-2

Lab ID: 2511269002 Collected: 03/16/12 14:10 Received: 03/16/12 15:43 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Gx MSV Analytical Method: NWTPH-Gx								
Gasoline Range Organics Surrogates	30800	ug/L	1250	25		03/28/12 23:16		
4-Bromofluorobenzene (S)	97 %		50-150	25		03/28/12 23:16	460-00-4	

Sample: MW-3

Lab ID: 2511269003 Collected: 03/16/12 10:50 Received: 03/16/12 15:43 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
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6010 MET ICP

Analytical Method: EPA 6010 Preparation Method: EPA 3010

Lead	ND	ug/L	10.0	1	03/20/12 09:06	03/21/12 10:49	7439-92-1	
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6010 MET ICP, Dissolved (LF)

Analytical Method: EPA 6010 Preparation Method: EPA 3010

Lead, Dissolved	ND	ug/L	10.0	1	03/22/12 08:07	03/27/12 15:26	7439-92-1	
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8260 MSV

Analytical Method: EPA 5030B/8260

Benzene	ND	ug/L	1.0	1		03/28/12 18:17	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		03/28/12 18:17	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		03/28/12 18:17	1634-04-4	
Toluene	ND	ug/L	1.0	1		03/28/12 18:17	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		03/28/12 18:17	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	100 %		79-121	1		03/28/12 18:17	460-00-4	
Dibromofluoromethane (S)	106 %		81-119	1		03/28/12 18:17	1868-53-7	
1,2-Dichloroethane-d4 (S)	111 %		72-127	1		03/28/12 18:17	17060-07-0	
Toluene-d8 (S)	110 %		77-120	1		03/28/12 18:17	2037-26-5	

NWTPH-Gx MSV

Analytical Method: NWTPH-Gx

Gasoline Range Organics Surrogates	ND	ug/L	50.0	1		03/28/12 18:17		
4-Bromofluorobenzene (S)	100 %		50-150	1		03/28/12 18:17	460-00-4	

Sample: MW-4

Lab ID: 2511269004 Collected: 03/16/12 11:35 Received: 03/16/12 15:43 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
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6010 MET ICP

Analytical Method: EPA 6010 Preparation Method: EPA 3010

Lead	ND	ug/L	10.0	1	03/20/12 09:06	03/21/12 10:53	7439-92-1	
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6010 MET ICP, Dissolved (LF)

Analytical Method: EPA 6010 Preparation Method: EPA 3010

Lead, Dissolved	ND	ug/L	10.0	1	03/22/12 08:07	03/27/12 15:30	7439-92-1	
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8260 MSV

Analytical Method: EPA 5030B/8260

Benzene	ND	ug/L	1.0	1		03/23/12 06:51	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		03/23/12 06:51	100-41-4	

ANALYTICAL RESULTS

Project: WA-05544
Pace Project No.: 2511269

Sample: MW-4		Lab ID: 2511269004	Collected: 03/16/12 11:35	Received: 03/16/12 15:43	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV		Analytical Method: EPA 5030B/8260						
Methyl-tert-butyl ether	ND ug/L		1.0	1		03/23/12 06:51	1634-04-4	
Toluene	ND ug/L		1.0	1		03/23/12 06:51	108-88-3	
Xylene (Total)	ND ug/L		3.0	1		03/23/12 06:51	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	103 %		79-121	1		03/23/12 06:51	460-00-4	
Dibromofluoromethane (S)	98 %		81-119	1		03/23/12 06:51	1868-53-7	
1,2-Dichloroethane-d4 (S)	112 %		72-127	1		03/23/12 06:51	17060-07-0	
Toluene-d8 (S)	102 %		77-120	1		03/23/12 06:51	2037-26-5	
NWTPH-Gx MSV		Analytical Method: NWTPH-Gx						
Gasoline Range Organics	ND ug/L		50.0	1		03/23/12 06:51		
Surrogates								
4-Bromofluorobenzene (S)	103 %		50-150	1		03/23/12 06:51	460-00-4	

Sample: MW-5		Lab ID: 2511269005	Collected: 03/16/12 13:35	Received: 03/16/12 15:43	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP		Analytical Method: EPA 6010 Preparation Method: EPA 3010						
Lead	ND ug/L		10.0	1	03/20/12 09:06	03/21/12 10:56	7439-92-1	
6010 MET ICP, Dissolved (LF)		Analytical Method: EPA 6010 Preparation Method: EPA 3010						
Lead, Dissolved	ND ug/L		10.0	1	03/22/12 08:07	03/27/12 15:33	7439-92-1	
8260 MSV		Analytical Method: EPA 5030B/8260						
Benzene	ND ug/L		1.0	1		03/23/12 07:09	71-43-2	
Ethylbenzene	ND ug/L		1.0	1		03/23/12 07:09	100-41-4	
Methyl-tert-butyl ether	2.9 ug/L		1.0	1		03/23/12 07:09	1634-04-4	
Toluene	ND ug/L		1.0	1		03/23/12 07:09	108-88-3	
Xylene (Total)	ND ug/L		3.0	1		03/23/12 07:09	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	101 %		79-121	1		03/23/12 07:09	460-00-4	
Dibromofluoromethane (S)	95 %		81-119	1		03/23/12 07:09	1868-53-7	
1,2-Dichloroethane-d4 (S)	112 %		72-127	1		03/23/12 07:09	17060-07-0	
Toluene-d8 (S)	100 %		77-120	1		03/23/12 07:09	2037-26-5	
NWTPH-Gx MSV		Analytical Method: NWTPH-Gx						
Gasoline Range Organics	167 ug/L		50.0	1		03/23/12 07:09		
Surrogates								
4-Bromofluorobenzene (S)	101 %		50-150	1		03/23/12 07:09	460-00-4	

ANALYTICAL RESULTS

Project: WA-05544
Pace Project No.: 2511269

Sample: MW-6	Lab ID: 2511269006	Collected: 03/16/12 14:30	Received: 03/16/12 15:43	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Lead	ND ug/L		10.0	1	03/20/12 09:06	03/21/12 11:00	7439-92-1	
6010 MET ICP, Dissolved (LF)	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Lead, Dissolved	ND ug/L		10.0	1	03/22/12 08:07	03/27/12 15:37	7439-92-1	
8260 MSV	Analytical Method: EPA 5030B/8260							
Benzene	304 ug/L		25.0	25		03/28/12 09:20	71-43-2	
Ethylbenzene	1640 ug/L		25.0	25		03/28/12 09:20	100-41-4	
Methyl-tert-butyl ether	10.1 ug/L		1.0	1		03/23/12 07:28	1634-04-4	
Toluene	19.8 ug/L		1.0	1		03/23/12 07:28	108-88-3	
Xylene (Total)	4990 ug/L		75.0	25		03/28/12 09:20	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	86 %		79-121	1		03/23/12 07:28	460-00-4	
Dibromofluoromethane (S)	103 %		81-119	1		03/23/12 07:28	1868-53-7	
1,2-Dichloroethane-d4 (S)	102 %		72-127	1		03/23/12 07:28	17060-07-0	
Toluene-d8 (S)	101 %		77-120	1		03/23/12 07:28	2037-26-5	
NWTPH-Gx MSV	Analytical Method: NWTPH-Gx							
Gasoline Range Organics	46000 ug/L		1250	25		03/28/12 09:20		
Surrogates								
4-Bromofluorobenzene (S)	95 %		50-150	25		03/28/12 09:20	460-00-4	

Sample: MW-7	Lab ID: 2511269007	Collected: 03/16/12 11:50	Received: 03/16/12 15:43	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Lead	ND ug/L		10.0	1	03/20/12 09:06	03/21/12 11:04	7439-92-1	
6010 MET ICP, Dissolved (LF)	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Lead, Dissolved	ND ug/L		10.0	1	03/22/12 08:07	03/27/12 15:41	7439-92-1	
8260 MSV	Analytical Method: EPA 5030B/8260							
Benzene	ND ug/L		1.0	1		03/28/12 04:58	71-43-2	
Ethylbenzene	ND ug/L		1.0	1		03/28/12 04:58	100-41-4	
Methyl-tert-butyl ether	ND ug/L		1.0	1		03/28/12 04:58	1634-04-4	
Toluene	ND ug/L		1.0	1		03/28/12 04:58	108-88-3	
Xylene (Total)	ND ug/L		3.0	1		03/28/12 04:58	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	102 %		79-121	1		03/28/12 04:58	460-00-4	
Dibromofluoromethane (S)	98 %		81-119	1		03/28/12 04:58	1868-53-7	
1,2-Dichloroethane-d4 (S)	102 %		72-127	1		03/28/12 04:58	17060-07-0	
Toluene-d8 (S)	105 %		77-120	1		03/28/12 04:58	2037-26-5	

ANALYTICAL RESULTS

Project: WA-05544

Pace Project No.: 2511269

Sample: MW-7	Lab ID: 2511269007	Collected: 03/16/12 11:50	Received: 03/16/12 15:43	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Gx MSV Analytical Method: NWTPH-Gx								
Gasoline Range Organics Surrogates	ND ug/L		50.0	1		03/28/12 04:58		
4-Bromofluorobenzene (S)	102 %		50-150	1		03/28/12 04:58	460-00-4	
Sample: MW-8 Lab ID: 2511269008 Collected: 03/16/12 12:10 Received: 03/16/12 15:43 Matrix: Water								
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Lead	ND ug/L		10.0	1	03/20/12 09:06	03/21/12 11:07	7439-92-1	
6010 MET ICP, Dissolved (LF) Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Lead, Dissolved	ND ug/L		10.0	1	03/22/12 08:07	03/27/12 15:45	7439-92-1	
8260 MSV Analytical Method: EPA 5030B/8260								
Benzene	ND ug/L		1.0	1		03/28/12 05:17	71-43-2	
Ethylbenzene	ND ug/L		1.0	1		03/28/12 05:17	100-41-4	
Methyl-tert-butyl ether	ND ug/L		1.0	1		03/28/12 05:17	1634-04-4	
Toluene	ND ug/L		1.0	1		03/28/12 05:17	108-88-3	
Xylene (Total)	ND ug/L		3.0	1		03/28/12 05:17	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	101 %		79-121	1		03/28/12 05:17	460-00-4	
Dibromofluoromethane (S)	106 %		81-119	1		03/28/12 05:17	1868-53-7	
1,2-Dichloroethane-d4 (S)	105 %		72-127	1		03/28/12 05:17	17060-07-0	
Toluene-d8 (S)	106 %		77-120	1		03/28/12 05:17	2037-26-5	
NWTPH-Gx MSV Analytical Method: NWTPH-Gx								
Gasoline Range Organics Surrogates	ND ug/L		50.0	1		03/23/12 08:04		
4-Bromofluorobenzene (S)	101 %		50-150	1		03/23/12 08:04	460-00-4	

Sample: MW-9	Lab ID: 2511269009	Collected: 03/16/12 13:05	Received: 03/16/12 15:43	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Lead	ND ug/L		10.0	1	03/20/12 09:06	03/21/12 11:11	7439-92-1	
6010 MET ICP, Dissolved (LF) Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Lead, Dissolved	ND ug/L		10.0	1	03/22/12 08:07	03/27/12 15:48	7439-92-1	
8260 MSV Analytical Method: EPA 5030B/8260								
Benzene	ND ug/L		1.0	1		03/23/12 08:23	71-43-2	
Ethylbenzene	ND ug/L		1.0	1		03/23/12 08:23	100-41-4	

Date: 03/30/2012 03:37 PM

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: WA-05544

Pace Project No.: 2511269

Sample: MW-9		Lab ID: 2511269009	Collected: 03/16/12 13:05	Received: 03/16/12 15:43	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV		Analytical Method: EPA 5030B/8260						
Methyl-tert-butyl ether	ND ug/L		1.0	1		03/23/12 08:23	1634-04-4	
Toluene	ND ug/L		1.0	1		03/23/12 08:23	108-88-3	
Xylene (Total)	ND ug/L		3.0	1		03/23/12 08:23	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	102 %		79-121	1		03/23/12 08:23	460-00-4	
Dibromofluoromethane (S)	94 %		81-119	1		03/23/12 08:23	1868-53-7	
1,2-Dichloroethane-d4 (S)	102 %		72-127	1		03/23/12 08:23	17060-07-0	
Toluene-d8 (S)	101 %		77-120	1		03/23/12 08:23	2037-26-5	
NWTPH-Gx MSV		Analytical Method: NWTPH-Gx						
Gasoline Range Organics	ND ug/L		50.0	1		03/23/12 08:23		
Surrogates								
4-Bromofluorobenzene (S)	102 %		50-150	1		03/23/12 08:23	460-00-4	

Sample: MW-10		Lab ID: 2511269010	Collected: 03/16/12 10:10	Received: 03/16/12 15:43	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP		Analytical Method: EPA 6010 Preparation Method: EPA 3010						
Lead	ND ug/L		10.0	1	03/20/12 09:06	03/21/12 11:15	7439-92-1	
6010 MET ICP, Dissolved (LF)		Analytical Method: EPA 6010 Preparation Method: EPA 3010						
Lead, Dissolved	ND ug/L		10.0	1	03/22/12 08:07	03/27/12 15:52	7439-92-1	
8260 MSV		Analytical Method: EPA 5030B/8260						
Benzene	ND ug/L		1.0	1		03/23/12 08:41	71-43-2	
Ethylbenzene	ND ug/L		1.0	1		03/23/12 08:41	100-41-4	
Methyl-tert-butyl ether	ND ug/L		1.0	1		03/23/12 08:41	1634-04-4	
Toluene	ND ug/L		1.0	1		03/23/12 08:41	108-88-3	
Xylene (Total)	ND ug/L		3.0	1		03/23/12 08:41	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	102 %		79-121	1		03/23/12 08:41	460-00-4	
Dibromofluoromethane (S)	96 %		81-119	1		03/23/12 08:41	1868-53-7	
1,2-Dichloroethane-d4 (S)	111 %		72-127	1		03/23/12 08:41	17060-07-0	
Toluene-d8 (S)	101 %		77-120	1		03/23/12 08:41	2037-26-5	
NWTPH-Gx MSV		Analytical Method: NWTPH-Gx						
Gasoline Range Organics	ND ug/L		50.0	1		03/23/12 08:41		
Surrogates								
4-Bromofluorobenzene (S)	102 %		50-150	1		03/23/12 08:41	460-00-4	

ANALYTICAL RESULTS

Project: WA-05544

Pace Project No.: 2511269

Sample: Trip Blank		Lab ID: 2511269011	Collected: 03/16/12 00:00	Received: 03/16/12 15:43	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV		Analytical Method: EPA 5030B/8260						
Benzene	ND	ug/L	1.0	1		03/23/12 02:35	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		03/23/12 02:35	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		03/23/12 02:35	1634-04-4	
Toluene	ND	ug/L	1.0	1		03/23/12 02:35	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		03/23/12 02:35	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	105 %		79-121	1		03/23/12 02:35	460-00-4	
Dibromofluoromethane (S)	110 %		81-119	1		03/23/12 02:35	1868-53-7	
1,2-Dichloroethane-d4 (S)	119 %		72-127	1		03/23/12 02:35	17060-07-0	
Toluene-d8 (S)	107 %		77-120	1		03/23/12 02:35	2037-26-5	
NWTPH-Gx MSV		Analytical Method: NWTPH-Gx						
Gasoline Range Organics	ND	ug/L	50.0	1		03/23/12 02:35		
Surrogates								
4-Bromofluorobenzene (S)	105 %		50-150	1		03/23/12 02:35	460-00-4	

QUALITY CONTROL DATA

Project: WA-05544
Pace Project No.: 2511269

QC Batch: MPRP/2892 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET Dissolved
Associated Lab Samples: 2511269001, 2511269002, 2511269003, 2511269004, 2511269005, 2511269006, 2511269007, 2511269008, 2511269009, 2511269010

METHOD BLANK: 107408 Matrix: Water
Associated Lab Samples: 2511269001, 2511269002, 2511269003, 2511269004, 2511269005, 2511269006, 2511269007, 2511269008, 2511269009, 2511269010

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Lead, Dissolved	ug/L	ND	10.0	03/27/12 14:33	

LABORATORY CONTROL SAMPLE: 107409

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Lead, Dissolved	ug/L	500	515	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 107410 107411

Parameter	Units	2511263004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
Lead, Dissolved	ug/L	ND	500	500	521	521	104	104	75-125	.1	

QUALITY CONTROL DATA

Project: WA-05544
Pace Project No.: 2511269

QC Batch: MSV/6657 Analysis Method: EPA 5030B/8260
QC Batch Method: EPA 5030B/8260 Analysis Description: 8260 MSV Water 10 mL Purge
Associated Lab Samples: 2511269001, 2511269002

METHOD BLANK: 107370 Matrix: Water
Associated Lab Samples: 2511269001, 2511269002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	03/21/12 20:12	
Ethylbenzene	ug/L	ND	1.0	03/21/12 20:12	
Methyl-tert-butyl ether	ug/L	ND	1.0	03/21/12 20:12	
Toluene	ug/L	ND	1.0	03/21/12 20:12	
Xylene (Total)	ug/L	ND	3.0	03/21/12 20:12	
1,2-Dichloroethane-d4 (S)	%	92	72-127	03/21/12 20:12	
4-Bromofluorobenzene (S)	%	112	79-121	03/21/12 20:12	
Dibromofluoromethane (S)	%	96	81-119	03/21/12 20:12	
Toluene-d8 (S)	%	99	77-120	03/21/12 20:12	

LABORATORY CONTROL SAMPLE: 107371

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	16.4	82	66-123	
Ethylbenzene	ug/L	20	19.5	97	67-122	
Methyl-tert-butyl ether	ug/L	20	20.9	104	65-138	
Toluene	ug/L	20	18.3	91	64-118	
Xylene (Total)	ug/L	60	55.9	93	68-122	
1,2-Dichloroethane-d4 (S)	%			93	72-127	
4-Bromofluorobenzene (S)	%			92	79-121	
Dibromofluoromethane (S)	%			96	81-119	
Toluene-d8 (S)	%			96	77-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 108219 108220

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
		2511310001 Result	Spike Conc.	Spike Conc.	MS Result					
Benzene	ug/L	4800	20	20	873	875	-19700	-19600	63-138	.2 E,M1
Ethylbenzene	ug/L	562	20	20	436	434	-629	-640	65-135	.5 E,M1
Methyl-tert-butyl ether	ug/L	768	20	20	507	543	-1300	-1120	59-143	7 E,M1
Toluene	ug/L	125	20	20	139	144	70	91	64-128	3
Xylene (Total)	ug/L	512	60	60	490	502	-36	-16	65-133	2 E,M1
1,2-Dichloroethane-d4 (S)	%						78	81	72-127	
4-Bromofluorobenzene (S)	%						92	90	79-121	
Dibromofluoromethane (S)	%						95	95	81-119	
Toluene-d8 (S)	%						103	104	77-120	

QUALITY CONTROL DATA

Project: WA-05544

Pace Project No.: 2511269

QC Batch: MSV/6664 Analysis Method: EPA 5030B/8260
 QC Batch Method: EPA 5030B/8260 Analysis Description: 8260 MSV Water 10 mL Purge
 Associated Lab Samples: 2511269004, 2511269005, 2511269006, 2511269009, 2511269010, 2511269011

METHOD BLANK: 107527 Matrix: Water

Associated Lab Samples: 2511269004, 2511269005, 2511269006, 2511269009, 2511269010, 2511269011

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	03/23/12 02:17	
Ethylbenzene	ug/L	ND	1.0	03/23/12 02:17	
Methyl-tert-butyl ether	ug/L	ND	1.0	03/23/12 02:17	
Toluene	ug/L	ND	1.0	03/23/12 02:17	
Xylene (Total)	ug/L	ND	3.0	03/23/12 02:17	
1,2-Dichloroethane-d4 (S)	%	122	72-127	03/23/12 02:17	
4-Bromofluorobenzene (S)	%	105	79-121	03/23/12 02:17	
Dibromofluoromethane (S)	%	109	81-119	03/23/12 02:17	
Toluene-d8 (S)	%	104	77-120	03/23/12 02:17	

LABORATORY CONTROL SAMPLE: 107528

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	16.4	82	66-123	
Ethylbenzene	ug/L	20	18.3	92	67-122	
Methyl-tert-butyl ether	ug/L	20	17.6	88	65-138	
Toluene	ug/L	20	16.7	83	64-118	
Xylene (Total)	ug/L	60	54.5	91	68-122	
1,2-Dichloroethane-d4 (S)	%			121	72-127	
4-Bromofluorobenzene (S)	%			96	79-121	
Dibromofluoromethane (S)	%			112	81-119	
Toluene-d8 (S)	%			101	77-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 107529 107530

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
		2511263004 Result	Spike Conc.	Spike Conc.	MS Result					
Benzene	ug/L	ND	20	20	21.3	21.3	107	106	63-138	.2
Ethylbenzene	ug/L	ND	20	20	23.6	23.1	117	115	65-135	2
Methyl-tert-butyl ether	ug/L	ND	20	20	22.6	21.7	113	108	59-143	4
Toluene	ug/L	ND	20	20	21.3	20.7	106	103	64-128	3
Xylene (Total)	ug/L	ND	60	60	71.1	70.1	118	117	65-133	1
1,2-Dichloroethane-d4 (S)	%						105	111	72-127	
4-Bromofluorobenzene (S)	%						97	97	79-121	
Dibromofluoromethane (S)	%						101	106	81-119	
Toluene-d8 (S)	%						99	97	77-120	

QUALITY CONTROL DATA

Project: WA-05544
Pace Project No.: 2511269

QC Batch: MSV/6706 Analysis Method: EPA 5030B/8260
QC Batch Method: EPA 5030B/8260 Analysis Description: 8260 MSV Water 10 mL Purge
Associated Lab Samples: 2511269002, 2511269003

METHOD BLANK: 108346 Matrix: Water
Associated Lab Samples: 2511269002, 2511269003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	03/28/12 16:28	
Ethylbenzene	ug/L	ND	1.0	03/28/12 16:28	
Methyl-tert-butyl ether	ug/L	ND	1.0	03/28/12 16:28	
Toluene	ug/L	ND	1.0	03/28/12 16:28	
Xylene (Total)	ug/L	ND	3.0	03/28/12 16:28	
1,2-Dichloroethane-d4 (S)	%	106	72-127	03/28/12 16:28	
4-Bromofluorobenzene (S)	%	100	79-121	03/28/12 16:28	
Dibromofluoromethane (S)	%	98	81-119	03/28/12 16:28	
Toluene-d8 (S)	%	107	77-120	03/28/12 16:28	

LABORATORY CONTROL SAMPLE: 108347

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	19.5	97	66-123	
Ethylbenzene	ug/L	20	21.9	110	67-122	
Methyl-tert-butyl ether	ug/L	20	20.4	102	65-138	
Toluene	ug/L	20	21.0	105	64-118	
Xylene (Total)	ug/L	60	65.9	110	68-122	
1,2-Dichloroethane-d4 (S)	%			104	72-127	
4-Bromofluorobenzene (S)	%			93	79-121	
Dibromofluoromethane (S)	%			102	81-119	
Toluene-d8 (S)	%			104	77-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 108450 108451

Parameter	Units	2511380001		MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
		Result	Conc.	Spike Conc.	Spike Conc.	Result	Result					
Benzene	ug/L	ND	10000	10000	10000	10300	9300	103	93	63-138	10	
Ethylbenzene	ug/L	ND	10000	10000	10000	11800	10600	118	106	65-135	11	
Methyl-tert-butyl ether	ug/L	ND	10000	10000	10000	9630	9530	96	95	59-143	1	
Toluene	ug/L	ND	10000	10000	10000	11000	9870	110	98	64-128	11	
Xylene (Total)	ug/L	ND	30000	30000	30000	35500	31800	118	106	65-133	11	
1,2-Dichloroethane-d4 (S)	%							101	103	72-127		
4-Bromofluorobenzene (S)	%							93	95	79-121		
Dibromofluoromethane (S)	%							106	102	81-119		
Toluene-d8 (S)	%							103	101	77-120		

QUALITY CONTROL DATA

Project: WA-05544

Pace Project No.: 2511269

QC Batch:	MSV/6710	Analysis Method:	EPA 5030B/8260
QC Batch Method:	EPA 5030B/8260	Analysis Description:	8260 MSV Water 10 mL Purge
Associated Lab Samples:	2511269007, 2511269008		

METHOD BLANK: 108550 Matrix: Water

Associated Lab Samples: 2511269007, 2511269008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	03/28/12 03:09	
Ethylbenzene	ug/L	ND	1.0	03/28/12 03:09	
Methyl-tert-butyl ether	ug/L	ND	1.0	03/28/12 03:09	
Toluene	ug/L	ND	1.0	03/28/12 03:09	
Xylene (Total)	ug/L	ND	3.0	03/28/12 03:09	
1,2-Dichloroethane-d4 (S)	%	101	72-127	03/28/12 03:09	
4-Bromofluorobenzene (S)	%	100	79-121	03/28/12 03:09	
Dibromofluoromethane (S)	%	105	81-119	03/28/12 03:09	
Toluene-d8 (S)	%	104	77-120	03/28/12 03:09	

LABORATORY CONTROL SAMPLE & LCSD: 108551 108748

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Benzene	ug/L	20	18.4	17.7	92	89	66-123	3	20	
Ethylbenzene	ug/L	20	20.7	20.5	103	103	67-122	.7	21	
Methyl-tert-butyl ether	ug/L	20	18.4	19.2	92	96	65-138	4	23	
Toluene	ug/L	20	19.4	18.0	97	90	64-118	8	21	
Xylene (Total)	ug/L	60	62.6	63.0	104	105	68-122	.5	21	
1,2-Dichloroethane-d4 (S)	%				100	100	72-127			
4-Bromofluorobenzene (S)	%				94	95	79-121			
Dibromofluoromethane (S)	%				104	100	81-119			
Toluene-d8 (S)	%				100	99	77-120			

QUALITY CONTROL DATA

Project: WA-05544

Pace Project No.: 2511269

QC Batch: MSV/6666 Analysis Method: NWTPH-Gx
 QC Batch Method: NWTPH-Gx Analysis Description: NWTPH-Gx MSV Water
 Associated Lab Samples: 2511269004, 2511269005, 2511269008, 2511269009, 2511269010, 2511269011

METHOD BLANK: 107541 Matrix: Water
 Associated Lab Samples: 2511269004, 2511269005, 2511269008, 2511269009, 2511269010, 2511269011

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Gasoline Range Organics	ug/L	ND	50.0	03/23/12 02:17	
4-Bromofluorobenzene (S)	%	105	50-150	03/23/12 02:17	

LABORATORY CONTROL SAMPLE: 107542

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Gasoline Range Organics	ug/L	500	522	104	65-139	
4-Bromofluorobenzene (S)	%			102	50-150	

SAMPLE DUPLICATE: 108586

Parameter	Units	2511263004 Result	Dup Result	RPD	Qualifiers
Gasoline Range Organics	ug/L	ND	ND		
4-Bromofluorobenzene (S)	%	107	108	1	

SAMPLE DUPLICATE: 108587

Parameter	Units	2511300002 Result	Dup Result	RPD	Qualifiers
Gasoline Range Organics	ug/L	366	388	6	
4-Bromofluorobenzene (S)	%	101	102	1	

QUALITY CONTROL DATA

Project: WA-05544

Pace Project No.: 2511269

QC Batch: MSV/6673	Analysis Method: NWTPH-Gx
QC Batch Method: NWTPH-Gx	Analysis Description: NWTPH-Gx MSV Water
Associated Lab Samples: 2511269001	

METHOD BLANK: 107652 Matrix: Water

Associated Lab Samples: 2511269001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Gasoline Range Organics	ug/L	ND	50.0	03/21/12 20:12	
4-Bromofluorobenzene (S)	%	112	50-150	03/21/12 20:12	

LABORATORY CONTROL SAMPLE: 107653

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Gasoline Range Organics	ug/L	500	518	104	65-139	
4-Bromofluorobenzene (S)	%			104	50-150	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 108222 108223

Parameter	Units	2511381001		MS		MSD		% Rec		Limits	RPD	Qual
		Result	Spike Conc.	Spike Conc.	MS Result	MSD Result	% Rec	% Rec				
Gasoline Range Organics	ug/L	4150	500	500	4410	4400	52	49	48-147	.3	E	
4-Bromofluorobenzene (S)	%						92	90	50-150			

QUALITY CONTROL DATA

Project: WA-05544

Pace Project No.: 2511269

QC Batch: MSV/6707

Analysis Method: NWTPH-Gx

QC Batch Method: NWTPH-Gx

Analysis Description: NWTPH-Gx MSV Water

Associated Lab Samples: 2511269002, 2511269003

METHOD BLANK: 108348

Matrix: Water

Associated Lab Samples: 2511269002, 2511269003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Gasoline Range Organics	ug/L	ND	50.0	03/28/12 16:28	
4-Bromofluorobenzene (S)	%	100	50-150	03/28/12 16:28	

LABORATORY CONTROL SAMPLE: 108349

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Gasoline Range Organics	ug/L	500	504	101	65-139	
4-Bromofluorobenzene (S)	%			98	50-150	

SAMPLE DUPLICATE: 108453

Parameter	Units	2511371001 Result	Dup Result	RPD	Qualifiers
Gasoline Range Organics	ug/L	ND	ND		
4-Bromofluorobenzene (S)	%	103	102	1	

SAMPLE DUPLICATE: 108454

Parameter	Units	2511371004 Result	Dup Result	RPD	Qualifiers
Gasoline Range Organics	ug/L	ND	ND		
4-Bromofluorobenzene (S)	%	100	100	.1	

QUALITY CONTROL DATA

Project: WA-05544

Pace Project No.: 2511269

QC Batch: MSV/6712

Analysis Method: NWTPH-Gx

QC Batch Method: NWTPH-Gx

Analysis Description: NWTPH-Gx MSV Water

Associated Lab Samples: 2511269006, 2511269007

METHOD BLANK: 108588

Matrix: Water

Associated Lab Samples: 2511269006, 2511269007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Gasoline Range Organics	ug/L	ND	50.0	03/28/12 03:09	
4-Bromofluorobenzene (S)	%	100	50-150	03/28/12 03:09	

LABORATORY CONTROL SAMPLE: 108589

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Gasoline Range Organics	ug/L	500	567	113	65-139	
4-Bromofluorobenzene (S)	%			99	50-150	

SAMPLE DUPLICATE: 108776

Parameter	Units	2511446001 Result	Dup Result	RPD	Qualifiers
Gasoline Range Organics	ug/L	6430	7150	11	
4-Bromofluorobenzene (S)	%	89	94	136	

QUALIFIERS

Project: WA-05544

Pace Project No.: 2511269

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel Clean-Up

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-S Pace Analytical Services - Seattle

BATCH QUALIFIERS

Batch: MSV/6710

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

E Analyte concentration exceeded the calibration range. The reported result is estimated.

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: WA-05544
Pace Project No.: 2511269

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2511269001	MW-1	EPA 3010	MPRP/2885	EPA 6010	ICP/2708
2511269002	MW-2	EPA 3010	MPRP/2885	EPA 6010	ICP/2708
2511269003	MW-3	EPA 3010	MPRP/2885	EPA 6010	ICP/2708
2511269004	MW-4	EPA 3010	MPRP/2885	EPA 6010	ICP/2708
2511269005	MW-5	EPA 3010	MPRP/2885	EPA 6010	ICP/2708
2511269006	MW-6	EPA 3010	MPRP/2885	EPA 6010	ICP/2708
2511269007	MW-7	EPA 3010	MPRP/2885	EPA 6010	ICP/2708
2511269008	MW-8	EPA 3010	MPRP/2885	EPA 6010	ICP/2708
2511269009	MW-9	EPA 3010	MPRP/2885	EPA 6010	ICP/2708
2511269010	MW-10	EPA 3010	MPRP/2885	EPA 6010	ICP/2708
2511269001	MW-1	EPA 3010	MPRP/2892	EPA 6010	ICP/2713
2511269002	MW-2	EPA 3010	MPRP/2892	EPA 6010	ICP/2713
2511269003	MW-3	EPA 3010	MPRP/2892	EPA 6010	ICP/2713
2511269004	MW-4	EPA 3010	MPRP/2892	EPA 6010	ICP/2713
2511269005	MW-5	EPA 3010	MPRP/2892	EPA 6010	ICP/2713
2511269006	MW-6	EPA 3010	MPRP/2892	EPA 6010	ICP/2713
2511269007	MW-7	EPA 3010	MPRP/2892	EPA 6010	ICP/2713
2511269008	MW-8	EPA 3010	MPRP/2892	EPA 6010	ICP/2713
2511269009	MW-9	EPA 3010	MPRP/2892	EPA 6010	ICP/2713
2511269010	MW-10	EPA 3010	MPRP/2892	EPA 6010	ICP/2713
2511269001	MW-1	EPA 5030B/8260	MSV/6657		
2511269002	MW-2	EPA 5030B/8260	MSV/6657		
2511269002	MW-2	EPA 5030B/8260	MSV/6706		
2511269003	MW-3	EPA 5030B/8260	MSV/6706		
2511269004	MW-4	EPA 5030B/8260	MSV/6664		
2511269005	MW-5	EPA 5030B/8260	MSV/6664		
2511269006	MW-6	EPA 5030B/8260	MSV/6664		
2511269007	MW-7	EPA 5030B/8260	MSV/6710		
2511269008	MW-8	EPA 5030B/8260	MSV/6710		
2511269009	MW-9	EPA 5030B/8260	MSV/6664		
2511269010	MW-10	EPA 5030B/8260	MSV/6664		
2511269011	Trip Blank	EPA 5030B/8260	MSV/6664		
2511269001	MW-1	NWTPH-Gx	MSV/6673		
2511269002	MW-2	NWTPH-Gx	MSV/6707		
2511269003	MW-3	NWTPH-Gx	MSV/6707		
2511269004	MW-4	NWTPH-Gx	MSV/6666		
2511269005	MW-5	NWTPH-Gx	MSV/6666		
2511269006	MW-6	NWTPH-Gx	MSV/6712		
2511269007	MW-7	NWTPH-Gx	MSV/6712		
2511269008	MW-8	NWTPH-Gx	MSV/6666		
2511269009	MW-9	NWTPH-Gx	MSV/6666		
2511269010	MW-10	NWTPH-Gx	MSV/6666		
2511269011	Trip Blank	NWTPH-Gx	MSV/6666		

Sample Container Count

2511269



CLIENT: Arcadis

COC PAGE 1 of 1
 COC ID# 1554376

Trip Blank(s) Provided?
 Y / N

Sample Line Item	VG9H	AG1H	AG1U	BP1U	BP2U	BP3U	BP3N	BP3S	WGKU	WGFU	WG2U	DG9M	DG9B	VG9W	VSG	Comments
1	3						²									
2																
3																
4																
5																
6																
7																
8																
9																
10	↓					↓	↓									
11	2															
12																

AG1H	1 liter HCL amber glass	BP2S	500mL H2SO4 plastic	JGFU	4 oz amber glass soil jar
AG1U	1liter unpreserved amber glass	BP2U	500mL unpreserved plastic	WGKU	8 oz clear glass soil jar
AG2S	500mL H2SO4 amber glass	BP2Z	500mL NaOH, Zn Ac	WGFU	4 oz clear glass soil jar
AG2U	500mL unpreserved amber glass	BP3C	250mL NaOH plastic	WG2U	2 oz clear glass soil jar
AG3S	250mL H2SO4 amber glass	BP3N	250mL HNO3 plastic	JGFM	4 oz amber glass soil jar with MeOH
BG1H	1 liter HCL clear glass	BP3S	250mL H2SO4 plastic	VG9U	40mL unpreserved clear vial
BG1U	1 liter unpreserved glass	BP3U	250mL unpreserved plastic	VG9W	40mL clear vial pre-weighted with DI water
BP1N	1 liter HNO3 plastic	DG9B	40mL Na Bisulfate clear vial	VSG	Headspace septa vial
BP1S	1 liter H2SO4 plastic	DG9H	40mL HCL amber voa vial	VG9H	40mL HCL clear vial
BP1U	1 liter unpreserved plastic	DG9M	40mL MeOH clear vial	WGFU	4oz wide jar w/hexane wipe
BP1Z	1 liter NaOH, Zn, Ac	DG9T	40mL Na Thio amber vial	VG9T	40mL Na Thio. clear vial
BP2N	500mL HNO3 plastic	DG9U	40mL unpreserved amber vial	ZPLC	Ziploc Bag
BP2O	500mL NaOH plastic	I	Wipe/Swab	U	Summa Can



Sample Condition Upon Receipt

2511269

Client Name: Arcadis Project #

Courier: Fed Ex UPS USPS Client Commercial Pace Other

Tracking #:

Custody Seal on Cooler/Box Present: Yes No Seals intact: Yes No

Packing Material: Bubble Wrap Bubble Bags None Other Temp. Blank Yes No

Thermometer Used 132013 or 101731562 or 226099 Type of Ice: Wet Blue None Samples on ice, cooling process has begun

Cooler Temperature 9.1c, 3.4c Biological Tissue is Frozen: Yes No Date and Initials of person examining contents: 03/16/12 CW

Table with 17 rows of checklist items including Chain of Custody Present, Short Hold Time Analysis, and Trip Blanks Present.

Client Notification/ Resolution: Person Contacted: Dalin Shanugan Date/Time: 3/17/12 0756 (Email) Comments/ Resolution: (Contacted client to ask whether or not to analyze TB not listed on COC)

Project Manager Review: ARB Date: 3/17/12

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

August 09, 2012

Harini Shanmugam
Arcadis U.S., Inc.
2300 Eastlake Ave. Ste. 200
Seattle, WA 98102

RE: Project: WA-05544
Pace Project No.: 2513116

Dear Harini Shanmugam:

Enclosed are the analytical results for sample(s) received by the laboratory on July 26, 2012. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Dan Gossett

dan.gossett@pacelabs.com
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: WA-05544

Pace Project No.: 2513116

Washington Certification IDs

940 South Harney Street, Seattle, WA 98108

Alaska CS Certification #: UST-025

Arizona Certification #: AZ0770

California Certification #: 01153CA

Florida/NELAP Certification #: E87617

Oregon Certification #: WA200007

Washington Certification #: C555

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: WA-05544

Pace Project No.: 2513116

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
2513116001	MW-2	EPA 6010	BGA	1	PASI-S
		EPA 6010	BGA	1	PASI-S
		EPA 5030B/8260	BAG	9	PASI-S
		NWTPH-Gx	BAG	2	PASI-S
2513116002	MW-5	EPA 6010	BGA	1	PASI-S
		EPA 6010	BGA	1	PASI-S
		EPA 5030B/8260	BAG	9	PASI-S
		NWTPH-Gx	BAG	2	PASI-S
2513116003	MW-6	EPA 6010	BGA	1	PASI-S
		EPA 6010	BGA	1	PASI-S
		EPA 5030B/8260	BAG	9	PASI-S
		NWTPH-Gx	BAG	2	PASI-S

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: WA-05544

Pace Project No.: 2513116

Method: EPA 6010

Description: 6010 MET ICP

Client: Arcadis U.S., Inc.

Date: August 09, 2012

General Information:

3 samples were analyzed for EPA 6010. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3010 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

Page 4 of 18

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PROJECT NARRATIVE

Project: WA-05544

Pace Project No.: 2513116

Method: EPA 6010

Description: 6010 MET ICP, Dissolved (LF)

Client: Arcadis U.S., Inc.

Date: August 09, 2012

General Information:

3 samples were analyzed for EPA 6010. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3010 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: WA-05544

Pace Project No.: 2513116

Method: EPA 5030B/8260

Description: 8260 MSV

Client: Arcadis U.S., Inc.

Date: August 09, 2012

General Information:

3 samples were analyzed for EPA 5030B/8260. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: MSV/7484

A matrix spike and matrix spike duplicate (MS/MSD) were performed on the following sample(s): 2513116001

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 125351)
 - Ethylbenzene
 - Xylene (Total)
- MSD (Lab ID: 125352)
 - Ethylbenzene

QC Batch: MSV/7493

A matrix spike and matrix spike duplicate (MS/MSD) were performed on the following sample(s): 2513127001

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 125411)
 - Ethylbenzene
 - Xylene (Total)
- MSD (Lab ID: 125412)
 - Ethylbenzene

REPORT OF LABORATORY ANALYSIS

PROJECT NARRATIVE

Project: WA-05544

Pace Project No.: 2513116

Method: EPA 5030B/8260

Description: 8260 MSV

Client: Arcadis U.S., Inc.

Date: August 09, 2012

QC Batch: MSV/7493

A matrix spike and matrix spike duplicate (MS/MSD) were performed on the following sample(s): 2513127001

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- Xylene (Total)

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: WA-05544

Pace Project No.: 2513116

Method: NWTPH-Gx

Description: NWTPH-Gx MSV

Client: Arcadis U.S., Inc.

Date: August 09, 2012

General Information:

3 samples were analyzed for NWTPH-Gx. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: MSV/7495

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

QC Batch: MSV/7496

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

Additional Comments:

Analyte Comments:

QC Batch: MSV/7495

D4: Sample was diluted due to the presence of high levels of target analytes.

- MW-2 (Lab ID: 2513116001)
 - Gasoline Range Organics
- MW-6 (Lab ID: 2513116003)
 - Gasoline Range Organics

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: WA-05544

Pace Project No.: 2513116

Sample: MW-2	Lab ID: 2513116001	Collected: 07/26/12 13:45	Received: 07/26/12 15:32	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Lead	ND ug/L		10.0	1	08/01/12 09:50	08/06/12 15:07	7439-92-1	
6010 MET ICP, Dissolved (LF) Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Lead, Dissolved	ND ug/L		10.0	1	08/06/12 11:19	08/06/12 16:35	7439-92-1	
8260 MSV Analytical Method: EPA 5030B/8260								
Benzene	49.6 ug/L		1.0	1		07/30/12 19:16	71-43-2	
Ethylbenzene	2090 ug/L		100	100		07/31/12 14:21	100-41-4	M1
Methyl-tert-butyl ether	ND ug/L		1.0	1		07/30/12 19:16	1634-04-4	
Toluene	9.5 ug/L		1.0	1		07/30/12 19:16	108-88-3	
Xylene (Total)	4330 ug/L		300	100		07/31/12 14:21	1330-20-7	M1
Surrogates								
4-Bromofluorobenzene (S)	85 %		79-121	1		07/30/12 19:16	460-00-4	
Dibromofluoromethane (S)	99 %		81-119	1		07/30/12 19:16	1868-53-7	
1,2-Dichloroethane-d4 (S)	93 %		72-127	1		07/30/12 19:16	17060-07-0	
Toluene-d8 (S)	96 %		77-120	1		07/30/12 19:16	2037-26-5	
NWTPH-Gx MSV Analytical Method: NWTPH-Gx								
Gasoline Range Organics	42600 ug/L		5000	100		07/31/12 14:21		D4
Surrogates								
4-Bromofluorobenzene (S)	106 %		50-150	100		07/31/12 14:21	460-00-4	

Sample: MW-5	Lab ID: 2513116002	Collected: 07/26/12 13:15	Received: 07/26/12 15:32	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Lead	ND ug/L		10.0	1	08/01/12 09:50	08/06/12 15:18	7439-92-1	
6010 MET ICP, Dissolved (LF) Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Lead, Dissolved	ND ug/L		10.0	1	08/06/12 11:19	08/06/12 16:54	7439-92-1	
8260 MSV Analytical Method: EPA 5030B/8260								
Benzene	1.3 ug/L		1.0	1		08/01/12 01:40	71-43-2	
Ethylbenzene	1.1 ug/L		1.0	1		08/01/12 01:40	100-41-4	
Methyl-tert-butyl ether	ND ug/L		1.0	1		08/01/12 01:40	1634-04-4	
Toluene	ND ug/L		1.0	1		08/01/12 01:40	108-88-3	
Xylene (Total)	11.2 ug/L		3.0	1		08/01/12 01:40	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	94 %		79-121	1		08/01/12 01:40	460-00-4	
Dibromofluoromethane (S)	105 %		81-119	1		08/01/12 01:40	1868-53-7	
1,2-Dichloroethane-d4 (S)	93 %		72-127	1		08/01/12 01:40	17060-07-0	
Toluene-d8 (S)	98 %		77-120	1		08/01/12 01:40	2037-26-5	

ANALYTICAL RESULTS

Project: WA-05544

Pace Project No.: 2513116

Sample: MW-5	Lab ID: 2513116002	Collected: 07/26/12 13:15	Received: 07/26/12 15:32	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual

NWTPH-Gx MSV

Analytical Method: NWTPH-Gx

Gasoline Range Organics Surrogates	627 ug/L		50.0	1		08/01/12 01:40		
4-Bromofluorobenzene (S)	94 %		50-150	1		08/01/12 01:40	460-00-4	

Sample: MW-6	Lab ID: 2513116003	Collected: 07/26/12 14:25	Received: 07/26/12 15:32	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual

6010 MET ICP

Analytical Method: EPA 6010 Preparation Method: EPA 3010

Lead	ND ug/L		10.0	1	08/01/12 09:50	08/06/12 15:22	7439-92-1	
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6010 MET ICP, Dissolved (LF)

Analytical Method: EPA 6010 Preparation Method: EPA 3010

Lead, Dissolved	ND ug/L		10.0	1	08/06/12 11:19	08/06/12 16:58	7439-92-1	
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8260 MSV

Analytical Method: EPA 5030B/8260

Benzene	233 ug/L		100	100		07/31/12 14:40	71-43-2	
Ethylbenzene	1790 ug/L		100	100		07/31/12 14:40	100-41-4	
Methyl-tert-butyl ether	7.3 ug/L		1.0	1		07/30/12 19:50	1634-04-4	
Toluene	20.5 ug/L		1.0	1		07/30/12 19:50	108-88-3	
Xylene (Total)	5670 ug/L		300	100		07/31/12 14:40	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	84 %		79-121	1		07/30/12 19:50	460-00-4	
Dibromofluoromethane (S)	96 %		81-119	1		07/30/12 19:50	1868-53-7	
1,2-Dichloroethane-d4 (S)	90 %		72-127	1		07/30/12 19:50	17060-07-0	
Toluene-d8 (S)	96 %		77-120	1		07/30/12 19:50	2037-26-5	

NWTPH-Gx MSV

Analytical Method: NWTPH-Gx

Gasoline Range Organics Surrogates	51100 ug/L		5000	100		07/31/12 14:40		D4
4-Bromofluorobenzene (S)	107 %		50-150	100		07/31/12 14:40	460-00-4	

QUALITY CONTROL DATA

Project: WA-05544

Pace Project No.: 2513116

QC Batch: MPRP/3228 Analysis Method: EPA 6010
 QC Batch Method: EPA 3010 Analysis Description: 6010 MET
 Associated Lab Samples: 2513116001, 2513116002, 2513116003

METHOD BLANK: 125479 Matrix: Water

Associated Lab Samples: 2513116001, 2513116002, 2513116003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Lead	ug/L	ND	10.0	08/06/12 14:37	

LABORATORY CONTROL SAMPLE: 125480

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Lead	ug/L	500	530	106	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 125481 125482

Parameter	Units	2513071004 Result	MS	MSD	MS	MSD	MS	MSD	% Rec	RPD	Qual
			Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec	Limits		
Lead	ug/L	ND	500	500	502	518	100	103	75-125	3	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 125483 125484

Parameter	Units	2513127001 Result	MS	MSD	MS	MSD	MS	MSD	% Rec	RPD	Qual
			Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec	Limits		
Lead	ug/L	45.6	500	500	512	520	93	95	75-125	1	

QUALITY CONTROL DATA

Project: WA-05544

Pace Project No.: 2513116

QC Batch: MPRP/3231 Analysis Method: EPA 6010
 QC Batch Method: EPA 3010 Analysis Description: 6010 MET Dissolved
 Associated Lab Samples: 2513116001, 2513116002, 2513116003

METHOD BLANK: 126003 Matrix: Water

Associated Lab Samples: 2513116001, 2513116002, 2513116003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Lead, Dissolved	ug/L	ND	10.0	08/06/12 16:28	

LABORATORY CONTROL SAMPLE: 126004

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Lead, Dissolved	ug/L	500	495	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 126005 126006

Parameter	Units	2513116001		2513116002		2513116003		% Rec Limits	RPD	Qual
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.			
Lead, Dissolved	ug/L	ND	500	500	509	482	101	96	75-125	5

QUALITY CONTROL DATA

Project: WA-05544
Pace Project No.: 2513116

QC Batch: MSV/7484 Analysis Method: EPA 5030B/8260
QC Batch Method: EPA 5030B/8260 Analysis Description: 8260 MSV Water 10 mL Purge
Associated Lab Samples: 2513116001, 2513116003

METHOD BLANK: 125197 Matrix: Water
Associated Lab Samples: 2513116001, 2513116003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	07/30/12 13:36	
Ethylbenzene	ug/L	ND	1.0	07/30/12 13:36	
Methyl-tert-butyl ether	ug/L	ND	1.0	07/30/12 13:36	
Toluene	ug/L	ND	1.0	07/30/12 13:36	
Xylene (Total)	ug/L	ND	3.0	07/30/12 13:36	
1,2-Dichloroethane-d4 (S)	%	93	72-127	07/30/12 13:36	
4-Bromofluorobenzene (S)	%	108	79-121	07/30/12 13:36	
Dibromofluoromethane (S)	%	104	81-119	07/30/12 13:36	
Toluene-d8 (S)	%	99	77-120	07/30/12 13:36	

LABORATORY CONTROL SAMPLE: 125198

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	17.7	89	66-123	
Ethylbenzene	ug/L	20	18.8	94	67-122	
Methyl-tert-butyl ether	ug/L	20	17.3	87	65-138	
Toluene	ug/L	20	18.0	90	64-118	
Xylene (Total)	ug/L	60	56.5	94	68-122	
1,2-Dichloroethane-d4 (S)	%			100	72-127	
4-Bromofluorobenzene (S)	%			94	79-121	
Dibromofluoromethane (S)	%			104	81-119	
Toluene-d8 (S)	%			98	77-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 125351 125352

Parameter	Units	2513116001		MSD		MS		MSD		% Rec Limits	RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	Result	MSD Result	% Rec	% Rec				
Benzene	ug/L	49.6	20	20	69.7	67.3	101	88	63-138	4		
Ethylbenzene	ug/L	2090	20	20	1540	1500	-2770	-2950	65-135	2	M1	
Methyl-tert-butyl ether	ug/L	ND	20	20	18.0	17.5	89	86	59-143	3		
Toluene	ug/L	9.5	20	20	27.4	26.0	90	83	64-128	5		
Xylene (Total)	ug/L	4330	60	60	4430	4390	167	95	65-133	1	M1	
1,2-Dichloroethane-d4 (S)	%						90	93	72-127			
4-Bromofluorobenzene (S)	%						85	85	79-121			
Dibromofluoromethane (S)	%						98	100	81-119			
Toluene-d8 (S)	%						96	95	77-120			

QUALITY CONTROL DATA

Project: WA-05544

Pace Project No.: 2513116

QC Batch: MSV/7493

Analysis Method: EPA 5030B/8260

QC Batch Method: EPA 5030B/8260

Analysis Description: 8260 MSV Water 10 mL Purge

Associated Lab Samples: 2513116002

METHOD BLANK: 125409

Matrix: Water

Associated Lab Samples: 2513116002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	08/01/12 00:15	
Ethylbenzene	ug/L	ND	1.0	08/01/12 00:15	
Methyl-tert-butyl ether	ug/L	ND	1.0	08/01/12 00:15	
Toluene	ug/L	ND	1.0	08/01/12 00:15	
Xylene (Total)	ug/L	ND	3.0	08/01/12 00:15	
1,2-Dichloroethane-d4 (S)	%	96	72-127	08/01/12 00:15	
4-Bromofluorobenzene (S)	%	103	79-121	08/01/12 00:15	
Dibromofluoromethane (S)	%	103	81-119	08/01/12 00:15	
Toluene-d8 (S)	%	98	77-120	08/01/12 00:15	

LABORATORY CONTROL SAMPLE: 125410

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	16.4	82	66-123	
Ethylbenzene	ug/L	20	17.1	86	67-122	
Methyl-tert-butyl ether	ug/L	20	16.5	82	65-138	
Toluene	ug/L	20	16.5	82	64-118	
Xylene (Total)	ug/L	60	51.8	86	68-122	
1,2-Dichloroethane-d4 (S)	%			97	72-127	
4-Bromofluorobenzene (S)	%			93	79-121	
Dibromofluoromethane (S)	%			106	81-119	
Toluene-d8 (S)	%			97	77-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 125411

125412

Parameter	Units	2513127001		MSD		MS		MSD		% Rec Limits	RPD	Qual
		Result	Conc.	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec			
Benzene	ug/L	ND		20	20	18.6	17.9	92	88	63-138	4	
Ethylbenzene	ug/L	187		20	20	217	222	153	176	65-135	2	M1
Methyl-tert-butyl ether	ug/L	ND		20	20	17.7	17.0	88	85	59-143	4	
Toluene	ug/L	53.0		20	20	70.0	72.0	85	95	64-128	3	
Xylene (Total)	ug/L	2020		60	60	2220	2250	337	390	65-133	1	M1
1,2-Dichloroethane-d4 (S)	%							92	91	72-127		
4-Bromofluorobenzene (S)	%							86	85	79-121		
Dibromofluoromethane (S)	%							101	100	81-119		
Toluene-d8 (S)	%							95	95	77-120		

QUALITY CONTROL DATA

Project: WA-05544

Pace Project No.: 2513116

QC Batch: MSV/7496

Analysis Method: NWTPH-Gx

QC Batch Method: NWTPH-Gx

Analysis Description: NWTPH-Gx MSV Water

Associated Lab Samples: 2513116002

METHOD BLANK: 125418

Matrix: Water

Associated Lab Samples: 2513116002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Gasoline Range Organics	ug/L	ND	50.0	08/01/12 00:15	
4-Bromofluorobenzene (S)	%	103	50-150	08/01/12 00:15	

LABORATORY CONTROL SAMPLE: 125419

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Gasoline Range Organics	ug/L	500	431	86	65-139	
4-Bromofluorobenzene (S)	%			97	50-150	

QUALIFIERS

Project: WA-05544

Pace Project No.: 2513116

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel Clean-Up

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-S Pace Analytical Services - Seattle

BATCH QUALIFIERS

Batch: MSV/7495

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: MSV/7496

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

D4 Sample was diluted due to the presence of high levels of target analytes.

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: WA-05544

Pace Project No.: 2513116

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2513116001	MW-2	EPA 3010	MPRP/3228	EPA 6010	ICP/2998
2513116002	MW-5	EPA 3010	MPRP/3228	EPA 6010	ICP/2998
2513116003	MW-6	EPA 3010	MPRP/3228	EPA 6010	ICP/2998
2513116001	MW-2	EPA 3010	MPRP/3231	EPA 6010	ICP/3001
2513116002	MW-5	EPA 3010	MPRP/3231	EPA 6010	ICP/3001
2513116003	MW-6	EPA 3010	MPRP/3231	EPA 6010	ICP/3001
2513116001	MW-2	EPA 5030B/8260	MSV/7484		
2513116002	MW-5	EPA 5030B/8260	MSV/7493		
2513116003	MW-6	EPA 5030B/8260	MSV/7484		
2513116001	MW-2	NWTPH-Gx	MSV/7495		
2513116002	MW-5	NWTPH-Gx	MSV/7496		
2513116003	MW-6	NWTPH-Gx	MSV/7495		

Sample Container Count

2513116



CLIENT: Accadis

COC PAGE 1 of 1

COC ID# _____

Trip Blank(s) Provided?
Y / N

Sample Line Item	VG9H	AG1H	AG1U	BP1U	BP2U	BP3U	BP3N	BP3S	WGKU	WGFU	WG2U	DG9M	DG9B	VG9W	VSG	Comments
1	6					1	1.0									
2	↓					↓	↓									
3	↓					↓	↓									
4																
5																
6																
7																
8																
9																
10																
11																
12																

AG1H	1 liter HCL amber glass	BP2S	500mL H2SO4 plastic	JGFU	4 oz amber glass soil jar
AG1U	1liter unpreserved amber glass	BP2U	500mL unpreserved plastic	WGKU	8 oz clear glass soil jar
AG2S	500mL H2SO4 amber glass	BP2Z	500mL NaOH, Zn Ac	WGFU	4 oz clear glass soil jar
AG2U	500mL unpreserved amber glass	BP3C	250mL NaOH plastic	WG2U	2 oz clear glass soil jar
AG3S	250mL H2SO4 amber glass	BP3N	250mL HNO3 plastic	JGFM	4 oz amber glass soil jar with MeOH
BG1H	1 liter HCL clear glass	BP3S	250mL H2SO4 plastic	VG9U	40mL unpreserved clear vial
BG1U	1 liter unpreserved glass	BP3U	250mL unpreserved plastic	VG9W	40mL clear vial pre-weighted with DI water
BP1N	1 liter HNO3 plastic	DG9B	40mL Na Bisulfate clear vial	VSG	Headspace septa vial
BP1S	1 liter H2SO4 plastic	DG9H	40mL HCL amber voa vial	VG9H	40mL HCL clear vial
BP1U	1 liter unpreserved plastic	DG9M	40mL MeOH clear vial	WGFU	4oz wide jar w/hexane wipe
BP1Z	1 liter NaOH, Zn, Ac	DG9T	40mL Na Thio amber vial	VG9T	40mL Na Thio. clear vial
BP2N	500mL HNO3 plastic	DG9U	40mL unpreserved amber vial	ZPLC	Ziploc Bag
BP2O	500mL NaOH plastic	I	Wipe/Swab	U	Summa Can



Sample Condition Upon Receipt

2513116

Client Name: Arcadis Project #

Courier: Fed Ex UPS USPS Client Commercial Pace Other

Tracking #:

Custody Seal on Cooler/Box Present: Yes No Seals intact: Yes No

Packing Material: Bubble Wrap Bubble Bags None Other Temp. Blank Yes No

Thermometer Used 132013 or 101731952 or 226099 Type of Ice: Wet Blue None Samples on ice, cooling process has begun

Cooler Temperature 13.8 Temp should be above freezing <= 6°C

Biological Tissue is Frozen: Yes No Comments:

Date and Initials of person examining contents: 7/26/12

Table with 17 rows of inspection items and checkboxes. Includes items like Chain of Custody Present, Short Hold Time Analysis, and Containers Intact. Handwritten notes include 'needs lab filtered' and 'WT'.

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: Date/Time: Comments/ Resolution:

Project Manager Review: Date: 7/30


Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

ARCADIS

Attachment C
Soil Boring Logs


Date Start/Finish: 11/16/2011 Drilling Company: Cascade Drilling LP. Driller's Name: Drilling Method: Hollow Stem Auger Auger Size: 8 inch OD Rig Type: CME - 75 Sampling Method: 1.5 ft. by 2 inch Split Spoon	Northing: NM Easting: NM Casing Elevation: NM Borehole Depth: 22.5 ft bgs Surface Elevation: NM Descriptions By: Eric Epple	Well/Boring ID: AS-10 Client: BP West Coast Products, LLC. Location: WA-5544 19918 68th Avenue South Kent, Washington
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blow Counts	N-Value	PID Headspace (ppm)	Analytical Sample	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0										Asphalt and Aggregate	Concrete 2" Well Cap Sand Backfill
		AK	3-3.5	NA	AK	5.9			SM	SM	Sandy SILT with little Gravel (fine pebbles to medium cobbles), soft to stiff, no plasticity, grey, moist.	
-5	-5	AK	5-5.5	NA	AK	16.4			SM	SM	Sandy SILT with some Clay and little Gravel (fine pebbles to medium cobbles), soft to stiff, no plasticity, grey, moist.	Neat Cement
		AK	7-7.5	NA	AK	1116			SM	SM	Sandy SILT with some Clay and little Gravel (fine pebbles to medium cobbles), soft to stiff, no plasticity, grey, moist.	
-10	-10	1	10-11.5	1.5	2 1 1	2	315		ML	ML	SILT with trace Clay and fine Sand, no plasticity, very soft, grey, wet.	2" Schedule 80 PVC Riser Hydrated Bentonite Chips

 <i>Infrastructure · Water · Environment · Buildings</i>	Remarks: AK = Air Knife bgs = below ground surface ft. = feet NM = Not Measured OD = Outer Diameter PVC = Polyvinyl Chloride
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Date Start/Finish: 11/16/2011 Drilling Company: Cascade Drilling LP. Driller's Name: Drilling Method: Hollow Stem Auger Auger Size: 8 inch OD Rig Type: CME - 75 Sampling Method: 1.5 ft. by 2 inch Split Spoon	Northing: NM Easting: NM Casing Elevation: NM Borehole Depth: 22.5 ft bgs Surface Elevation: NM Descriptions By: Eric Epple	Well/Boring ID: AS-10 Client: BP West Coast Products, LLC. Location: WA-5544 19918 68th Avenue South Kent, Washington
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blow Counts	N-Value	PID Headspace (ppm)	Analytical Sample	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
-15	-15	2	15-16.5	1.5	6 7 8	15	199		SM		Sandy SILT with some Clay, no plasticity, very soft, grey, wet.	
									SP	•••	SAND, loose, fine to medium grain, medium grading, wet.	
		3	18-19.5	1.5	4 1 2	3	12.3		SM		Silty SAND, loose, fine grain, well graded, grey, wet.	
-20	-20	4	19.5-21.0	1.5	2 2 3	5	1.9		CL		CLAY with trace Silt, medium to high plasticity, stiff, brown, moist.	
		5	21-22.5	1.5	2 3 3	6	1.7		SM		Silty SAND, dense, fine grain, dark grey, wet.	

 <i>Infrastructure · Water · Environment · Buildings</i>	Remarks: AK = Air Knife bgs = below ground surface ft. = feet NM = Not Measured OD = Outer Diameter PVC = Polyvinyl Chloride
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Date Start/Finish: 11/16/2011 Drilling Company: Cascade Drilling LP. Driller's Name: Drilling Method: Hollow Stem Auger Auger Size: 8 inch OD Rig Type: CME - 75 Sampling Method: 1.5 ft. by 2 inch Split Spoon	Northing: NM Easting: NM Casing Elevation: NM Borehole Depth: 24.5 ft bgs Surface Elevation: NM Descriptions By: Eric Epple	Well/Boring ID: AS-11 Client: BP West Coast Products, LLC. Location: WA-5544 19918 68th Avenue South Kent, Washington
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blow Counts	N-Value	PID Headspace (ppm)	Analytical Sample	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0										Asphalt and Aggregate	
											Gravelly Silty SAND, dense, fine to coarse grain, well graded, brown, moist.	Concrete 2" Well Cap Sand Backfill
		AK 3- 3.5	NA	AK		0.1			CL		Sandy Gravelly CLAY with little Silt, stiff, low to medium plasticity, dark brown, damp.	
-5	-5	AK 5- 5.5	NA	AK		0.5			CL		Silty CLAY with little Gravel and Sand, stiff, medium to high plasticity, brown, damp.	Neat Cement
		AK 7- 7.5	NA	AK		0.0			CL		Silty CLAY with little Gravel and Sand, stiff, medium to high plasticity, brown, damp.	
-10	-10	1 10- 11.5	1.5	3 1 1	2	0.9			ML		SILT with trace Sand and Clay, very soft to soft, dark grey, moist to wet.	2" Schedule 80 PVC Riser Hydrated Bentonite Chips

 <i>Infrastructure · Water · Environment · Buildings</i>	Remarks: AK = Air Knife bgs = below ground surface ft. = feet NM = Not Measured OD = Outer Diameter PVC = Polyvinyl Chloride
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Date Start/Finish: 11/16/2011 Drilling Company: Cascade Drilling LP. Driller's Name: Drilling Method: Hollow Stem Auger Auger Size: 8 inch OD Rig Type: CME - 75 Sampling Method: 1.5 ft. by 2 inch Split Spoon	Northing: NM Easting: NM Casing Elevation: NM Borehole Depth: 24.5 ft bgs Surface Elevation: NM Descriptions By: Eric Epple	Well/Boring ID: AS-11 Client: BP West Coast Products, LLC. Location: WA-5544 19918 68th Avenue South Kent, Washington
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blow Counts	N-Value	PID Headspace (ppm)	Analytical Sample	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
-15	-15	2	15-16.5	1.5	5 7 10	17	0.9		ML		SILT with trace Sand and Clay, very soft to soft, dark grey, moist to wet.	<p>Hydrated Bentonite Chips</p> <p>2" Schedule 80 PVC Riser</p> <p>#2/12 Sand</p> <p>2" Stainless Steel 0.020" Slotted Screen</p> <p>Backfill</p>
									SM		Silty SAND, loose, fine to medium grain, medium grading, brown, wet.	
-20	-20	3	20-21.5	1.5	1 3 3	6	0.0		CL		CLAY, very high plasticity, moist.	
		4	21.5-23	1.5	3 7 7	14	0.2		SM		Silty SAND, loose, fine grain, poorly graded, dark grey, wet.	
		5	23-24.5	1.5	3 2 3	5	0.3					

<p>ARCADIS Infrastructure · Water · Environment · Buildings</p>	Remarks: AK = Air Knife bgs = below ground surface ft. = feet NM = Not Measured OD = Outer Diameter PVC = Polyvinyl Chloride
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Date Start/Finish: 11/16/2011 to 11/17/2011 Drilling Company: Cascade Drilling LP. Driller's Name: Drilling Method: Hollow Stem Auger Auger Size: 8 inch OD Rig Type: CME - 75 Sampling Method: 1.5 ft. by 2 inch Split Spoon	Northing: NM Easting: NM Casing Elevation: NM Borehole Depth: 21 ft bgs Surface Elevation: NM Descriptions By: Eric Epple	Well/Boring ID: AS-8 Client: BP West Coast Products, LLC. Location: WA-5544 19918 68th Avenue South Kent, Washington
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blow Counts	N-Value	PID Headspace (ppm)	Analytical Sample	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0										Asphalt and Aggregate	Concrete 2" Well Cap Sand Backfill
		AK	3-3.5	NA	AK	1.9			CL		Silty Sandy CLAY with some Gravel, low plasticity, stiff, moist.	
-5	-5	AK	5-5.5	NA	AK	12.4			CL		Silty Sandy CLAY with some Gravel, low plasticity, stiff, moist.	Neat Cement
		AK	7-7.5	NA	AK	1147			ML		Sandy SILT, stiff, no plasticity, slight odor, moist.	
-10	-10	1	10-11.5	1.5	2 1 1	3	1770		ML		Clayey SILT, medium stiff, low plasticity, grey, moist.	2" Schedule 80 PVC Riser Hydrated Bentonite Chips

 <i>Infrastructure · Water · Environment · Buildings</i>	Remarks: AK = Air Knife bgs = below ground surface ft. = feet NM = Not Measured OD = Outer Diameter PVC = Polyvinyl Chloride
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Date Start/Finish: 11/16/2011 to 11/17/2011 Drilling Company: Cascade Drilling LP. Driller's Name: Drilling Method: Hollow Stem Auger Auger Size: 8 inch OD Rig Type: CME - 75 Sampling Method: 1.5 ft. by 2 inch Split Spoon	Northing: NM Easting: NM Casing Elevation: NM Borehole Depth: 21 ft bgs Surface Elevation: NM Descriptions By: Eric Epple	Well/Boring ID: AS-8 Client: BP West Coast Products, LLC. Location: WA-5544 19918 68th Avenue South Kent, Washington
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blow Counts	N-Value	PID Headspace (ppm)	Analytical Sample	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
-15	-15	2	15-16.5	1.5	5 7 8	15	20.0		SM		Silty SAND, fine to medium grain, poorly graded, sub-angular, greyish brown, moist to wet.	
		3	18-19.5	1.5	1 3 4	7	3.0		CL		CLAY, medium to high plasticity, stiff to soft, grey, moist.	
-20	-20	4	19.5-21.0	1.5	2 5 7	12	3.4		SP		SAND, medium grading, very loose, fine to medium grain, black, wet.	

	Remarks: AK = Air Knife bgs = below ground surface ft. = feet NM = Not Measured OD = Outer Diameter PVC = Polyvinyl Chloride
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Date Start/Finish: 11/16/2011 Drilling Company: Cascade Drilling LP. Driller's Name: Drilling Method: Hollow Stem Auger Auger Size: 8 inch OD Rig Type: CME - 75 Sampling Method: 1.5 ft. by 2 inch Split Spoon	Northing: NM Easting: NM Casing Elevation: NM Borehole Depth: 21 ft bgs Surface Elevation: NM Descriptions By: Eric Epple	Well/Boring ID: AS-9 Client: BP West Coast Products, LLC. Location: WA-5544 19918 68th Avenue South Kent, Washington
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blow Counts	N-Value	PID Headspace (ppm)	Analytical Sample	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0										Asphalt and Aggregate	Concrete 2" Well Cap Sand Backfill
		AK	3-3.5	NA	AK		61.0		CL		Silty Sandy CLAY with trace Gravel, low to medium plasticity, moist.	
-5	-5	AK	5-5.5	NA	AK		73.9		CL		Silty Sandy CLAY with trace Gravel, low to medium plasticity, moist.	Neat Cement
		AK	7-7.5	NA	AK		1547		SM		Silty Sand with trace fine to coarse Gravel, loose, fine grain, poorly graded, dark grey, moist to damp.	
-10	-10	1	10-11.5	1.5	1 2 1	3	394		ML		SILT, stiff, no plasticity, grey, moist.	2" Schedule 80 PVC Riser
									ML		Clayey SILT, low plasticity, soft, moist to wet.	Hydrated Bentonite Chips

 <i>Infrastructure · Water · Environment · Buildings</i>	Remarks: AK = Air Knife bgs = below ground surface ft. = feet NM = Not Measured OD = Outer Diameter PVC = Polyvinyl Chloride
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Date Start/Finish: 11/16/2011 Drilling Company: Cascade Drilling LP. Driller's Name: Drilling Method: Hollow Stem Auger Auger Size: 8 inch OD Rig Type: CME - 75 Sampling Method: 1.5 ft. by 2 inch Split Spoon	Northing: NM Easting: NM Casing Elevation: NM Borehole Depth: 21 ft bgs Surface Elevation: NM Descriptions By: Eric Epple	Well/Boring ID: AS-9 Client: BP West Coast Products, LLC. Location: WA-5544 19918 68th Avenue South Kent, Washington
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blow Counts	N-Value	PID Headspace (ppm)	Analytical Sample	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
-15	-15	2	15-16.5	1.5	2 3 7	10	8.0		SM		SILT with some fine SAND, no plasticity, stiff, wet.	
		3	18-19.5	1.5	5 5 3	8	40.7		SM		SAND with trace Silt, loose, fine grain, poorly graded, brown, wet.	
-20	-20	4	19.5-21.0	1.5	2 5 7	12	28.2		SM			
									CL		CLAY, medium to high plasticity, stiff, dark grey, moist to wet.	
									SM		Sandy SILT, no plasticity, stiff, wet.	



Remarks: AK = Air Knife
 bgs = below ground surface
 ft. = feet
 NM = Not Measured
 OD = Outer Diameter
 PVC = Polyvinyl Chloride

ARCADIS

Attachment D

Waste Profile

Handwritten: HAYDEN

101 14312

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number

Exempt

2. Page 1 of 1

3. Emergency Response Phone

206-285-8010

4. Waste Tracking Number

0707

5. Generator's Name and Mailing Address

BP West Coast Products Site WA-5544
4 Centerpoint Dr
LaPalma, CA 90523

Generator's Site Address (if different than mailing address)

15918 68th Ave South
Kent, WA 98032

Generator's Phone: 206 726-4721

6. Transporter 1 Company Name

Kleen Environmental Technologies, Inc.

U.S. EPA ID Number

WAH000004457

7. Transporter 2 Company Name

U.S. EPA ID Number

8. Designated Facility Name and Site Address

Centex (Formerly Rinker Materials)
6300 Glenwood Ave
Everett, WA 98023
Facility's Phone: 425-219-9429

U.S. EPA ID Number

none

9. Waste Shipping Name and Description

10. Containers

No.

Type

11. Total Quantity

12. Unit Wt./Vol.

1. Material Not Regulated by DOT (Petroleum Impacted Soil)

10

DM

6000

lb

13. Special Handling Instructions and Additional Information

10 ea x 55 gal 1A2 steel drum, Petroleum Impacted Soil for Thermal Desorption

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offoror's Printed/Typed Name

Signature

Month Day Year

SIOBHAN BROWN FIRST WEST COAST PRODUCTS LLC SIOBHAN BROWN

11 30 12

15. International Shipments

Import to U.S.

Export from U.S.

Port of entry/exit:

Date leaving U.S.:

Transporter Signature (for exports only):

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name

Signature

Month Day Year

Joe Hogan

Joe Hogan

01 30 12

Transporter 2 Printed/Typed Name

Signature

Month Day Year

17. Discrepancy

17a. Discrepancy Indication Space

Quantity

Type

Residue

Partial Rejection

Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator)

U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator)

Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name

Signature

Month Day Year

Melina Lopez

Melina Lopez

11 24 12

GENERATOR

INT'L

TRANSPORTER

DESIGNATED FACILITY



EXPRESS WASTE PROFILE

Requested Disposal Facility: 4178 Roosevelt Regional MSW LF WA

Waste Profile #

Saveable fill in form. Restricted printing until all required (yellow) fields are completed.

I. Generator Information

Generator Name: BP West Coast Products			
Generator Site Address: 19918 68th Ave South			
City: Kent	County: King	State: Washington	Zip: 98032
State ID/Reg No: N/A	State Approval/Waste Code: N/A	(if applicable)	NAICS #.
Generator Mailing Address (if different): 19918 68th Ave South			
City: Kent	County: King	State: Washington	Zip: 98032
Generator Contact Name: Scott Zorn		Email: scott.zorn@arcadis-us.com	
Phone Number: (206) 726-4709	Ext:	Fax Number: (206) 325-8218	

Sales Rep #.

IIa. Transporter Information

Transporter Name: Clearcreek Contractors		Contact Name: Jay Wilcox	
Transporter Address: 3203 15th St			
City: Everett	County: Snohomish	State: WA	Zip: 98201
Phone Number: (425) 252-5800	Fax Number: (425) 252-1093	State Transportation Number: N/A	

IIb. Billing Information

Bill To: Clearcreek Contractors		Contact Name: Jay Wilcox	
Billing Address: 3203 15th St		Email: JayW@Clearcreekcon.com	
City: Everett	State: WA	Zip: 98201	Phone: (425) 252-5800

III. Waste Stream Information

Name of Waste: (Petroleum products-applies only to contaminated media and debris).	<input type="checkbox"/> Diesel Fuel	<input type="checkbox"/> Weathered Wood	<input type="checkbox"/> Friable Asbestos
	<input type="checkbox"/> Home Heating Fuel #1-6	<input type="checkbox"/> RCRA Empty Containers	<input type="checkbox"/> Non Friable Asbestos
	<input type="checkbox"/> Kerosene	<input type="checkbox"/> Treated Medical Waste	<input type="checkbox"/> Friable and Non Friable Asbestos
	<input type="checkbox"/> Aviation Fuel	<input type="checkbox"/> Animal Carcass	
	<input type="checkbox"/> Hydraulic Fluid	<input type="checkbox"/> Plant Trash	
	<input checked="" type="checkbox"/> Unleaded Gasoline (UST Corrective Action)	<input type="checkbox"/> Meth Contaminated Debris	

Process Generating Waste: Leaking Underground UST's

Method of Shipment: BULK DRUM BAGGED OTHER:

Estimated Annual Volume: 13 Tons

Frequency: ONE TIME ANNUAL

IV. Certification

I hereby certify that to the best of my knowledge and belief, the information contained herein is a true and accurate description of the waste material being offered for disposal. I further certify that by utilizing this profile, neither myself nor any other employee of the company will deliver for disposal or attempt to deliver for disposal any waste which is classified as toxic waste, hazardous waste or infectious waste, or any other waste material this facility is prohibited from accepting by law. Our company hereby agrees to fully indemnify this disposal facility against any damages resulting from this certification being inaccurate or untrue. I further certify that the company has not altered the form or content of this profile sheet as provided by Republic Services, Inc.

<p>Scott Zorn for BP West Coast Products LLC</p> <p>Authorized Representative Name/Title (Type or Print)</p>	<p>ARCADIS</p> <p>Company Name</p>
<p><i>Scott Zorn</i></p> <p>Authorized Representative Signature</p>	<p>10.16.2012</p> <p>Date</p>

ARCADIS

Attachment E

Puget Sound Clean Air Act Permit No. 24941



Puget Sound Clean Air Agency

Notice of
Construction No. 10273

Registration No. 24941

Date
JAN 12 2011

HEREBY ISSUES AN ORDER OF APPROVAL TO CONSTRUCT, INSTALL, OR ESTABLISH

Soil and groundwater remediation by a Soil Vapor Extraction (SVE) system and an Air Sparging (AS) system with all emissions from the SVE routed through a catalytic oxidizer (CATOX).

APPLICANT

Chris Robinson
ARCADIS US
2300 Eastlake Avenue, Ste 200
Seattle, WA 98102

OWNER

Chevron 68th Ave
19918 68th Ave S
Kent, WA 98032

INSTALLATION ADDRESS

Chevron 68th Ave, 19918 68th Ave S, Kent, WA, 98032

THIS ORDER IS ISSUED SUBJECT TO THE FOLLOWING RESTRICTIONS AND CONDITIONS

1. Approval is hereby granted as provided in Article 6 of Regulation I of the Puget Sound Clean Air Agency to the applicant to install or establish the equipment, device or process described hereon at the INSTALLATION ADDRESS in accordance with the plans and specifications on file in the Engineering Division of the Puget Sound Clean Air Agency.
2. This approval does not relieve the applicant or owner of any requirement of any other governmental agency.
3. Atlantic Richfield (ARCO) shall route all air emissions from the Soil Vapor Extraction (SVE) system through the Catalytic Oxidizer (CATOX). The flow rate of the vapor entering the CATOX shall not exceed 200 acfm. ARCO shall record the actual flow rate monthly.
4. ARCO shall not operate the SVE system unless the temperature at the inlet of the catalytic bed of the CATOX is at least 550 deg F and the temperature at the outlet of the catalytic bed does not exceed 1100 deg F. ARCO shall record the temperatures at the inlet and outlet of the catalytic bed monthly.
5. The air flow of through the Air Sparging (AS) system shall not exceed 400 acfm and the concentration of total petroleum hydrocarbons (TPH) in the AS air flow shall not exceed 50 ppmv TPH.
6. ARCO shall monitor the concentration of TPH in the vapor entering and leaving the CATOX by collecting monthly samples and performing lab analysis. ARCO shall estimate the destruction efficiency (DE) of the CATOX with the pollutant flow entering and leaving the CATOX. The DE shall exceed 95% unless the concentration of TPH in the vapor leaving the CATOX does not exceed 50 ppmv. ARCO shall keep records of the flow rates and pollutant concentrations used to determine the DE. If the exit concentrations do not exceed 50 ppmv TPH, ARCO shall record the actual value.
7. ARCO may replace the CATOX with a two-stage carbon adsorber. If ARCO replaces the CATOX with a two-stage carbon adsorber, the concentration of TPH in the vapor leaving the first carbon drum shall not exceed 50 ppmv and the flow through the two-stage adsorber shall not exceed 200 cfm. ARCO shall record the actual concentration of TPH in the vapor and flow monthly.

Notice of Completion

WARNING:

Regulation I, Section 6.09, requires that the owner or applicant notify the Agency of the completion of the work covered by the application and when its operation will begin. This form is provided for your convenience to assist you in complying with this part of the Regulation.

APPLICANT or OWNER SECTION

Mail to: Puget Sound Clean Air Agency
Compliance Division
1904 3rd Ave, Ste 105
Seattle, WA 98101-3317

The project described below was completed on _____

Signature of Owner and/or Applicant

Title

Phone

Date

FOR AGENCY USE ONLY

Notice of Construction No. 10273

Registration No. 24941

Project Description

Soil and groundwater remediation by a Soil Vapor Extraction (SVE) system and an Air Sparging (AS) system with all emissions from the SVE routed through a catalytic oxidizer (CATOX).

Conditions on
Reverse Side

Applicant

Chris Robinson
ARCADIS US
2300 Eastlake Avenue, Ste 200
Seattle, WA, 98102

Owner

Chevron 68th Ave
19918 68th Ave S
Kent, WA, 98032

Location

Chevron 68th Ave, 19918 68th Ave S, Kent, WA, 98032

Inspector Check Engineer CMW and Inspector check.

Follow up _____ (Estimated completion date plus 7)

Date Inspected _____ Inspector _____

Remarks _____
