SEMI-ANNUAL STATUS REPORT

First Half of 2014

OPLC Kent Block Valve

South 259th Street, Kent, Washington

Antea® Group Project No. WAKBVHA141
August 13, 2014

Prepared for:
Remediation Management
A BP Affiliated Company
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And

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1.0 SITE HISTORY

- A release of gasoline and diesel associated with the Olympic Pipe Line Company (OPLC) Kent Block Valve was discovered in August 1989. The Washington State Department of Ecology (Ecology) was involved at the time of release and subsequent remedial efforts.
- Following repair of the block valve, an estimated 1,950 tons of petroleum-contaminated soil was removed from the site.
- Monitoring wells MW-1 through MW-19 were installed from September through December 1989. Groundwater sampling of the aforementioned monitoring wells began in December 1989.
- On March 27, 1990, monitoring wells MW-1, MW-4, MW-8 and MW-10 were abandoned. Monitoring well MW-2 was abandoned on April 4, 1990. The wells were abandoned due to the construction of the Valley Freeway Building.
- In 1993, the recovery well and monitoring wells MW-6, MW-7, MW-11 and MW-12 were found paved over. MW-17, adjacent to the Green River, could also not be located. Seven monitoring wells remained: MW-9, MW-13 through MW-16, MW-18, and MW-19.
- In 1999, the Seattle-King County Health Department, on behalf of the Ecology, conducted an Initial Site Hazard Assessment (SHA) of the Kent Block Valve site. The SHA was conducted under the Model Toxic Control Act (MTCA) Hazard Ranking program, and the process produced a ranking of "2" on a 5 point scale with 1 having the highest priority.
- In 1999, monitoring well MW-17A was installed after attempts to locate MW-6, MW-7, MW-11, MW-12 and MW-17 were unsuccessful. MW-17A was installed to a depth of 30 feet (ft) below ground surface (bgs). Analytical results from the soil samples submitted for analysis were below the laboratory method reporting limits.

- In 2001, monitoring wells MW-20 and MW-21 were installed to depths of 20 ft bgs and 30 ft bgs, respectively. Based on field screening results, one soil sample collected from MW-21 was submitted for laboratory analysis. Analytical results from the soil sample submitted for analysis were below the laboratory method reporting limits.
- In 2003, air sparge wells BS-1 through BS-4 were installed to a depth of 40 ft bgs. No soil samples were collected during the installation of the sparge wells.
- Monthly air sparging events on BS-1 through BS-4 were conducted in 2004.
- Annual groundwater sampling was initiated in 2009.
- Quarterly groundwater sampling was initiated in September 2012.
- The Site was accepted into Ecology's Voluntary Cleanup Program (VCP) on April 2, 2013.

2.0 WORK PERFORMED

- On March 19, 2014, Antea Group conducted groundwater monitoring and sampling on MW-15 only.
- Antea Group prepared this report.

3.0 SYSTEM CONFIGURATION

- Not applicable.

4.0 PROJECT STATUS

- Four quarters of groundwater concentrations below MTCA Method A Cleanup Levels was obtained upon receipt of the analytical data of MW-15. To facilitate the pursuit of a No Further Action Determination with Ecology, Antea Group, on behalf of OPLC, plans to conduct confirmatory soil sampling at the Site. Antea Group and OPLC personnel have made repeated efforts to obtain access with the adjacent property owner, CWWA Valley Freeway 5 LLC, but to date, access to the property has not been granted. Following this reporting period, quarterly groundwater monitoring and sampling at the Site will be suspended.

5.0 DATA REVIEW AND CONCLUSIONS

- Laboratory analytical results did not indicate hydrocarbon concentrations in excess of MTCA Method A Cleanup Levels in the groundwater sample collected from MW-15.
- To date, four consecutive quarters of petroleum hydrocarbon concentrations below MTCA Method A Cleanup Levels in all wells have been achieved.
- Groundwater Gauging and Analytical Data are presented in Table 1. The Groundwater Elevation and Analytical Data Map is presented as Figure 1. The groundwater analytical laboratory report is included as Appendix A. Field notes from the groundwater monitoring and sampling event are included as Appendix B.

6.0 REMARKS

The recommendations contained in this report represent Antea USA, Inc.'s professional opinions based upon the currently available information and are arrived at in accordance with currently accepted professional standards. This report is based upon a specific scope of work requested by the client. The contract between Antea USA, Inc. and its client outlines the scope of work, and only those tasks specifically authorized by that contract or outlined in this report were performed. This report is intended only for the use of Antea USA, Inc.'s client and anyone else specifically identified in writing by Antea USA, Inc. as a user of this report. Antea USA, Inc. will not and cannot be liable for unauthorized reliance by any other third party. Other than as contained in this paragraph, Antea USA, Inc. makes no express or implied warranty as to the contents of this report.

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Date: August 13, 2014

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Date: August 13, 2014

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Enclosures

Table

Table 1 Groundwater Gauging and Analytical Data

Figure

Figure 1 Groundwater Elevation and Analytical Data Map– March 19, 2014

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Appendix A Analytical Lab Reports and Chain-of-Custody Documentation

Appendix B Field Data Sheets

Table

Table 1 Groundwater Gauging and Analytical Data

TABLE 1
GROUNDWATER GAUGING AND ANALYTICAL DATA
OPLC KENT BLOCK VALVE
74TH AVE SOUTH & SOUTH 259TH STREET
KENT, WASHINGTON

Well I.D.	Date	GROUNDWATER GAUGING DATA					GROUNDWATER ANALYTICAL DATA										
		TOC Elevation (ft)	Depth to LNAPL (ft)	Depth to Water (ft)	LNAPL Thickness (ft)	Water Elevation* (ft)	TPH-G (C6-C12) (UG/L)	TPH-D (C12-C24) (UG/L)	TPH-O (C24-C40) (UG/L)	Benzene (UG/L)	Toluene (UG/L)	Ethylbenzene (UG/L)	Xylene (Total) (UG/L)	MTBE (UG/L)	EDB (UG/L)	EDC (UG/L)	TOTAL PB (UG/L)
Applied Action Level: 2007 MTCA Method A							**800**	**500**	**500**	**5**	**1000**	**700**	**1000**	**20**	**0.01**	**5**	**15**
MW-9	9/20/1989	95.21	NG	NG	NG	NG	--	--	--	ND	ND	ND	ND	--	--	--	--
	12/20/1989	95.21	NG	NG	NG	NG	--	--	--	4.8	86	25	120	--	--	--	--
	1/23/1990	95.21	NG	NG	NG	NG	--	--	--	4.8	85	53	240	--	--	--	--
	2/20/1990	95.21	NG	NG	NG	NG	--	--	--	**14**	38	41	120	--	--	--	--
	3/20/1990	95.21	NG	NG	NG	NG	--	--	--	**26**	6.3	38	110	--	--	--	--
	4/23/1990	95.21	NG	NG	NG	NG	--	--	--	**23**	6.7	42	81	--	--	--	--
	12/13/1990	95.21	NG	NG	NG	NG	--	--	--	0.9	1.6	15	30	--	--	--	--
	8/26/1992	95.21	NG	NG	NG	NG	--	--	--	3.3	ND	0.9	1.3	--	--	--	--
	6/3/1993	95.21	NG	NG	NG	NG	--	--	--	ND	ND	ND	ND	--	--	--	--
	8/17/1999	95.21	NP	18.82	NP	76.39	<50	**530**	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	3/17/2000	95.21	NP	16.1	NP	79.11	<50	<250	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	6/22/2000	95.21	NP	16.88	NP	78.33	<80	--	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	7/31/2000	95.21	NP	19.22	NP	75.99	<50	<250	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	9/27/2000	95.21	NP	19.31	NP	75.9	<50	<250	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	12/27/2000	95.21	NP	18	NP	77.21	<50	<250	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	3/30/2001	95.21	NP	23	NP	72.21	<50	--	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	7/11/2001	95.21	NP	18.06	NP	77.15	<50	--	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	9/26/2001	95.21	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	--	--	--	--
	12/27/2001	95.21	NP	14.41	NP	80.8	<50	--	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	3/14/2002	95.21	NP	14.5	NP	80.71	<50	--	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	6/17/2003	95.21	NP	18.04	NP	77.17	<50	--	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	3/1/2004	95.21	NP	23.05	NP	72.16	<50	--	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	6/1/2004	95.21	NP	13.82	NP	81.39	<50	--	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	9/1/2004	95.21	NP	18.37	NP	76.84	<50	--	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	10/18/2004	95.21	NP	17.38	NP	77.83	<80	--	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	7/27/2005	95.21	NP	18.63	NP	76.58	--	--	--	--	--	--	--	--	--	--	--
	4/11/2006	95.21	NG	NG	NG	NG	--	--	--	--	--	--	--	--	--	--	--
	5/4/2007	95.21	NG	NG	NG	NG	--	--	--	--	--	--	--	--	--	--	--
	9/5/2007	95.21	NP	19.39	NP	75.82	--	--	--	--	--	--	--	--	--	--	--
	2/12/2008	95.21	NG	NG	NG	NG	--	--	--	--	--	--	--	--	--	--	--
	7/17/2008	95.21	NG	NG	NG	NG	--	--	--	--	--	--	--	--	--	--	--
	3/3/2010	95.21	NP	17.39	NP	77.82	--	--	--	--	--	--	--	--	--	--	--
	3/3/2011	95.21	NP	16.32	NP	78.89	--	--	--	--	--	--	--	--	--	--	--
	9/12/2012	95.21	NP	19.43	NP	75.78	<50.0	<78.4	<392	<1	<1	<1	<3	<1.0	<1.0	<1.0	<10.0
	11/07/12	95.21	NP	16.81	NP	78.40	<100	<200	<200	<1	<1	<1	<3	--	--	--	9.4
	03/08/13	95.21	NP	15.37	NP	79.84	<50.0	<250	<500	<0.500	<0.500	<0.500	<1.00	<0.500	--	--	<10
	06/05/13	95.21	NP	16.67	NP	78.54	<50.0	<250	<500	<0.50	<0.50	<0.50	<1.00	<0.50	<0.0098	<0.50	<10

TABLE 1
GROUNDWATER GAUGING AND ANALYTICAL DATA
OPLC KENT BLOCK VALVE
74TH AVE SOUTH & SOUTH 259TH STREET
KENT, WASHINGTON

Well I.D.	Date	GROUNDWATER GAUGING DATA					GROUNDWATER ANALYTICAL DATA										
		TOC Elevation (ft)	Depth to LNAPL (ft)	Depth to Water (ft)	LNAPL Thickness (ft)	Water Elevation* (ft)	TPH-G (C6-C12) (UG/L)	TPH-D (C12-C24) (UG/L)	TPH-O (C24-C40) (UG/L)	Benzene (UG/L)	Toluene (UG/L)	Ethylbenzene (UG/L)	Xylene (Total) (UG/L)	MTBE (UG/L)	EDB (UG/L)	EDC (UG/L)	TOTAL PB (UG/L)
Applied Action Level: 2007 MTCA Method A							**800**	**500**	**500**	**5**	**1000**	**700**	**1000**	**20**	**0.01**	**5**	**15**
MW-13	10/18/1989	97.41	NG	NG	NG	NG	--	--	--	3.4	ND	ND	ND	--	--	--	--
	12/21/1989	97.41	NG	NG	NG	NG	--	--	--	2.5	ND	ND	ND	--	--	--	--
	1/23/1990	97.41	NG	NG	NG	NG	--	--	--	3.3	ND	ND	ND	--	--	--	--
	2/20/1990	97.41	NG	NG	NG	NG	--	--	--	**20**	9.3	1.7	8	--	--	--	--
	3/21/1990	97.41	NG	NG	NG	NG	--	--	--	**29**	37	13	64	--	--	--	--
	4/23/1990	97.41	NG	NG	NG	NG	--	--	--	**49**	5.8	26	110	--	--	--	--
	8/26/1992	97.41	NG	NG	NG	NG	--	--	--	**9.5**	0.5	1.6	3.7	--	--	--	--
	6/3/1993	97.41	NG	NG	NG	NG	--	--	--	3.8	ND	0.6	2.1	--	--	--	--
	8/17/1999	97.41	NP	19.5	NP	77.91	370	<250	--	**66.5**	3.45	2.63	28.8	--	--	--	--
	3/17/2000	97.41	NP	17.72	NP	79.69	<50	<250	--	1.46	<0.5	<0.5	<1	--	--	--	--
	6/22/2000	97.41	NP	18.38	NP	79.03	<80	--	--	1.35	<0.5	<0.5	<1	--	--	--	--
	7/31/2000	97.41	NP	20.05	NP	77.36	222	<250	--	**40**	<1.05	<0.5	<1	--	--	--	--
	9/27/2000	97.41	NP	20.96	NP	76.45	284	<250	--	**47.5**	<1.66	<1	8.99	--	--	--	--
	12/27/2000	97.41	NP	20.68	NP	76.73	53.6	<250	--	<0.653	0.964	<0.5	1.61	--	--	--	--
	3/30/2001	97.41	NP	18.77	NP	78.64	<50	--	--	1.03	<0.5	<0.5	2.89	--	--	--	--
	7/11/2001	97.41	NP	20.91	NP	76.5	114	--	--	2.52	<0.5	<0.5	3.26	--	--	--	--
	9/26/2001	97.41	NP	21.72	NP	75.69	144	--	--	2.66	<0.5	<0.5	3.74	--	--	--	--
	12/27/2001	97.41	NP	17.59	NP	79.82	70.4	--	--	1.57	<0.5	<0.5	1.67	--	--	--	--
	3/14/2002	97.41	NP	17.9	NP	79.51	<50	--	--	0.61	<0.5	<0.5	<1	--	--	--	--
	6/17/2003	97.41	NP	20.83	NP	76.58	55	--	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	3/1/2004	97.41	NP	19.2	NP	78.21	88.5	--	--	0.574	<0.5	<0.5	1.59	--	--	--	--
	6/1/2004	97.41	NP	16.56	NP	80.85	<50	--	--	0.574	<0.5	<0.5	<1	--	--	--	--
	9/1/2004	97.41	NP	20.99	NP	76.42	<50	--	--	0.658	<0.5	<0.5	<1	--	--	--	--
	10/18/2004	97.41	NP	20.18	NP	77.23	86.1	--	--	0.747	<0.5	<0.5	<1	--	--	--	--
	7/27/2005	97.41	NP	20.92	NP	76.49	115	--	--	0.956	<0.5	<0.5	<1	--	--	--	--
	4/11/2006	97.41	NP	17.25	NP	80.16	58.6	<243	--	0.614	<0.5	<0.5	<1	--	--	--	--
	5/4/2007	97.41	NP	18.07	NP	79.34	65.3	<236	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	9/5/2007	97.41	NP	20.61	NP	76.8	249	<236	--	**8.4**	<0.5	<0.5	<1	--	--	--	--
	2/12/2008	97.41	NP	14.08	NP	83.33	55	<240	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	7/17/2008	97.41	NP	18.99	NP	78.42	<50	<243	<485	0.64	<0.5	<0.5	<1	--	--	--	--
	1/12/2009	97.41	NP	15.53	NP	81.88	550	<238	<476	**12.5**	0.94	<0.5	1.93	--	--	--	--
	3/3/2010	97.41	NP	18.52	NP	78.89	<50	<120	260	<1	<1	<1	<2	--	--	--	--
	3/3/2011	97.41	NP	17.22	NP	80.19	<50	<75	<380	<1	<1	<1	<3	--	--	--	--
	9/12/2012	97.41	NP	20.55	NP	76.86	<50.0	<78.4	<392	<1	<1	<1	<3	<1.0	<1.0	<1.0	<10.0
	11/7/2012	97.41	NP	17.78	NP	79.63	<100	<200	<200	<1	<1	<1	<3	--	--	--	11.3
	03/08/13	97.41	NP	17.20	NP	80.21	<50.0	<250	<500	<0.500	<0.500	<0.500	<1.00	<0.500	--	--	<10
	06/05/13	97.41	NP	17.97	NP	79.44	<50.0	<250	<500	<0.50	<0.50	<0.50	<1.00	<0.50	<0.0097	<0.50	<10

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Applied Action Level: 2007 MTCA Method A							**800**	**500**	**500**	**5**	**1000**	**700**	**1000**	**20**	**0.01**	**5**	**15**
MW-14	11/10/1989	97.15	NG	NG	NG	NG	--	--	--	**1800**	22	41	170	--	--	--	--
	12/20/1989	97.15	NG	NG	NG	NG	--	--	--	**160**	1.6	6.5	18	--	--	--	--
	1/23/1990	97.15	NG	NG	NG	NG	--	--	--	**110**	1	ND	6.8	--	--	--	--
	2/21/1990	97.15	NG	NG	NG	NG	--	--	--	**14**	ND	ND	1.3	--	--	--	--
	3/21/1990	97.15	NG	NG	NG	NG	--	--	--	**530**	6.9	20	47	--	--	--	--
	4/23/1990	97.15	NG	NG	NG	NG	--	--	--	**360**	2.2	1.9	7.8	--	--	--	--
	5/18/1990	97.15	NG	NG	NG	NG	--	--	--	**500**	4.3	4.2	14	--	--	--	--
	12/13/1990	97.15	NG	NG	NG	NG	--	--	--	**16**	ND	ND	ND	--	--	--	--
	10/7/1991	97.15	NG	NG	NG	NG	--	--	--	**8.4**	ND	ND	ND	--	--	--	--
	8/26/1992	97.15	NG	NG	NG	NG	--	--	--	ND	ND	ND	ND	--	--	--	--
	6/3/1993	97.15	NG	NG	NG	NG	--	--	--	ND	ND	ND	ND	--	--	--	--
	8/17/1999	97.15	NP	20.84	NP	76.31	<50	269	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	3/17/2000	97.15	NP	18.08	NP	79.07	<50	<250	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	6/22/2000	97.15	NP	18.86	NP	78.29	<80	--	--	1.91	0.888	<0.5	2.49	--	--	--	--
	7/31/2000	97.15	NP	21.25	NP	75.9	<50	<250	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	9/27/2000	97.15	NP	21.45	NP	75.7	<50	<250	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	12/27/2000	97.15	NP	20.82	NP	76.33	<50	<250	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	3/30/2001	97.15	NP	18.67	NP	78.48	<50	--	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	7/11/2001	97.15	NP	20.7	NP	76.45	<50	--	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	9/26/2001	97.15	NP	21.53	NP	75.62	<50	--	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	12/27/2001	97.15	NP	17.05	NP	80.1	<50	--	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	3/14/2002	97.15	NP	17.72	NP	79.43	<50	--	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	6/17/2003	97.15	NP	20.6	NP	76.55	<50	--	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	3/1/2004	97.15	NP	19.01	NP	78.14	<50	--	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	6/1/2004	97.15	NP	16.57	NP	80.58	<50	--	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	9/1/2004	97.15	NP	20.81	NP	76.34	<50	--	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	10/18/2004	97.15	NP	20.21	NP	76.94	<80	--	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	7/27/2005	97.15	NP	21.02	NP	76.13	<80	--	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	4/11/2006	97.15	NG	NG	NG	NG	--	--	--	--	--	--	--	--	--	--	--
	5/4/2007	97.15	NG	NG	NG	NG	--	--	--	--	--	--	--	--	--	--	--
	9/5/2007	97.15	NG	NG	NG	NG	--	--	--	--	--	--	--	--	--	--	--
	2/12/2008	97.15	NG	NG	NG	NG	--	--	--	--	--	--	--	--	--	--	--
	7/17/2008	97.15	NG	NG	NG	NG	--	--	--	--	--	--	--	--	--	--	--
	3/3/2010	97.15	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL
	3/3/2011	97.15	NP	17.99	NP	79.16	--	--	--	--	--	--	--	--	--	--	--
	9/12/2012	97.15	NP	21.33	NP	75.82	<50.0	131	<392	<1	<1	<1	<3	<1	<1	<1	<10
	11/7/2012	97.15	NP	18.31	NP	78.84	<100	<200	<200	<1	<1	<1	<3	--	--	--	<3
	03/08/13	97.15	NP	17.41	NP	79.74	<50.0	<250	<500	<0.500	<0.500	<0.500	<1.00	<0.500	--	--	<10
	06/05/13	97.15	NP	18.62	NP	78.53	<50.0	<250	<500	<0.50	<0.50	<0.50	<1.00	<0.50	<0.0098	<0.50	<10

TABLE 1
GROUNDWATER GAUGING AND ANALYTICAL DATA
OPLC KENT BLOCK VALVE
74TH AVE SOUTH & SOUTH 259TH STREET
KENT, WASHINGTON

Well I.D.	Date	GROUNDWATER GAUGING DATA					GROUNDWATER ANALYTICAL DATA										
		TOC Elevation (ft)	Depth to LNAPL (ft)	Depth to Water (ft)	LNAPL Thickness (ft)	Water Elevation* (ft)	TPH-G (C6-C12) (UG/L)	TPH-D (C12-C24) (UG/L)	TPH-O (C24-C40) (UG/L)	Benzene (UG/L)	Toluene (UG/L)	Ethylbenzene (UG/L)	Xylene (Total) (UG/L)	MTBE (UG/L)	EDB (UG/L)	EDC (UG/L)	TOTAL PB (UG/L)
Applied Action Level: 2007 MTCA Method A							**800**	**500**	**500**	**5**	**1000**	**700**	**1000**	**20**	**0.01**	**5**	**15**
MW-15	11/10/1989	96.84	NG	NG	NG	NG	--	--	--	**99**	ND	ND	1	--	--	--	--
	12/20/1989	96.84	NG	NG	NG	NG	--	--	--	**200**	2.2	1.7	6.4	--	--	--	--
	1/23/1990	96.84	NG	NG	NG	NG	--	--	--	**120**	1.4	ND	2.6	--	--	--	--
	2/21/1990	96.84	NG	NG	NG	NG	--	--	--	**48**	ND	ND	0.7	--	--	--	--
	3/21/1990	96.84	NG	NG	NG	NG	--	--	--	**53**	0.5	ND	0.5	--	--	--	--
	4/23/1990	96.84	NG	NG	NG	NG	--	--	--	**53**	ND	ND	ND	--	--	--	--
	5/18/1990	96.84	NG	NG	NG	NG	--	--	--	**59**	ND	ND	ND	--	--	--	--
	12/13/1990	96.84	NG	NG	NG	NG	--	--	--	**450**	120	17	97	--	--	--	--
	10/7/1991	96.84	NG	NG	NG	NG	--	--	--	**350**	6.6	16	50	--	--	--	--
	8/26/1992	96.84	NG	NG	NG	NG	--	--	--	**380**	3.6	21	66	--	--	--	--
	6/3/1993	96.84	NG	NG	NG	NG	--	--	--	**370**	4.1	15	52	--	--	--	--
	8/17/1999	96.84	NP	21.1	NP	75.74	<50	<250	--	**611**	12	23.4	72.7	--	--	--	--
	3/17/2000	96.84	NP	18.33	NP	78.51	140	<250	--	**300**	4.19	0.064	20.5	--	--	--	--
	6/22/2000	96.84	NP	19.02	NP	77.82	<800	--	--	**631**	13	11.6	55.7	--	--	--	--
	7/31/2000	96.84	NP	21.3	NP	75.54	94.7	<250	--	**72.1**	1.33	<0.5	6.59	--	--	--	--
	9/27/2000	96.84	NP	21.6	NP	75.24	<1000	<250	--	**637**	11	41.8	64.3	--	--	--	--
	12/27/2000	96.84	NP	20.88	NP	75.96	587	<250	--	**547**	8.72	40.2	58.5	--	--	--	--
	3/30/2001	96.84	NP	18.59	NP	78.25	<50	--	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	7/11/2001	96.84	NP	20.72	NP	76.12	<50	--	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	9/26/2001	96.84	NP	21.54	NP	75.3	<50	--	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	12/27/2001	96.84	NP	17.73	NP	79.11	566	--	--	**212**	7.19	<2.5	16.8	--	--	--	--
	3/14/2002	96.84	NP	17.98	NP	78.86	586	--	--	**320**	3.78	<0.5	15.5	--	--	--	--
	6/17/2003	96.84	NP	20.83	NP	76.01	**1020**	--	--	**386**	4.86	0.555	16.8	--	--	--	--
	3/1/2004	96.84	NP	19.29	NP	77.55	<50	--	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	6/1/2004	96.84	NP	16.27	NP	80.57	163	--	--	**59**	0.966	<0.5	2.55	--	--	--	--
	9/1/2004	96.84	NP	20.78	NP	76.06	389	--	--	**125**	2.07	<0.5	5.52	--	--	--	--
	10/18/2004	96.84	NP	19.99	NP	76.85	662	--	--	**253**	<2.5	<2.5	<5	--	--	--	--
	7/27/2005	96.84	NP	21.36	NP	75.48	414	--	--	**188**	2.32	<1	9.07	--	--	--	--
	4/11/2006	96.84	NP	19.32	NP	77.52	544	<250	--	**145**	2.28	<0.5	9.05	--	--	--	--
	5/4/2007	96.84	NP	19.08	NP	77.76	159	<236	--	**18.8**	<0.5	<0.5	<1	--	--	--	--
	9/5/2007	96.84	NP	21.67	NP	75.17	105	<236	--	0.99	<0.5	<0.5	1.27	--	--	--	--
	2/12/2008	96.84	NP	14.9	NP	81.94	248	<243	--	**16.4**	0.97	<0.5	5.49	--	--	--	--
	7/17/2008	96.84	NP	20.21	NP	76.63	384	<243	<485	**24.7**	1.54	<0.5	6.84	--	--	--	--
	1/12/2009	96.84	NP	15.53	NP	81.31	289	<236	<472	0.829	1.01	<0.5	4.84	--	--	--	--
	3/3/2010	96.84	NP	19.79	NP	77.05	<50	<120	<240	<1	<1	<1	<2	--	--	--	--
	9/12/2012	96.84	WD	WD	WD	WD	WD	WD	WD	WD	WD	WD	WD	WD	WD	WD	WD
	11/7/2012	96.84	WD	WD	WD	WD	WD	WD	WD	WD	WD	WD	WD	WD	WD	WD	WD
	03/08/13	96.84	NP	18.03	NP	78.81	<50.0	<250	<500	<0.500	<0.500	<0.500	<1.00	<0.500	--	--	<10
	06/05/13	96.84	NP	18.95	NP	77.89	<50.0	<250	<500	<0.50	<0.50	<0.50	<1.00	<0.50	<0.0097	<0.50	<10
	08/28/13	96.84	NP	21.83	NP	75.01	<50	<130	<250	<2.0	<2.0	<2.0	<6.0	<2.0	<0.010	<2.0	1.5
	03/19/14	96.84	NP	11.29	NP	85.55	<50	<120	<240	<5.0	<5.0	<5.0	<10	<5.0	--	--	<2.0

TABLE 1
GROUNDWATER GAUGING AND ANALYTICAL DATA
OPLC KENT BLOCK VALVE
74TH AVE SOUTH & SOUTH 259TH STREET
KENT, WASHINGTON

Well I.D.	Date	GROUNDWATER GAUGING DATA					GROUNDWATER ANALYTICAL DATA										
		TOC Elevation (ft)	Depth to LNAPL (ft)	Depth to Water (ft)	LNAPL Thickness (ft)	Water Elevation* (ft)	TPH-G (C6-C12) (UG/L)	TPH-D (C12-C24) (UG/L)	TPH-O (C24-C40) (UG/L)	Benzene (UG/L)	Toluene (UG/L)	Ethylbenzene (UG/L)	Xylene (Total) (UG/L)	MTBE (UG/L)	EDB (UG/L)	EDC (UG/L)	TOTAL PB (UG/L)
Applied Action Level: 2007 MTCA Method A							**800**	**500**	**500**	**5**	**1000**	**700**	**1000**	**20**	**0.01**	**5**	**15**
MW-16	12/19/1989	97.32	NG	NG	NG	NG	--	--	--	**98**	1.1	ND	ND	--	--	--	--
	1/23/1990	97.32	NG	NG	NG	NG	--	--	--	**560**	6.8	2.4	5.5	--	--	--	--
	2/21/1990	97.32	NG	NG	NG	NG	--	--	--	**750**	320	64	360	--	--	--	--
	3/21/1990	97.32	NG	NG	NG	NG	--	--	--	**720**	400	63	310	--	--	--	--
	4/23/1990	97.32	NG	NG	NG	NG	--	--	--	**1200**	740	140	630	--	--	--	--
	5/18/1990	97.32	NG	NG	NG	NG	--	--	--	**780**	750	97	470	--	--	--	--
	12/13/1990	97.32	NG	NG	NG	NG	--	--	--	**590**	98	26	130	--	--	--	--
	10/7/1991	97.32	NG	NG	NG	NG	--	--	--	**840**	180	99	400	--	--	--	--
	8/26/1992	97.32	NG	NG	NG	NG	--	--	--	**520**	20	150	480	--	--	--	--
	6/3/1993	97.32	NG	NG	NG	NG	--	--	--	**420**	14	170	380	--	--	--	--
	8/17/1999	97.32	NP	21.37	NP	75.95	710	256	--	**48.6**	3.4	3.99	30.1	--	--	--	--
	3/17/2000	97.32	NP	18.76	NP	78.56	**981**	<250	--	**168**	8	39.4	71.7	--	--	--	--
	6/22/2000	97.32	NP	19.31	NP	78.01	132	--	--	**12.6**	1.25	<0.5	4.15	--	--	--	--
	7/31/2000	97.32	NP	21.7	NP	75.62	580	<250	--	**61**	4.19	1.07	20.8	--	--	--	--
	9/27/2000	97.32	NP	21.71	NP	75.61	623	<250	--	**55.4**	4.72	3.34	18.4	--	--	--	--
	12/27/2000	97.32	NP	21.15	NP	76.17	473	<250	--	**34.7**	2.83	<0.5	9.18	--	--	--	--
	3/30/2001	97.32	NP	18.84	NP	78.48	649	--	--	**30.6**	2.66	<0.5	4.42	--	--	--	--
	7/11/2001	97.32	NP	21.04	NP	76.28	538	--	--	**33.8**	2.36	<0.5	6.08	--	--	--	--
	9/26/2001	97.32	NP	21.79	NP	75.53	305	--	--	**22.1**	1.51	<0.5	3.24	--	--	--	--
	12/27/2001	97.32	NP	17.99	NP	79.33	468	--	--	**23.7**	2.48	<0.5	5.69	--	--	--	--
	3/14/2002	97.32	NP	18.25	NP	79.07	630	--	--	**95.7**	3.78	5.54	6.69	--	--	--	--
	6/17/2003	97.32	NP	21.08	NP	76.24	383	--	--	**20.2**	2.29	<0.5	3.29	--	--	--	--
	3/1/2004	97.32	NP	19.57	NP	77.75	127	--	--	**7.26**	0.68	<0.5	1.11	--	--	--	--
	6/1/2004	97.32	NP	16.52	NP	80.8	226	--	--	**15.3**	1.2	<0.5	1.06	--	--	--	--
	9/1/2004	97.32	NP	21.03	NP	76.29	314	--	--	**15.7**	1.58	<0.5	1.37	--	--	--	--
	10/18/2004	97.32	NP	20.2	NP	77.12	<80	--	--	2.7	<0.5	<0.5	<1	--	--	--	--
	7/27/2005	97.32	NP	21.65	NP	75.67	122	--	--	4.27	0.523	<0.5	1.2	--	--	--	--
	4/11/2006	97.32	NP	19.59	NP	77.73	**1090**	<258	--	**152**	3.84	70.6	3.7	--	--	--	--
	5/4/2007	97.32	NP	19.35	NP	77.97	578	<236	--	**22.3**	0.58	4.77	<1	--	--	--	--
	9/5/2007	97.32	NP	21.95	NP	75.37	251	<236	--	1.18	<0.5	<0.5	<1	--	--	--	--
	2/12/2008	97.32	NP	15.11	NP	82.21	421	<238	--	2.01	0.77	<0.5	1.56	--	--	--	--
	7/17/2008	97.32	NP	20.48	NP	76.84	379	<243	<485	1.31	0.514	<0.5	1.13	--	--	--	--
	1/12/2009	97.32	NP	15.61	NP	81.71	307	<236	<472	1.22	<0.5	<0.5	<1	--	--	--	--
	3/3/2010	97.32	NP	20.05	NP	77.27	52	<120	<240	<1	<1	<1	<2	--	--	--	--
	3/3/2011	97.32	NP	19.02	NP	78.30	<50	<75	<380	<1	<1	<1	<3	--	--	--	--
	9/12/2012	97.32	NP	21.92	NP	75.40	<50	<78.4	<392	<1	<1	<1	<3	<1	<1	<1	<10
	11/7/2012	97.32	NP	19.15	NP	78.17	170	<200	<200	<1	<1	<1	<3	--	--	--	7.2
	03/08/13	97.32	NP	18.37	NP	78.95	<50.0	<250	<500	<0.500	<0.500	<0.500	<1.00	<0.500	--	--	<10
	06/05/13	97.32	NP	19.25	NP	78.07	<50.0	<250	<500	<0.50	<0.50	<0.50	<1.00	<0.50	<0.0097	<0.50	<10

TABLE 1
GROUNDWATER GAUGING AND ANALYTICAL DATA
OPLC KENT BLOCK VALVE
74TH AVE SOUTH & SOUTH 259TH STREET
KENT, WASHINGTON

Well I.D.	Date	GROUNDWATER GAUGING DATA					GROUNDWATER ANALYTICAL DATA										
		TOC Elevation (ft)	Depth to LNAPL (ft)	Depth to Water (ft)	LNAPL Thickness (ft)	Water Elevation* (ft)	TPH-G (C6-C12) (UG/L)	TPH-D (C12-C24) (UG/L)	TPH-O (C24-C40) (UG/L)	Benzene (UG/L)	Toluene (UG/L)	Ethylbenzene (UG/L)	Xylene (Total) (UG/L)	MTBE (UG/L)	EDB (UG/L)	EDC (UG/L)	TOTAL PB (UG/L)
Applied Action Level: 2007 MTCA Method A							**800**	**500**	**500**	**5**	**1000**	**700**	**1000**	**20**	**0.01**	**5**	**15**
MW-17A	9/19/1999	97.96	NP	23.35	NP	74.61	<50	269	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	3/17/2000	97.96	NP	20.24	NP	77.72	<50	<250	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	6/22/2000	97.96	NP	21.01	NP	76.95	<80	--	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	7/31/2000	97.96	NP	23.3	NP	74.66	<50	<250	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	9/27/2000	97.96	NP	23.09	NP	74.87	<50	<250	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	12/27/2000	97.96	NP	22.55	NP	75.41	<50	<250	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	3/30/2001	97.96	NP	19.98	NP	77.98	<50	--	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	7/11/2001	97.96	NP	22.59	NP	75.37	<50	--	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	9/26/2001	97.96	NP	23.11	NP	74.85	<50	--	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	12/27/2001	97.96	NP	19.82	NP	78.14	<50	--	--	<0.5	0.622	<0.5	1.24	--	--	--	--
	3/14/2002	97.96	NP	19.54	NP	78.42	<50	--	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	6/17/2003	97.96	NP	22.72	NP	75.24	<50	--	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	3/1/2004	97.96	NP	21.17	NP	76.79	<50	--	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	6/1/2004	97.96	NP	17.03	NP	80.93	<50	--	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	9/1/2004	97.96	NP	22.29	NP	75.67	<50	--	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	10/18/2004	97.96	NP	20.99	NP	76.97	<80	--	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	7/27/2005	97.96	NP	23.18	NP	74.78	--	--	--	--	--	--	--	--	--	--	--
	4/11/2006	97.96	NG	NG	NG	NG	--	--	--	--	--	--	--	--	--	--	--
	5/4/2007	97.96	NG	NG	NG	NG	--	--	--	--	--	--	--	--	--	--	--
	9/5/2007	97.96	NP	23.36	NP	74.6	--	--	--	--	--	--	--	--	--	--	--
	2/12/2008	97.96	NG	NG	NG	NG	--	--	--	--	--	--	--	--	--	--	--
	7/17/2008	97.96	NG	NG	NG	NG	--	--	--	--	--	--	--	--	--	--	--
	3/3/2010	97.96	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL
	3/3/2011	97.96	NP	20.63	NP	77.33	--	--	--	--	--	--	--	--	--	--	--
	9/12/2012	97.96	NP	23.46	NP	74.5	<50	<78.4	<392	<1	<1	<1	<3	<1	<1	<1	<10
	11/7/2012	97.96	NP	20.55	NP	77.41	<100	<200	<200	<1	<1	<1	<3	--	--	--	8
	03/08/13	97.96	NP	19.79	NP	78.17	<50.0	<250	<500	<0.500	<0.500	<0.500	<1.00	<0.500	--	--	<10
	06/05/13	97.96	NP	20.83	NP	77.13	<50.0	<250	<500	<0.50	<0.50	<0.50	<1.00	<0.50	<0.0096	<0.50	<10

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OPLC KENT BLOCK VALVE
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KENT, WASHINGTON

Well I.D.	Date	GROUNDWATER GAUGING DATA					GROUNDWATER ANALYTICAL DATA										
		TOC Elevation (ft)	Depth to LNAPL (ft)	Depth to Water (ft)	LNAPL Thickness (ft)	Water Elevation* (ft)	TPH-G (C6-C12) (UG/L)	TPH-D (C12-C24) (UG/L)	TPH-O (C24-C40) (UG/L)	Benzene (UG/L)	Toluene (UG/L)	Ethylbenzene (UG/L)	Xylene (Total) (UG/L)	MTBE (UG/L)	EDB (UG/L)	EDC (UG/L)	TOTAL PB (UG/L)
Applied Action Level: 2007 MTCA Method A							**800**	**500**	**500**	**5**	**1000**	**700**	**1000**	**20**	**0.01**	**5**	**15**
MW-18	12/20/1989	98.24	NG	NG	NG	NG	--	--	--	ND	ND	ND	ND	--	--	--	--
	1/22/1990	98.24	NG	NG	NG	NG	--	--	--	ND	ND	ND	ND	--	--	--	--
	2/21/1990	98.24	NG	NG	NG	NG	--	--	--	ND	ND	ND	0.5	--	--	--	--
	3/20/1990	98.24	NG	NG	NG	NG	--	--	--	1	1	ND	0.7	--	--	--	--
	4/23/1990	98.24	NG	NG	NG	NG	--	--	--	ND	ND	ND	ND	--	--	--	--
	5/18/1990	98.24	NG	NG	NG	NG	--	--	--	ND	ND	ND	ND	--	--	--	--
	12/13/1990	98.24	NL	NL	NL	NL	--	--	--	**14**	ND	ND	ND	--	--	--	--
	1/4/1991	98.24	NG	NG	NG	NG	--	--	--	3.3	ND	ND	ND	--	--	--	--
	10/7/1991	98.24	NG	NG	NG	NG	--	--	--	**12**	ND	ND	ND	--	--	--	--
	8/26/1992	98.24	NG	NG	NG	NG	--	--	--	**64**	ND	1.6	6.6	--	--	--	--
	6/3/1993	98.24	NG	NG	NG	NG	--	--	--	**97**	1.5	ND	23	--	--	--	--
	8/17/1999	98.24	NP	23.14	NP	75.1	<50	<250	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	3/17/2000	98.24	NP	20.52	NP	77.72	<50	<250	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	6/22/2000	98.24	NP	21.3	NP	76.94	<80	--	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	7/31/2000	98.24	NP	23.43	NP	74.81	<50	<250	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	9/27/2000	98.24	NP	23.21	NP	75.03	<50	<250	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	12/27/2000	98.24	NP	22.71	NP	75.53	54.6	<250	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	3/30/2001	98.24	NP	20.24	NP	78	<50	--	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	7/11/2001	98.24	NP	22.76	NP	75.48	<50	--	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	9/26/2001	98.24	NP	23.24	NP	75	77.5	--	--	0.602	<0.5	<0.5	1.05	--	--	--	--
	12/27/2001	98.24	NP	20.21	NP	78.03	<50	--	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	3/14/2002	98.24	NP	19.85	NP	78.39	<50	--	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	6/17/2003	98.24	NP	22.89	NP	75.35	<50	--	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	3/1/2004	98.24	NP	21.43	NP	76.81	<50	--	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	6/1/2004	98.24	NP	17.16	NP	81.08	<50	--	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	9/1/2004	98.24	NP	22.44	NP	75.8	<50	--	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	10/18/2004	98.24	NP	21.15	NP	77.09	<80	--	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	7/27/2005	98.24	NP	23.37	NP	74.87	--	--	--	--	--	--	--	--	--	--	--
	4/11/2006	98.24	NG	NG	NG	NG	--	--	--	--	--	--	--	--	--	--	--
	5/4/2007	98.24	NG	NG	NG	NG	--	--	--	--	--	--	--	--	--	--	--
	9/5/2007	98.24	NG	NG	NG	NG	--	--	--	--	--	--	--	--	--	--	--
	2/12/2008	98.24	NG	NG	NG	NG	--	--	--	--	--	--	--	--	--	--	--
	7/17/2008	98.24	NG	NG	NG	NG	--	--	--	--	--	--	--	--	--	--	--
	3/3/2010	98.24	NP	21.65	NP	76.59	--	--	--	--	--	--	--	--	--	--	--
	3/3/2011	98.24	NP	21.01	NP	77.23	--	--	--	--	--	--	--	--	--	--	--
	9/12/2012	98.24	NP	23.63	NP	74.61	<50	<78.4	<392	<1	<1	<1	<3	<1	<1	<1	<10
	11/7/2012	98.24	NP	21.01	NP	77.23	<100	<200	<200	<1	<1	<1	<3	--	--	--	<3
	03/08/13	98.24	NP	20.17	NP	78.07	<50.0	<250	<500	<0.500	<0.500	<0.500	<1.00	<0.500	--	--	<10
	06/05/13	98.24	NP	21.18	NP	77.06	<50.0	<250	<500	<0.50	<0.50	<0.50	<1.00	<0.50	<0.0097	<0.50	<10

TABLE 1
GROUNDWATER GAUGING AND ANALYTICAL DATA
OPLC KENT BLOCK VALVE
74TH AVE SOUTH & SOUTH 259TH STREET
KENT, WASHINGTON

Well I.D.	Date	GROUNDWATER GAUGING DATA					GROUNDWATER ANALYTICAL DATA										
		TOC Elevation (ft)	Depth to LNAPL (ft)	Depth to Water (ft)	LNAPL Thickness (ft)	Water Elevation* (ft)	TPH-G (C6-C12) (UG/L)	TPH-D (C12-C24) (UG/L)	TPH-O (C24-C40) (UG/L)	Benzene (UG/L)	Toluene (UG/L)	Ethylbenzene (UG/L)	Xylene (Total) (UG/L)	MTBE (UG/L)	EDB (UG/L)	EDC (UG/L)	TOTAL PB (UG/L)
Applied Action Level: 2007 MTCA Method A							**800**	**500**	**500**	**5**	**1000**	**700**	**1000**	**20**	**0.01**	**5**	**15**
MW-19	12/20/1989	98.45	NG	NG	NG	NG	--	--	--	ND	ND	ND	ND	--	--	--	--
	4/23/1990	98.45	NG	NG	NG	NG	--	--	--	ND	ND	ND	ND	--	--	--	--
	5/18/1990	98.45	NG	NG	NG	NG	--	--	--	ND	1.2	ND	ND	--	--	--	--
	12/13/1990	98.45	NG	NG	NG	NG	--	--	--	ND	1.4	ND	ND	--	--	--	--
	1/4/1991	98.45	NG	NG	NG	NG	--	--	--	ND	ND	ND	ND	--	--	--	--
	10/7/1991	98.45	NG	NG	NG	NG	--	--	--	1.3	ND	ND	ND	--	--	--	--
	8/26/1992	98.45	NG	NG	NG	NG	--	--	--	ND	ND	ND	ND	--	--	--	--
	6/3/1993	98.45	NG	NG	NG	NG	--	--	--	3	ND	ND	ND	--	--	--	--
	8/17/1999	98.45	NP	23.18	NP	75.27	<50	<250	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	3/17/2000	98.45	NP	20.65	NP	77.8	<50	<250	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	6/22/2000	98.45	NP	21.45	NP	77	<80	--	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	7/31/2000	98.45	NP	23.49	NP	74.96	<50	<250	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	9/27/2000	98.45	NP	23.27	NP	75.18	<50	<575	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	12/27/2000	98.45	NP	22.78	NP	75.67	<50	<250	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	3/30/2001	98.45	NP	20.38	NP	78.07	<50	--	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	7/11/2001	98.45	NP	22.83	NP	75.62	<50	--	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	9/26/2001	98.45	NP	23.29	NP	75.16	<50	--	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	12/27/2001	98.45	NP	20.39	NP	78.06	<50	--	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	3/14/2002	98.45	NP	19.19	NP	79.26	<50	--	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	6/17/2003	98.45	NP	22.98	NP	75.47	<50	--	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	3/1/2004	98.45	NP	21.61	NP	76.84	<50	--	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	6/1/2004	98.45	NP	17.24	NP	81.21	<50	--	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	9/1/2004	98.45	NP	22.55	NP	75.9	<50	--	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	10/18/2004	98.45	NP	21.24	NP	77.21	<80	--	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	7/27/2005	98.45	NP	23.44	NP	75.01	--	--	--	--	--	--	--	--	--	--	--
	4/11/2006	98.45	NG	NG	NG	NG	--	--	--	--	--	--	--	--	--	--	--
	5/4/2007	98.45	NG	NG	NG	NG	--	--	--	--	--	--	--	--	--	--	--
	9/5/2007	98.45	NP	23.61	NP	74.84	--	--	--	--	--	--	--	--	--	--	--
	2/12/2008	98.45	NG	NG	NG	NG	--	--	--	--	--	--	--	--	--	--	--
	7/17/2008	98.45	NG	NG	NG	NG	--	--	--	--	--	--	--	--	--	--	--
	3/3/2010	98.45	NP	21.96	NP	76.49	--	--	--	--	--	--	--	--	--	--	--
	3/3/2011	98.45	NP	21.16	NP	77.29	--	--	--	--	--	--	--	--	--	--	--
	9/12/2012	98.45	NP	23.68	NP	74.77	<50	<78.4	<392	<1	<1	<1	<3	<1	<1	<1	<10
	11/7/2012	98.45	NP	21.15	NP	77.3	<100	<200	<200	<1	<1	<1	<3	--	--	--	<3
	03/08/13	98.45	NP	20.34	NP	78.11	<50.0	<250	<500	<0.500	<0.500	<0.500	<1.00	<0.500	--	--	<10
	06/05/13	98.45	NP	21.32	NP	77.13	<50.0	<250	<500	<0.50	<0.50	<0.50	<1.00	<0.50	<0.0097	<0.50	<10

TABLE 1
GROUNDWATER GAUGING AND ANALYTICAL DATA
OPLC KENT BLOCK VALVE
74TH AVE SOUTH & SOUTH 259TH STREET
KENT, WASHINGTON

Well I.D.	Date	GROUNDWATER GAUGING DATA					GROUNDWATER ANALYTICAL DATA										
		TOC Elevation (ft)	Depth to LNAPL (ft)	Depth to Water (ft)	LNAPL Thickness (ft)	Water Elevation* (ft)	TPH-G (C6-C12) (UG/L)	TPH-D (C12-C24) (UG/L)	TPH-O (C24-C40) (UG/L)	Benzene (UG/L)	Toluene (UG/L)	Ethylbenzene (UG/L)	Xylene (Total) (UG/L)	MTBE (UG/L)	EDB (UG/L)	EDC (UG/L)	TOTAL PB (UG/L)
Applied Action Level: 2007 MTCA Method A							**800**	**500**	**500**	**5**	**1000**	**700**	**1000**	**20**	**0.01**	**5**	**15**
MW-20	8/8/2001	96.5	NP	15.91	NP	80.59	<50	<250	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	9/26/2001	96.5	NP	16.81	NP	79.69	<50	--	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	12/27/2001	96.5	NP	9.17	NP	87.33	<50	--	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	3/14/2002	96.5	NP	9.21	NP	87.29	<50	--	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	6/17/2003	96.5	NP	14.3	NP	82.2	<50	--	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	3/1/2004	96.5	NP	10.82	NP	85.68	<50	--	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	6/1/2004	96.5	NP	13.41	NP	83.09	<50	--	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	9/1/2004	96.5	NP	16.2	NP	80.3	<50	--	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	10/18/2004	96.5	NP	16.15	NP	80.35	<80	--	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	7/27/2005	96.5	NP	15.55	NP	80.95	--	--	--	--	--	--	--	--	--	--	--
	4/11/2006	96.5	NG	NG	NG	NG	--	--	--	--	--	--	--	--	--	--	--
	5/4/2007	96.5	NG	NG	NG	NG	--	--	--	--	--	--	--	--	--	--	--
	9/5/2007	96.5	NG	NG	NG	NG	--	--	--	--	--	--	--	--	--	--	--
	2/12/2008	96.5	NG	NG	NG	NG	--	--	--	--	--	--	--	--	--	--	--
	7/17/2008	96.5	NG	NG	NG	NG	--	--	--	--	--	--	--	--	--	--	--
	3/3/2010	96.5	NP	10.69	NP	85.81	--	--	--	--	--	--	--	--	--	--	--
	3/3/2011	96.5	NP	9.11	NP	87.39	--	--	--	--	--	--	--	--	--	--	--
	9/12/2012	96.5	NP	15.62	NP	80.88	<50	<78.4	<392	<1	<1	<1	<3	<1	<1	<1	<10
	11/7/2012	96.5	NP	13.27	NP	83.23	<100	<167	<167	<1	<1	<1	<3	--	--	--	<3
	03/08/13	96.50	NP	10.86	NP	85.64	<50.0	<250	<500	<0.500	<0.500	<0.500	<1.00	<0.500	--	--	<10
	06/05/13	96.50	NP	11.61	NP	84.89	<50.0	<250	<500	<0.50	<0.50	<0.50	<1.00	<0.50	<0.0096	<0.50	<10

TABLE 1
GROUNDWATER GAUGING AND ANALYTICAL DATA
OPLC KENT BLOCK VALVE
74TH AVE SOUTH & SOUTH 259TH STREET
KENT, WASHINGTON

Well I.D.	Date	GROUNDWATER GAUGING DATA					GROUNDWATER ANALYTICAL DATA										
		TOC Elevation (ft)	Depth to LNAPL (ft)	Depth to Water (ft)	LNAPL Thickness (ft)	Water Elevation* (ft)	TPH-G (C6-C12) (UG/L)	TPH-D (C12-C24) (UG/L)	TPH-O (C24-C40) (UG/L)	Benzene (UG/L)	Toluene (UG/L)	Ethylbenzene (UG/L)	Xylene (Total) (UG/L)	MTBE (UG/L)	EDB (UG/L)	EDC (UG/L)	TOTAL PB (UG/L)
Applied Action Level: 2007 MTCA Method A							**800**	**500**	**500**	**5**	**1000**	**700**	**1000**	**20**	**0.01**	**5**	**15**
MW-21	8/8/2001	96.82	NP	21.38	NP	75.44	<50	--	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	9/26/2001	96.82	NP	21.42	NP	75.4	<50	--	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	12/27/2001	96.82	NP	17.06	NP	79.76	<50	--	--	<0.5	0.62	<0.5	1.11	--	--	--	--
	3/14/2002	96.82	NP	17.2	NP	79.62	<50	--	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	6/17/2003	96.82	NP	20.4	NP	76.42	<50	--	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	3/1/2004	96.82	NP	18.33	NP	78.49	<50	--	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	6/1/2004	96.82	NP	16.3	NP	80.52	<50	--	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	9/1/2004	96.82	NP	20.5	NP	76.32	<50	--	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	10/18/2004	96.82	NP	19.68	NP	77.14	<80	--	--	<0.5	<0.5	<0.5	<1	--	--	--	--
	7/27/2005	96.82	NP	20.92	NP	75.9	--	--	--	--	--	--	--	--	--	--	--
	4/11/2006	96.82	NG	NG	NG	NG	--	--	--	--	--	--	--	--	--	--	--
	5/4/2007	96.82	NG	NG	NG	NG	--	--	--	--	--	--	--	--	--	--	--
	9/5/2007	96.82	NG	NG	NG	NG	--	--	--	--	--	--	--	--	--	--	--
	2/12/2008	96.82	NG	NG	NG	NG	--	--	--	--	--	--	--	--	--	--	--
	7/17/2008	96.82	NG	NG	NG	NG	--	--	--	--	--	--	--	--	--	--	--
	3/3/2010	96.82	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL
	3/3/2011	96.82	NP	17.42	NP	79.40	<50	<75	<380	<1	<1	<1	<3	--	--	--	--
	9/12/2012	96.82	NP	21.28	NP	75.54	<50	<78.4	<392	<1	<1	<1	<3	<1	<1	<1	<10
	11/7/2012	96.82	NP	18.31	NP	78.51	<100	<200	<200	<1	<1	<1	<3	--	--	--	<3
	03/08/13	96.82	NP	17.28	NP	79.54	<50.0	<250	<500	<0.500	<0.500	<0.500	<1.00	<0.500	--	--	<10
	06/05/13	96.82	NP	18.17	NP	78.65	<50.0	<250	<500	<0.50	<0.50	<0.50	<1.00	<0.50	<0.0097	<0.50	<10

Notes:

TOC - Top of Casing

ft - Feet

NP - LNAPL not present

LNAPL - Light non-aqueous phase liquid

* - Corrected for LNAPL if present (assumes LNAPL specific gravity = 0.75)

Elevation - feet above mean sea level

NG - Not Gauged

NL - Not Located

WD - Well Damaged

WI - Well Inaccessible

-- - No information available

Results in BOLD exceed applicable action limits

MTCA - Model Toxics Control Act

< - Not detected at or ablve indicated laboratory reporting limit

UG/L - micrograms per liter

TPH-G - Total petroleum hydrocarbons as gasoline analyzed by Northwest Method NWTPH-Gx

TPH-D - Total petroleum hydrocarbons as diesel analyzed by Northwest Method NWTPH-Dx with silica gel cleanup

TPH-O - Total petroleum hydrocarbons as oil analyzed by Northwest Method NWTPH-Dx with silica gel cleanup

Benzene, toluene, ethylbenzene, total xylenes analyzed by EPA Method 8260

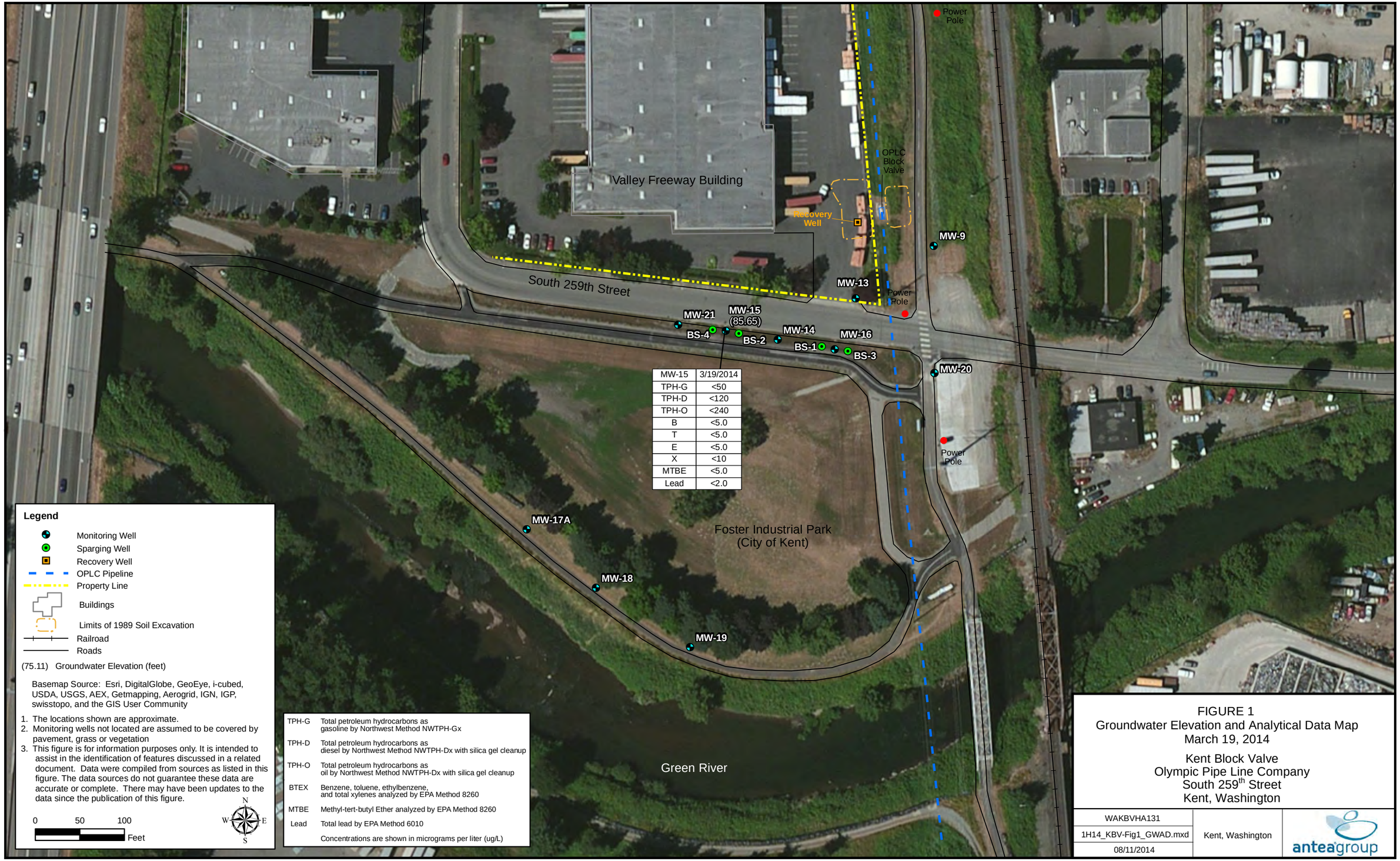
EDB - 1,2-dibromoethane analyzed by EPA Method 8260 or 8011.

EDC - 1,2-dichloroethane; analyzed using EPA Method 8260

Total lead analyzed by EPA Method 6010/6020

Figure

Figure 1 Groundwater Elevation and Analytical Data Map– March 19, 2014



MW-15	3/19/2014
TPH-G	<50
TPH-D	<120
TPH-O	<240
B	<5.0
T	<5.0
E	<5.0
X	<10
MTBE	<5.0
Lead	<2.0

Legend

- Monitoring Well
- Sparging Well
- Recovery Well
- OPLC Pipeline
- Property Line
- Buildings
- Limits of 1989 Soil Excavation
- Railroad
- Roads

(75.11) Groundwater Elevation (feet)

Basemap Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

1. The locations shown are approximate.
2. Monitoring wells not located are assumed to be covered by pavement, grass or vegetation
3. This figure is for information purposes only. It is intended to assist in the identification of features discussed in a related document. Data were compiled from sources as listed in this figure. The data sources do not guarantee these data are accurate or complete. There may have been updates to the data since the publication of this figure.

0 50 100 Feet

N W E S

TPH-G	Total petroleum hydrocarbons as gasoline by Northwest Method NWTPH-Gx
TPH-D	Total petroleum hydrocarbons as diesel by Northwest Method NWTPH-Dx with silica gel cleanup
TPH-O	Total petroleum hydrocarbons as oil by Northwest Method NWTPH-Dx with silica gel cleanup
BTEX	Benzene, toluene, ethylbenzene, and total xylenes analyzed by EPA Method 8260
MTBE	Methyl-tert-butyl Ether analyzed by EPA Method 8260
Lead	Total lead by EPA Method 6010
	Concentrations are shown in micrograms per liter (ug/L)

FIGURE 1
Groundwater Elevation and Analytical Data Map
March 19, 2014

Kent Block Valve
Olympic Pipe Line Company
South 259th Street
Kent, Washington

WAKBVHA131	Kent, Washington	antea group
1H14_KBV-Fig1_GWAD.mxd		
08/11/2014		

Appendix A

Analytical Lab Reports and Chain-of-Custody Documentation

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

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

TestAmerica Job ID: 580-42858-1
Client Project/Site: OPLC - Kent BV

For:
Antea USA, Inc.
4006 148th Ave NE
Redmond, Washington 98052

Attn: Mackie Stock

Authorized for release by:
3/28/2014 6:02:07 PM

Ai Pham, Project Manager I
(253)922-2310
ai.pham@testamericainc.com

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the BPLAMP Technical Specifications, applicable federal, state, local regulations and certification requirements as well as the methodologies as described in laboratory SOPs reviewed by the BPLAMP. This Laboratory Report is confidential and is intended for the sole use of TestAmerica and its client. This report shall not be reproduced, except in full, without written permission from TestAmerica. The Chain of Custody is included and is an integral part of this report.

Ai Pham
Project Manager I
3/28/2014 6:02:07 PM

Table of Contents

Job ID: 580-42858-1

Laboratory: TestAmerica Seattle

Narrative

Receipt
The samples were received on 3/19/2014 12:05 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 7.7º C.

GC/MS VOA - Method(s) 8260B
The continuing calibration verification (CCV) associated with analysis batch 155793 recovered above the upper control limit for 1,1-Dichloroethene and Ethylbenzene. Since both analytes are CCC compounds all target compounds were then evaluated. Methyl ter-butyl ether also recovered above the upper control limit. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been "^" qualified and reported.

No other analytical or quality issues were noted.

GC VOA - Method(s) NWTPH-Gx
Trip Blank -1 (580-42858-2) was received with roughly 6mm of headspace in the sample vial.

No other analytical or quality issues were noted.

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

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

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

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC exceeds the control limits.

Glossary

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

Client: Antea USA, Inc.
Project/Site: OPLC - Kent BV

TestAmerica Job ID: 580-42858-1

Client Sample ID: MW-15_20140319
Date Collected: 03/19/14 10:45
Date Received: 03/19/14 12:05

Lab Sample ID: 580-42858-1
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		5.0		ug/L			03/25/14 21:51	1
Toluene	ND		5.0		ug/L			03/25/14 21:51	1
Ethylbenzene	ND	^	5.0		ug/L			03/25/14 21:51	1
Xylenes, Total	ND		10		ug/L			03/25/14 21:51	1
Methyl tert-butyl ether	ND	^	5.0		ug/L			03/25/14 21:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*107*		*85 - 120*		*03/25/14 21:51*	*1*
Trifluorotoluene (Surr)	*97*		*80 - 120*		*03/25/14 21:51*	*1*
4-Bromofluorobenzene (Surr)	*100*		*75 - 120*		*03/25/14 21:51*	*1*
Dibromofluoromethane (Surr)	*94*		*85 - 115*		*03/25/14 21:51*	*1*
1,2-Dichloroethane-d4 (Surr)	*83*		*70 - 120*		*03/25/14 21:51*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		50		ug/L			03/25/14 19:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*50 - 150*		*03/25/14 19:56*	*1*
Trifluorotoluene (Surr)	*105*		*50 - 150*		*03/25/14 19:56*	*1*

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		120		ug/L		03/26/14 10:06	03/27/14 01:35	1
Motor Oil (>C24-C36)	ND		240		ug/L		03/26/14 10:06	03/27/14 01:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*65*		*50 - 150*	*03/26/14 10:06*	*03/27/14 01:35*	*1*

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		2.0		ug/L		03/27/14 11:47	03/27/14 18:05	5

Client: Antea USA, Inc.
Project/Site: OPLC - Kent BV

TestAmerica Job ID: 580-42858-1

Client Sample ID: Trip Blank -1
Date Collected: 03/19/14 00:00
Date Received: 03/19/14 12:05

Lab Sample ID: 580-42858-2
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		5.0		ug/L			03/25/14 22:20	1
Toluene	ND		5.0		ug/L			03/25/14 22:20	1
Ethylbenzene	ND	^	5.0		ug/L			03/25/14 22:20	1
Xylenes, Total	ND		10		ug/L			03/25/14 22:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*105*		*85 - 120*		*03/25/14 22:20*	*1*
Trifluorotoluene (Surr)	*94*		*80 - 120*		*03/25/14 22:20*	*1*
4-Bromofluorobenzene (Surr)	*99*		*75 - 120*		*03/25/14 22:20*	*1*
Dibromofluoromethane (Surr)	*94*		*85 - 115*		*03/25/14 22:20*	*1*
1,2-Dichloroethane-d4 (Surr)	*84*		*70 - 120*		*03/25/14 22:20*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		50		ug/L			03/25/14 15:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*50 - 150*		*03/25/14 15:51*	*1*
Trifluorotoluene (Surr)	*106*		*50 - 150*		*03/25/14 15:51*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 580-155793/4
Matrix: Water
Analysis Batch: 155793

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		5.0		ug/L			03/25/14 13:39	1
Toluene	ND		5.0		ug/L			03/25/14 13:39	1
Ethylbenzene	ND	^	5.0		ug/L			03/25/14 13:39	1
Xylenes, Total	ND		10		ug/L			03/25/14 13:39	1
Methyl tert-butyl ether	ND	^	5.0		ug/L			03/25/14 13:39	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*85 - 120*		*03/25/14 13:39*	*1*
Trifluorotoluene (Surr)	*117*		*80 - 120*		*03/25/14 13:39*	*1*
4-Bromofluorobenzene (Surr)	*99*		*75 - 120*		*03/25/14 13:39*	*1*
Dibromofluoromethane (Surr)	*103*		*85 - 115*		*03/25/14 13:39*	*1*
1,2-Dichloroethane-d4 (Surr)	*88*		*70 - 120*		*03/25/14 13:39*	*1*

Lab Sample ID: LCS 580-155793/5
Matrix: Water
Analysis Batch: 155793

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	10.0	9.88		ug/L		99	80 - 120
Toluene	10.0	10.1		ug/L		101	75 - 120
Ethylbenzene	10.0	11.6	^	ug/L		116	75 - 125
m-Xylene & p-Xylene	10.0	11.3		ug/L		113	75 - 130
o-Xylene	10.0	10.3		ug/L		103	80 - 120
Xylenes, Total	20.0	21.6		ug/L		108	75 - 125
Methyl tert-butyl ether	10.0	10.5	^	ug/L		105	65 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*101*		*85 - 120*
Trifluorotoluene (Surr)	*105*		*80 - 120*
4-Bromofluorobenzene (Surr)	*98*		*75 - 120*
Dibromofluoromethane (Surr)	*100*		*85 - 115*
1,2-Dichloroethane-d4 (Surr)	*87*		*70 - 120*

Lab Sample ID: LCSD 580-155793/6
Matrix: Water
Analysis Batch: 155793

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	10.0	10.1		ug/L		101	80 - 120	2	30
Toluene	10.0	10.2		ug/L		102	75 - 120	0	30
Ethylbenzene	10.0	11.8	^	ug/L		118	75 - 125	1	30
m-Xylene & p-Xylene	10.0	11.4		ug/L		114	75 - 130	0	30
o-Xylene	10.0	10.6		ug/L		106	80 - 120	3	30
Xylenes, Total	20.0	22.0		ug/L		110	75 - 125	2	30
Methyl tert-butyl ether	10.0	11.0	^	ug/L		110	65 - 125	5	30

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 580-155793/6
Matrix: Water
Analysis Batch: 155793

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

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Toluene-d8 (Surr)	103		85 - 120
Trifluorotoluene (Surr)	110		80 - 120
4-Bromofluorobenzene (Surr)	101		75 - 120
Dibromofluoromethane (Surr)	99		85 - 115
1,2-Dichloroethane-d4 (Surr)	90		70 - 120

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Lab Sample ID: MB 580-155810/5
Matrix: Water
Analysis Batch: 155810

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		50		ug/L			03/25/14 13:16	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		50 - 150		03/25/14 13:16	1
Trifluorotoluene (Surr)	109		50 - 150		03/25/14 13:16	1

Lab Sample ID: LCS 580-155810/6
Matrix: Water
Analysis Batch: 155810

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline			1000	958		ug/L		96	79 - 110		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	96		50 - 150
Trifluorotoluene (Surr)	97		50 - 150

Lab Sample ID: LCSD 580-155810/7
Matrix: Water
Analysis Batch: 155810

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline			1000	1000		ug/L		100	79 - 110	5	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	96		50 - 150
Trifluorotoluene (Surr)	100		50 - 150

Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

Lab Sample ID: MB 580-155883/1-B
Matrix: Water
Analysis Batch: 155918

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 155883

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		130		ug/L		03/26/14 10:06	03/26/14 20:29	1
Motor Oil (>C24-C36)	ND		250		ug/L		03/26/14 10:06	03/26/14 20:29	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*71*		*50 - 150*	*03/26/14 10:06*	*03/26/14 20:29*	*1*

Lab Sample ID: LCS 580-155883/2-B
Matrix: Water
Analysis Batch: 155918

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 155883

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
#2 Diesel (C10-C24)	4000	3120		ug/L		78	70 - 130
Motor Oil (>C24-C36)	4000	3790		ug/L		95	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
o-Terphenyl	*84*		*50 - 150*

Lab Sample ID: LCSD 580-155883/3-B
Matrix: Water
Analysis Batch: 155918

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 155883

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
#2 Diesel (C10-C24)	4000	3140		ug/L		79	70 - 130	1	30
Motor Oil (>C24-C36)	4000	3870		ug/L		97	70 - 130	2	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
o-Terphenyl	*84*		*50 - 150*

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 580-155513/16-B
Matrix: Water
Analysis Batch: 156034

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 156009

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		2.0		ug/L		03/27/14 11:47	03/27/14 16:37	5

Lab Sample ID: LCS 580-156009/22-A
Matrix: Water
Analysis Batch: 156034

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 156009

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	1000	1010		ug/L		101	80 - 120

Method: 6020 - Metals (ICP/MS) (Continued)

Lab Sample ID: LCSD 580-156009/23-A
Matrix: Water
Analysis Batch: 156034

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 156009

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lead			1000	1010		ug/L		101	80 - 120	0	20

Lab Chronicle

Client: Antea USA, Inc.
Project/Site: OPLC - Kent BV

TestAmerica Job ID: 580-42858-1

Client Sample ID: MW-15_20140319

Lab Sample ID: 580-42858-1

Date Collected: 03/19/14 10:45

Matrix: Water

Date Received: 03/19/14 12:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	155793	03/25/14 21:51	EB1	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	155810	03/25/14 19:56	ERZ	TAL SEA
Total/NA	Prep	3510C			155883	03/26/14 10:06	ALC	TAL SEA
Total/NA	Cleanup	3630C			155911	03/26/14 11:12	ALC	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	155918	03/27/14 01:35	EKK	TAL SEA
Total Recoverable	Prep	3005A			156009	03/27/14 11:47	PAB	TAL SEA
Total Recoverable	Analysis	6020		5	156034	03/27/14 18:05	FCW	TAL SEA

Client Sample ID: Trip Blank -1

Lab Sample ID: 580-42858-2

Date Collected: 03/19/14 00:00

Matrix: Water

Date Received: 03/19/14 12:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	155793	03/25/14 22:20	EB1	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	155810	03/25/14 15:51	ERZ	TAL SEA

Laboratory References:

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

Certification Summary

Client: Antea USA, Inc.
Project/Site: OPLC - Kent BV

TestAmerica Job ID: 580-42858-1

Laboratory: TestAmerica Seattle

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska (UST)	State Program	10	UST-022	03-04-14 *
California	NELAP	9	01115CA	01-31-14 *
California	State Program	9	2901	01-31-15
L-A-B	DoD ELAP		L2236	01-19-16
L-A-B	ISO/IEC 17025		L2236	01-19-16
Montana (UST)	State Program	8	N/A	04-30-20
Oregon	NELAP	10	WA100007	11-06-14
USDA	Federal		P330-11-00222	05-20-14
Washington	State Program	10	C553	02-17-15

* Expired certification is currently pending renewal and is considered valid.

Sample Summary

Client: Antea USA, Inc.
Project/Site: OPLC - Kent BV

TestAmerica Job ID: 580-42858-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-42858-1	MW-15_20140319	Water	03/19/14 10:45	03/19/14 12:05
580-42858-2	Trip Blank -1	Water	03/19/14 00:00	03/19/14 12:05

42858

Page 1 of 2

Atlantic Richfield Company
A BP affiliated company

Laboratory Management Program LaMP Chain of Custody Record

BP/ARC Project Name: Olympic Pipe Line Company
Req Due Date (mm/dd/yy): Standard
Rush TAT: Yes ____ No ____
BP/ARC Facility No: Kent BV
Lab Work Order Number:

Lab Name:	Test America, Inc.	BP/ARC Facility Address:	74th Ave South & South 259th Street	Consultant/Contractor:	Antea Group
Lab Address:	5755 8th Street East, Tacoma WA 98424	City, State, ZIP Code:	Kent WA 98032	Consultant/Contractor Project No:	WAKBVHA141
Lab PM:	Ai Pham	Lead Regulatory Agency:	WA Department of Ecology	Address:	4006 148th Avenue NE, Redmond, WA 98052
Lab Phone:	253.922.2310	California Global ID No.:	NA	Consultant/Contractor PM:	Bryan Taylor
Lab Shipping Accnt:	NA	Enfos Proposal No:	006S3-0007	Phone:	P: 425.498.7727 F: 425.869.1892
Lab Bottle Order No:	NA	Accounting Mode:	Provision X OOC-BU ____ OOC-RM ____	Email EDD To:	
Other Info:		Stage:	6_OM&M/Other (60) Activity: OM&M Spend (81)	Invoice To:	BP/ARC X Contractor ____

BP/ARC EBM: Paul Supple
EBM Phone: 925-275-3801
EBM Email: paul.supple@bp.com

Lab No.	Sample Description	Date	Time	Matrix: Soil / Solid	Matrix: Water / Liquid	Matrix: Air / Vapor	Matrix:	No. Containers / Preservative: Total Number of Containers	Unpreserved	H_2SO_4	HNO_3	HCl	Methanol	NaOH zn Acetate	Requested Analyses: 6010LeadTotal	8260BTEX	NWTPH-Dx w/Silica Gel Cleanup	NWTPH-Gx	MTBE	EDB	EDC			Comments
	MW-15_20140319	3/19/2014	1045		x			9			1	8			x	x	x	x	x					
	Trip Blank -1	3/19/2014	0000		x			6				6				x		x						
																								A1 7.7 7.7
																								MED RED WH.
																								PACKS BUBBLE
																								w/o CLIENT DO

580-42858 Chain of Custody

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

Sampler's Name:	Taylor Roberts	Relinquished By / Affiliation	Date	Time	Accepted By / Affiliation	Date	Time
Sampler's Company:	Antea Group	Taylor Roberts / ANTEA	3-19-14	1205		3-19-14	1205
Shipment Method:	Ship Date:						
Shipment Tracking No:							

Special Instructions:

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

Login Sample Receipt Checklist

Client: Antea USA, Inc.

Job Number: 580-42858-1

Login Number: 42858

List Source: TestAmerica Seattle

List Number: 1

Creator: McDaniel, Ronald T

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

Appendix B

Field Data Sheets

A member of: Inogen

anteagroup

GROUNDWATER SAMPLING WORK ORDER

74th Ave S + S. 259th St.

Antea Project No.: WAKBVHA141 ENFOS Number: 00653-0007 / WA 276981 Site Address: Kent, WA

Project Manager: Bryan Taylor Cell Phone: 425-260-9321

Site Contact: E-mail: Notified:

Date to be Sampled: 3/19/14

Sampler Name: T. Roberts

Quarterly Low Flow

Well I.D.	Total Depth	SAMPLING PARAMETERS									Subjective Analyses Only	Do Not Monitor	Potential LPH?
		BTEX	MTBE	NWTPH-G	NWTPH-Dx and NWTPH-D w/Silica Gel Clean up	Sulfate	Pb-T	PB-D	Fe-T	Fe-D			
MW-9													
MW-13													
MW-14													
MW-15		X	X	X	X		X						
MW-16													
MW-17A													
MW-18													
MW-19													
MW-20													
MW-21													

Additional Notes: MW15 has an obviously new + repaired monument

PURGE WATER IS TRANSFERRED TO RENTON STATION - NO SAFE PLACE TO STORE DRUM.

PM Approval: B. Taylor

Date: 3/7/2014

Notes to PM:

Taylor - Order bottleware for all wells. I'm meeting w/ Ecology today + there is potential we may sample all wells. Tx

GROUNDWATER SAMPLING FIELD SHEET

PROJECT NUMBER: WAKBUHA141 CLIENT: OPLC

SITE No./JOB No.: KENT PAGE 1 of 3

SITE ADDRESS/LOCATION: WASHINGTON DATE: 3/19/14

FIELD PERSONNEL: T. ROBERTS WEATHER: 45 - Partly Cloudy

Well ID	Time	Well Diameter (in.)	Depth to Bottom (feet)	Depth to Water (feet)	Depth to LPH (feet)	LPH Thickness (feet)	Calc. Purge (gal)	Actual Purge (gal)	Purge Method (B/LF/P)	Dissolved Oxygen (mg/l)	Sample Appearance/ Comments
MW-15	1045	2	—	11.29	—	—	—	—	LF	DO IS OFF.	

System Instructions:		
	Remedial System On-Site (Y / N)?	Comments:
	Operational Upon Arrival (Y / N)?	Comments:
	Shut Down System 1 / 24 hours before gauging (Y / N)?	Time/Date Downed:
	Re-Start System (Y / N)?	Time/Date Restarted:
	Purge Method: low flow	Comments:

Purge Water Disposal Method:

- ☐ Treated through mobile carbon treatment unit and discharged on-site
- ☐ Placed in drums on site — No. of drums:
- ☐ Transported off-site for treatment — Facility/Location:

Measuring Device(s): Geotech. Interface probe.

GROUNDWATER SAMPLING FIELD SHEET
Additional Parameters

antea group

PROJECT NUMBER: WAKBVHA1H1 | CLIENT: OPLC
SITE No./JOB No.: KENT | PAGE 3 of 3
SITE ADDRESS/LOCATION: WASHINGTON | DATE: 3/19/14
FIELD PERSONNEL: T. ROBERTS | WEATHER: 45° - Partly Cloudy

Additional Field Parameters: (Pre-Purge / Post-Purge / Low-flow Cell)

Well ID	Temp. (°C / °F)	Conductivity (ms/cm)	TDS (g/L)	DO (mg/L)	pH	ORP (mV)	Turbidity (NTU)	Comments
MW-15	13.92	0.351	0.295	0.20	8.59	-152.0	—	Sample @ 1045
	13.82	0.360	0.298	0.63	8.76	-160.3	—	
	13.75	0.361	0.299	1.19	8.77	-149.9	—	- DO IS JUMPING
	13.73	0.3603	0.301	2.04	9.16	-152.2	—	CONSIDERABLY & PH
	13.66	0.3603	0.301	0.54	9.19	-153.3	—	IS POSSIBLY HIGH.
	13.69	0.3603	0.301	1.03	9.14	-154.2	—	INSTRUMENT NEEDS RE-
								CALIBRATION.

Measuring Device(s): YSI / Geotech peristaltic pump.

Additional Comments: