



Stantec Consulting Corporation
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 Redmond, Washington 98052
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MAY 20 2011

DEPARTMENT OF ECOLOGY - CENTRAL REGIONAL OFFICE

DATE: May 9, 2011

7-ELEVEN, INC. SEMI-ANNUAL REPORT

Store No.: 25821 Address: 1824 George Washington Way, Richland, Washington
 7-Eleven Environmental Engineer: Mr. Ken Hilliard
 Consulting Co. /Contact Person: Stantec Consulting Corporation (Stantec) /Mr. Paul Fairbairn
 Stantec Project No.: 212302332
 Primary Agency/Regulatory ID No.: Washington State Department of Ecology, CWRO/8508
 Contact: Ms. Frosti Smith

WORK PERFORMED THIS SEMESTER [First Quarter - 2011]:

Performed the first semi-annual 2011 groundwater monitoring event and prepared this status report. Groundwater monitoring activities were conducted on March 8, 2011. Groundwater samples were collected from wells MW-3, MW-6, MW-7 and MW-8.

WORK PROPOSED FOR NEXT SEMESTER [Third Quarter - 2011]:

Perform the second semi-annual 2011 groundwater monitoring event and prepare a status report.

Current Phase of Project:	<u>Groundwater Monitoring</u>	(Assmnt, Remed, etc.)
Frequency of Sampling:	<u>Semi-Annual</u>	(Quarterly, etc.)
Frequency of Monitoring:	<u>Semi-Annual</u>	(Monthly, etc.)
Are Liquid Phase Hydrocarbons Present On-site:	<u>No</u>	(Yes/No)
Cumulative LPH Recovered to Date:	<u>None</u>	(gallons)
LPH recovered This Quarter:	<u>None</u>	(liters)
Bulk Soil Removed to Date:	<u>41</u>	(cubic yards)
Bulk Soil Removed This Quarter:	<u>None</u>	(cubic yards)
Water Wells or Surface Waters w/in a 2000' radius and their Respective Direction:	<u>Columbia River, approximately 2,000 feet east</u>	(Distance and Direction)
Current Remediation Techniques:	<u>None</u>	(SVES, LPH Removal, etc.)
Permits for Discharge:	<u>None</u>	(NPDES, POTW, etc.)
Approximate Depth to Groundwater	<u>15.93 to 17.01</u>	(Feet)
Groundwater Gradient:	<u>undetermined</u>	(Direction)
	<u>undetermined</u>	(Magnitude)

DISCUSSION: The depth to groundwater measured on March 8, 2011 ranged between 15.93 feet below ground surface (bgs) in well MW-7 to 17.01 feet bgs in well MW-3. Groundwater flow direction and gradient could not be determined from the data collected during this sampling event. For this sampling event, wells MW-3, MW-6, MW-7 and MW-8 were purged and sampled in accordance with the attached procedures.

Stantec

7-ELEVEN STORE NO. 25821
FIRST SEMESTER 2011 GROUNDWATER MONITORING REPORT
May 9, 2011
Mr. Ken Hilliard
Page 2 of 2

Analytical results for this groundwater monitoring event include the following:

- The Washington Department of Ecology, Model Toxics Control Act (MTCA) Method A Cleanup Level (CUL) for total petroleum hydrocarbons characterized as gasoline (TPH-G) was exceeded in the groundwater sample collected from monitoring well MW-6.
- Concentrations of benzene, toluene, ethyl benzene, and total xylenes (BTEX), and TPH-G were either not detected exceeding laboratory PQLs or were reported below their respective MTCA Method A CULs in the remaining samples collected during this sampling event.

Based on these results, Stantec recommends continued periodic groundwater monitoring and sampling of select wells to further evaluate dissolved contaminant concentration trends and seasonal water level fluctuations.

ATTACHED:

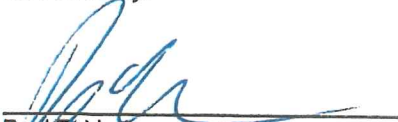
- Site Location Map (Figure 1)
- Site Vicinity Map (Figure 2)
- Groundwater Elevation Map – March 8, 2011 (Figure 3)
- Groundwater Analytical Results – March 8, 2011 (Figure 4)
- Groundwater Monitoring and Analytical Results (Table 1)
- Graph 1: MW-6 Dissolved TPH-G Concentration vs. Time
- Graph 2: MW-7 Dissolved TPH-G Concentration vs. Time
- Graph 3: MW-8 Dissolved TPH-G Concentration vs. Time
- Laboratory Reports and Chain-of-Custody Documentation
- Field Notes
- Stantec Monitoring Well Purging and Sampling Procedures

Prepared by:



Deitrie Hanson
Geologic Project Specialist

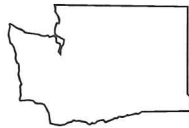
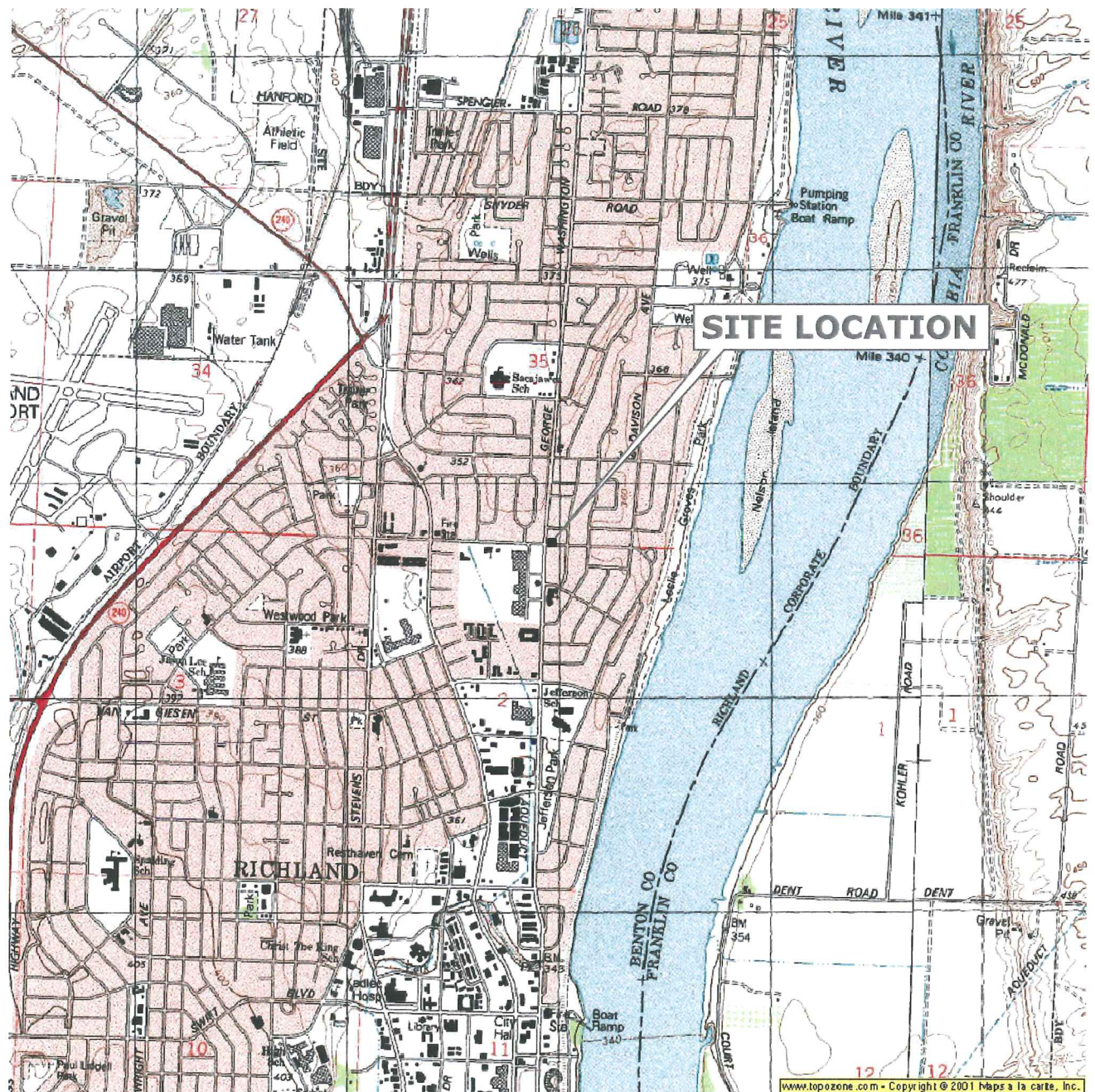
Reviewed by:



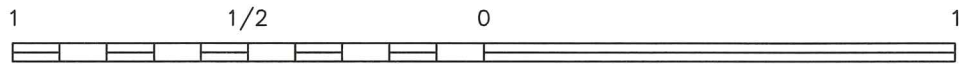
Paul Fairbairn
Project Manager



Amanda S. Magee, R.G.
Geologic Associate



WASHINGTON



SCALE (MILES)



SCALE (FEET)

REFERENCE: USGS 7.5 MINUTE QUADRANGLE;
RICHLAND, WASHINGTON; 1992

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12034 132nd COURT NORTHEAST, SUITE 102
REDMOND, WASHINGTON 98052
PHONE: (425) 298-1000 FAX: (425) 298-1019

FOR: 
FORMER FACILITY NO. 25821
1824 GEORGE WASHINGTON WAY
RICHLAND, WASHINGTON

JOB NUMBER:
212302332

DRAWN BY:
jr

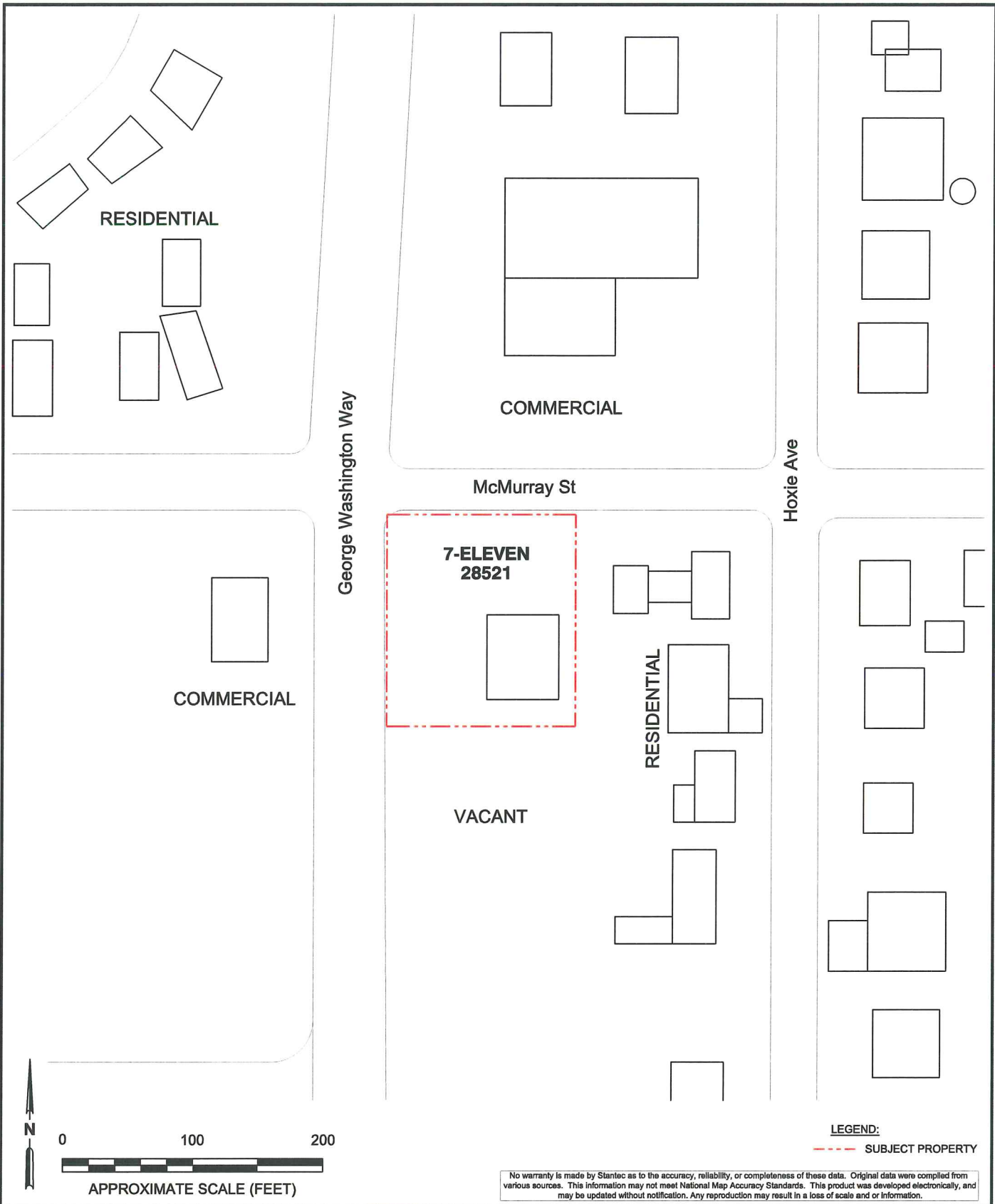
FIGURE:
1

SITE LOCATION MAP

CHECKED BY:



APPROVED BY:

DATE:
7/31/09

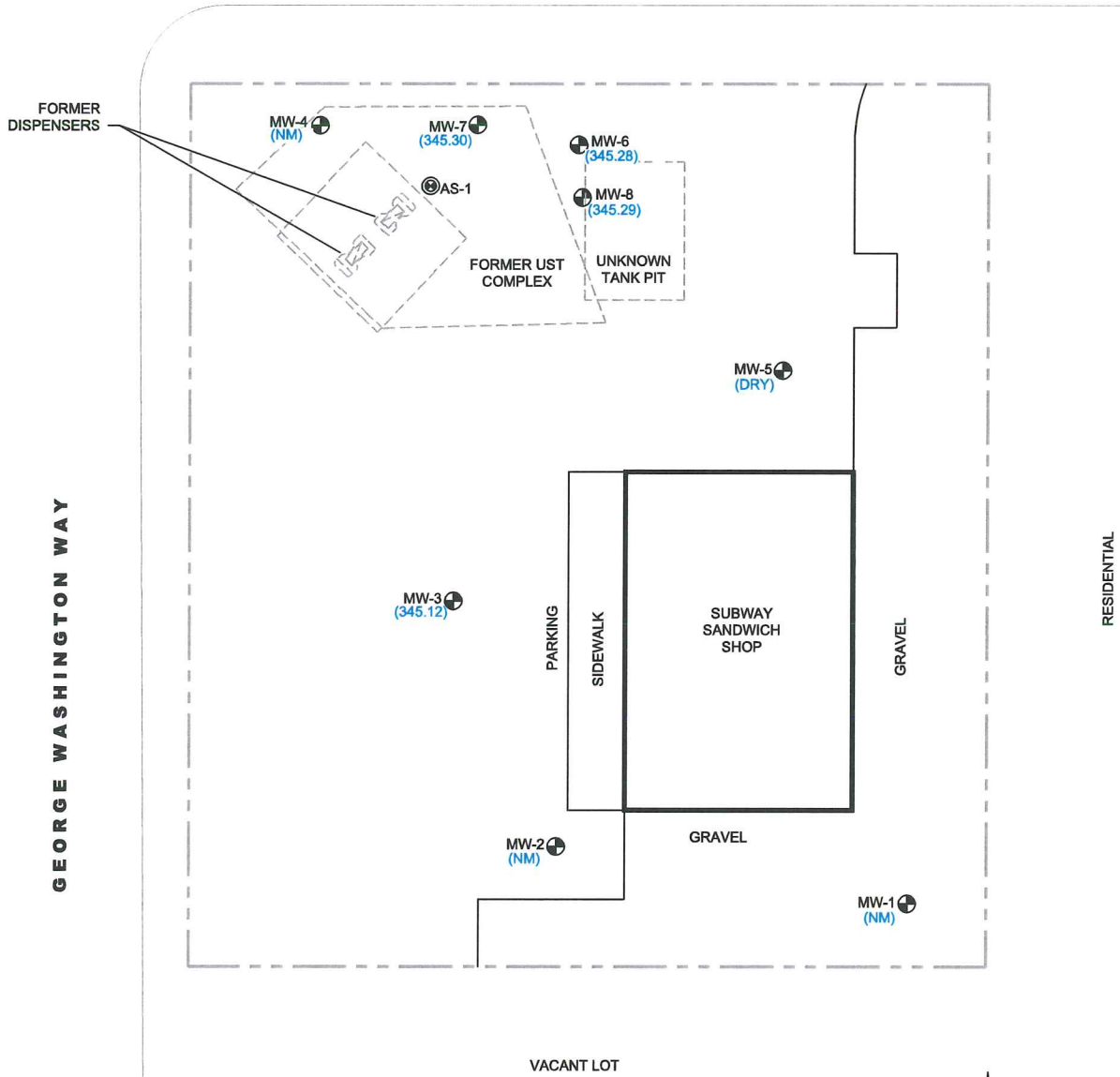


LEGEND:
 - - - - - SUBJECT PROPERTY

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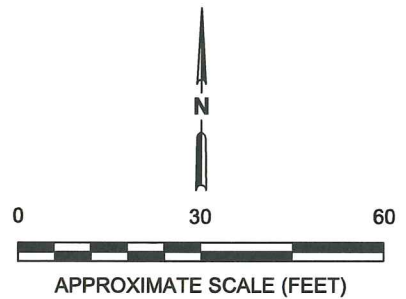
 12034 132nd COURT NORTHEAST, SUITE 102 REDMOND, WASHINGTON 98052 PHONE: (425) 298-1000 FAX: (425) 298-1019	FOR:  FORMER FACILITY NO. 25821 1824 GEORGE WASHINGTON WAY RICHLAND, WASHINGTON		SITE VICINITY MAP		FIGURE: <h1 style="text-align: center;">2</h1>
	JOB NUMBER: 212302332	DRAWN BY: jr	CHECKED BY:	APPROVED BY:	DATE: 7/31/09

McMURRAY STREET



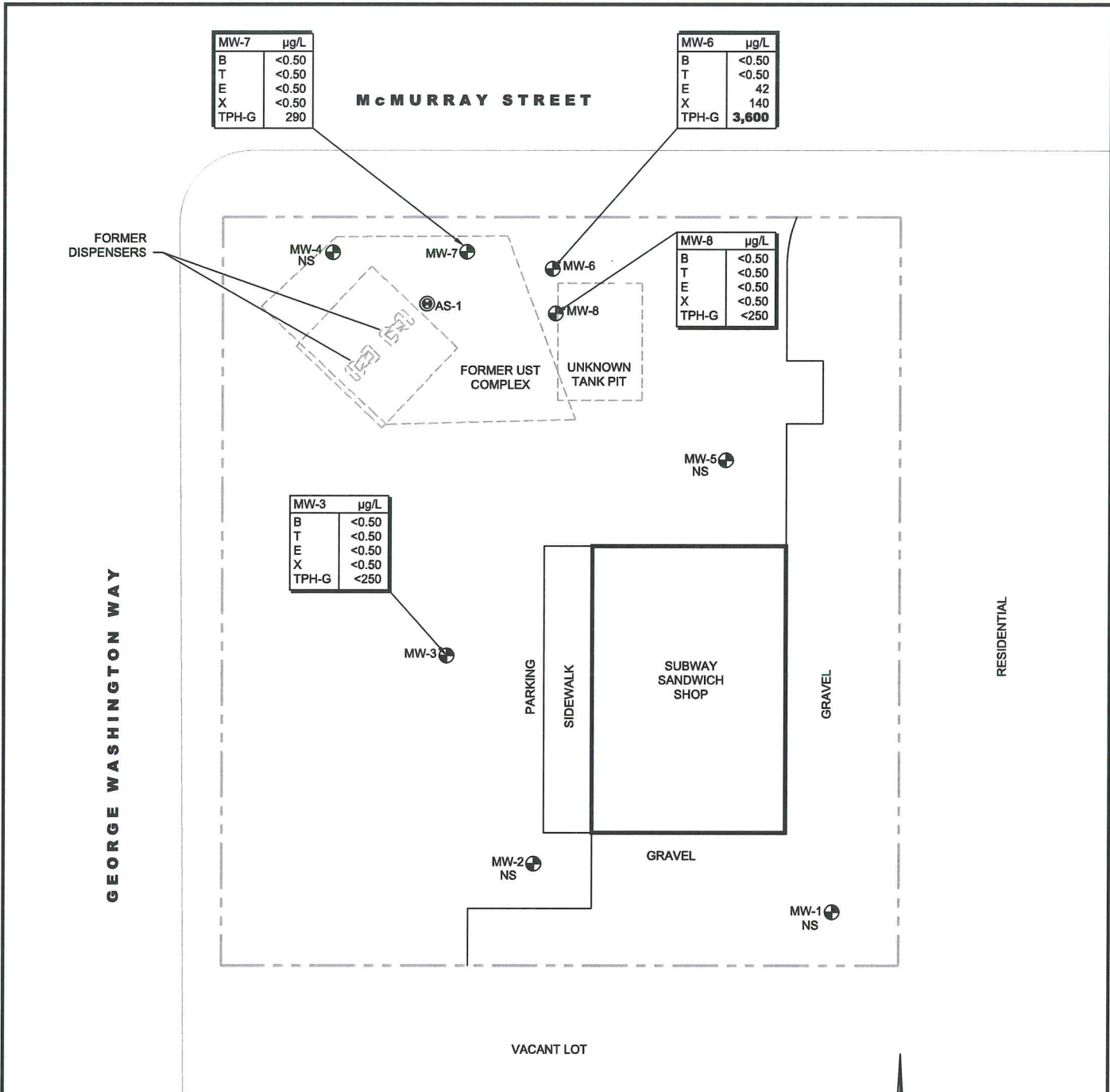
LEGEND:

- SUBJECT PROPERTY LINE BOUNDARY
- MW-1 MONITORING WELL LOCATION
- AS-1 AIR SPARGE WELL LOCATION
- (345.36) RELATIVE GROUNDWATER ELEVATION (FEET)
- (NM) NOT MEASURED



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 12034 132nd COURT NORTHEAST, SUITE 102 REDMOND, WASHINGTON 98052 PHONE: (425) 298-1000 FAX: (425) 298-1019	FOR: FACILITY NO. 25821 1824 GEORGE WASHINGTON WAY RICHLAND, WASHINGTON	GROUNDWATER ELEVATION MAP MARCH 8, 2011		FIGURE: <h1 style="text-align: center;">3</h1>
	JOB NUMBER: 212302332	DRAWN BY: JCR	CHECKED BY:	APPROVED BY:



MW-7	µg/L
B	<0.50
T	<0.50
E	<0.50
X	<0.50
TPH-G	290

MW-6	µg/L
B	<0.50
T	<0.50
E	42
X	140
TPH-G	3,600

MW-8	µg/L
B	<0.50
T	<0.50
E	<0.50
X	<0.50
TPH-G	<250

MW-3	µg/L
B	<0.50
T	<0.50
E	<0.50
X	<0.50
TPH-G	<250

GEORGE WASHINGTON WAY

RESIDENTIAL

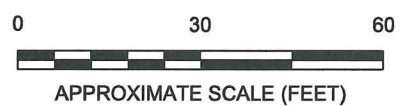
LEGEND:

- SUBJECT PROPERTY LINE BOUNDARY
- MW-1 ⊕ MONITORING WELL LOCATION
- AS-1 ⊙ AIR SPARGE WELL LOCATION

ANALYTE

B	BENZENE
T	TOLUENE
E	ETHYLBENZENE
X	XYLENES
TPH-G	GASOLINE

µg/L = MICROGRAMS PER LITER
 (NS) NOT SAMPLED
BOLD INDICATES CONCENTRATION ABOVE WASHINGTON DEPARTMENT OF ECOLOGY, MODEL TOXICS CONTROL ACT, METHOD A CLEANUP LEVELS



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 12034 132nd COURT NORTHEAST, SUITE 102 REDMOND, WASHINGTON 98052 PHONE: (425) 298-1000 FAX: (425) 298-1019	FOR: FACILITY NO. 25821 1824 GEORGE WASHINGTON WAY RICHLAND, WASHINGTON	GROUNDWATER ANALYTICAL RESULTS MARCH 8, 2011		FIGURE: <h1 style="text-align: center;">4</h1>
	JOB NUMBER: 212302332	DRAWN BY: JCR	CHECKED BY:	APPROVED BY:

TABLE 1
GROUNDWATER MONITORING AND ANALYTICAL RESULTS
 7-Eleven Store No. 25821
 1824 George Washington Way, Richland, Washington
 All results in micrograms per liter (µg/L), except where noted

Well ID (TOC)	Sample Date	Benzene	Toluene	Ethyl-benzene	Total Xylenes	TPH-G	EDB	EDC	MTBE	Lead	Depth To Groundwater (feet from TOC)	Groundwater Elevation (feet)	
MW-1 ^a 362.38	06/30/89	<0.5	<0.5	<0.5	<1.0	--	--	--	--	--	15.56	346.82	
	06/24/97	--	--	--	--	--	--	--	--	--	13.47	348.91	
	10/25/00	--	--	--	--	--	--	--	--	--	DRY	--	
	11/22/00	--	--	--	--	--	--	--	--	--	DRY	--	
	04/24/01	--	--	--	--	--	--	--	--	--	DRY	--	
	11/02/01	--	--	--	--	--	--	--	--	--	DRY	--	
	03/07/02	--	--	--	--	--	--	--	--	--	DRY	--	
	09/13/02	--	--	--	--	--	--	--	--	--	DRY	--	
	12/13/02	--	--	--	--	--	--	--	--	--	DRY	--	
	03/20/03	--	--	--	--	--	--	--	--	--	DRY	--	
	06/06/03	--	--	--	--	--	--	--	--	--	DRY	--	
	09/18/03	--	--	--	--	--	--	--	--	--	DRY	--	
	12/04/03	--	--	--	--	--	--	--	--	--	DRY	--	
	04/02/04	--	--	--	--	--	--	--	--	--	DRY	--	
	06/29/04	--	--	--	--	--	--	--	--	--	--	16.45	345.93
	10/06/04	--	--	--	--	--	--	--	--	--	--	16.50	345.88
	12/23/04	--	--	--	--	--	--	--	--	--	--	DRY	--
	04/07/05	--	--	--	--	--	--	--	--	--	--	15.99	346.39
	06/21/05	--	--	--	--	--	--	--	--	--	--	DRY	--
	09/21/05	--	--	--	--	--	--	--	--	--	--	DRY	--
	11/22/05	--	--	--	--	--	--	--	--	--	--	DRY	--
	02/06/06	--	--	--	--	--	--	--	--	--	--	DRY	--
	05/30/06	--	--	--	--	--	--	--	--	--	--	DRY	--
	08/14/06	--	--	--	--	--	--	--	--	--	--	DRY	--
	06/05/07	--	--	--	--	--	--	--	--	--	--	16.83	345.55
09/27/07	--	--	--	--	--	--	--	--	--	--	16.95	345.43	
12/07/07	--	--	--	--	--	--	--	--	--	--	DRY	--	
04/07/10	<0.20	<1	0.2	1.52	<100	<0.0095	<0.20	<0.20	<0.20	--	17.73	344.65	

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Well ID (TOC)	Sample Date	Benzene	Toluene	Ethyl-benzene	Total Xylenes	TPH-G	EDB	EDC	MTBE	Lead	Depth To Groundwater (feet from TOC)	Groundwater Elevation (feet)
MW-2 362.32	06/30/89	<0.5	<0.5	<0.5	<1.0	--	--	--	--	--	14.44	347.88
	09/01/93	<0.3	<0.3	<0.3	<0.5	<10	--	--	--	--	15.29	347.03
	03/18/94	<0.3	<0.3	<0.3	<0.5	<10	--	--	--	--	16.11	346.21
	09/19/94	--	--	--	--	--	--	--	--	--	15.39	346.93
	03/02/95	--	--	--	--	--	--	--	--	--	17.18	345.14
	08/09/95	--	--	--	--	--	--	--	--	--	14.63	347.69
	06/13/96	--	--	--	--	--	--	--	--	--	13.92	348.40
	12/11/96	--	--	--	--	--	--	--	--	--	14.74	347.58
	06/24/97	--	--	--	--	--	--	--	--	--	13.40	348.92
	12/30/97	--	--	--	--	--	--	--	--	--	16.65	345.67
	04/01/98	--	--	--	--	--	--	--	--	--	16.75	345.57
	06/25/98	--	--	--	--	--	--	--	--	--	16.95	345.37
	09/24/98	--	--	--	--	--	--	--	--	--	16.25	346.07
	12/15/98	--	--	--	--	--	--	--	--	--	16.83	345.49
	03/31/00	--	--	--	--	--	--	--	--	--	16.95	345.37
	06/13/00	--	--	--	--	--	--	--	--	--	16.33	345.99
	09/13/00	--	--	--	--	--	--	--	--	--	DRY	--
	10/25/00	--	--	--	--	--	--	--	--	--	16.35	345.97
	11/22/00	--	--	--	--	--	--	--	--	--	DRY	--
	04/24/01	--	--	--	--	--	--	--	--	--	DRY	--
	11/02/01	--	--	--	--	--	--	--	--	--	DRY	--
	03/07/02	--	--	--	--	--	--	--	--	--	DRY	--
	09/13/02	--	--	--	--	--	--	--	--	--	DRY	--
	12/13/02	--	--	--	--	--	--	--	--	--	DRY	--
	03/20/03	--	--	--	--	--	--	--	--	--	17.42	344.90
	06/06/03	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	17.23	345.09
	09/18/03	--	--	--	--	--	--	--	--	--	17.50	344.82
	12/04/03	--	--	--	--	--	--	--	--	--	DRY	--
	04/02/04	--	--	--	--	--	--	--	--	--	18.21	344.11
	06/29/04	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	17.66	344.66
	10/06/04	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	17.84	344.48
	12/23/04	--	--	--	--	--	--	--	--	--	18.41	343.91
04/07/05	--	--	--	--	--	--	--	--	--	18.96	343.36	
06/21/05	--	--	--	--	--	--	--	--	--	DRY	--	
09/21/05	--	--	--	--	--	--	--	--	--	DRY	--	
11/22/05	--	--	--	--	--	--	--	--	--	DRY	--	
02/06/06	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	18.20	344.12	
05/30/06	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	17.90	344.42	
08/14/06	--	--	--	--	--	--	--	--	--	DRY	--	
04/10/07	--	--	--	--	--	--	--	--	--	DRY	--	
06/05/07	--	--	--	--	--	--	--	--	--	16.00	346.32	
09/27/07	--	--	--	--	--	--	--	--	--	16.95	345.37	
12/07/07	--	--	--	--	--	--	--	--	--	DRY	--	
04/07/10	<0.2	<1	<0.2	<0.6	<100	<0.0095	<0.20	<0.20	--	17.74	344.58	

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7-Eleven Store No. 25821
1824 George Washington Way, Richland, Washington
All results in micrograms per liter (µg/L), except where noted

Well ID (TOC)	Sample Date	Benzene	Toluene	Ethyl-benzene	Total Xylenes	TPH-G	EDB	EDC	MTBE	Lead	Depth To Groundwater (feet from TOC)	Groundwater Elevation (feet)
MW-3 362.13	06/30/89	<0.5	<0.5	<0.5	0.7	--	--	--	--	--	14.19	347.94
	09/01/93	--	--	--	--	--	--	--	--	--	15.12	347.01
	03/18/94	<0.3	<0.3	<0.3	<0.5	<10	--	--	--	--	15.84	346.29
	09/19/94	--	--	--	--	--	--	--	--	--	15.12	347.01
	03/02/95	--	--	--	--	--	--	--	--	--	15.96	346.17
	08/09/95	--	--	--	--	--	--	--	--	--	14.37	347.76
	06/13/96	--	--	--	--	--	--	--	--	--	13.68	348.45
	12/11/96	--	--	--	--	--	--	--	--	--	14.41	347.72
	06/24/97	--	--	--	--	--	--	--	--	--	13.13	349.00
	12/30/97	--	--	--	--	--	--	--	--	--	16.47	345.66
	04/01/98	--	--	--	--	--	--	--	--	--	16.58	345.55
	06/25/98	--	--	--	--	--	--	--	--	--	16.15	345.98
	09/24/98	--	--	--	--	--	--	--	--	--	16.11	346.02
	12/15/98	--	--	--	--	--	--	--	--	--	16.66	345.47
	03/31/00	--	--	--	--	--	--	--	--	--	16.73	345.40
	06/13/00	--	--	--	--	--	--	--	--	--	16.21	345.92
	09/13/00	--	--	--	--	--	--	--	--	--	15.01	347.12
	10/25/00	--	--	--	--	--	--	--	--	--	16.26	345.87
	11/22/00	--	--	--	--	--	--	--	--	--	16.48	345.65
	04/24/01	--	--	--	--	--	--	--	--	--	17.11	345.02
	11/02/01	--	--	--	--	--	--	--	--	--	16.50	345.63
	03/07/02	--	--	--	--	--	--	--	--	--	17.26	344.87
	05/31/02	<0.5	<1.0	<1.0	<3.0	--	--	--	--	--	16.85	345.28
	09/13/02	<0.5	<1.0	<1.0	<2.0	<100	--	--	--	--	16.51	345.62
	12/13/02	<0.5	<1.0	<1.0	<3.0	<100	--	--	--	--	17.04	345.09
	03/20/03	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	17.36	344.77
	06/06/03	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	17.05	345.08
	09/18/03	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	17.34	344.79
	12/04/03	--	--	--	--	--	--	--	--	--	DRY	--
	04/02/04	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	16.00	346.13
	06/29/04	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	17.51	344.62
	10/06/04	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	17.69	344.44
	12/23/04	--	--	--	--	--	--	--	--	--	18.20	343.93
04/07/05	--	--	--	--	--	--	--	--	--	19.68	342.45	
06/21/05	--	--	--	--	--	--	--	--	--	17.46	344.67	
09/21/05	--	--	--	--	--	--	--	--	--	DRY	--	
11/22/05	--	--	--	--	--	--	--	--	--	18.01	344.12	
02/06/06	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	18.00	344.13	
05/30/06	--	--	--	--	--	--	--	--	--	17.75	344.38	
08/14/06	--	--	--	--	--	--	--	--	--	DRY	--	
04/10/07	--	--	--	--	--	--	--	--	--	17.01	345.12	
06/05/07	--	--	--	--	--	--	--	--	--	16.14	345.99	
09/27/07	--	--	--	--	--	--	--	--	--	16.83	345.30	
12/07/07	--	--	--	--	--	--	--	--	--	DRY	--	
06/11/08	<1.0	<1.0	<1.0	<2.0	230	--	--	--	--	16.54	345.59	
10/29/08	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	16.98	345.15	
04/13/09	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	17.15	344.98	
10/22/09	--	--	--	--	--	--	--	--	--	DRY	--	
04/07/10	<0.2	<1.0	<0.2	<0.6	<100	<0.0096	<0.20	<0.20	--	19.55	342.58	
12/16/10	<0.50	<0.50	<0.50	<0.50	<250	--	--	--	--	17.10	345.03	
03/08/11	<0.50	<0.50	<0.50	<0.50	<250	--	--	--	--	17.01	345.12	

TABLE 1
GROUNDWATER MONITORING AND ANALYTICAL RESULTS
7-Eleven Store No. 25821
1824 George Washington Way, Richland, Washington
All results in micrograms per liter (µg/L), except where noted

Well ID (TOC)	Sample Date	Benzene	Toluene	Ethyl-benzene	Total Xylenes	TPH-G	EDB	EDC	MTBE	Lead	Depth To Groundwater (feet from TOC)	Groundwater Elevation (feet)
MW-4 361.83	06/30/89	<0.5	<0.5	<0.5	<1.0	--	--	--	--	--	13.74	348.09
	09/01/93	0.4	<0.3	<0.3	<0.5	<10	--	--	--	--	14.66	347.17
	03/18/94	<0.3	<0.3	<0.3	<0.5	<10	--	--	--	--	15.45	346.38
	09/19/94	--	--	--	--	--	--	--	--	--	13.76	348.07
	03/02/95	--	--	--	--	--	--	--	--	--	15.62	346.21
	08/09/95	--	--	--	--	--	--	--	--	--	13.98	347.85
	06/13/96	--	--	--	--	--	--	--	--	--	13.23	348.60
	12/11/96	--	--	--	--	--	--	--	--	--	13.97	347.86
	06/24/97	--	--	--	--	--	--	--	--	--	12.75	349.08
	12/30/97	--	--	--	--	--	--	--	--	--	15.95	345.88
	04/01/98	--	--	--	--	--	--	--	--	--	16.25	345.58
	06/25/98	--	--	--	--	--	--	--	--	--	15.70	346.13
	09/24/98	--	--	--	--	--	--	--	--	--	15.64	346.19
	12/15/98	--	--	--	--	--	--	--	--	--	16.18	345.65
	03/31/00	--	--	--	--	--	--	--	--	--	16.29	345.54
	06/13/00	--	--	--	--	--	--	--	--	--	15.74	346.09
	09/13/00	--	--	--	--	--	--	--	--	--	15.55	346.28
	10/25/00	--	--	--	--	--	--	--	--	--	15.72	346.11
	11/22/00	--	--	--	--	--	--	--	--	--	16.08	345.75
	04/24/01	<0.5	<0.5	<0.5	<1.0	<100	--	--	--	--	16.66	345.17
	11/02/01	<0.5	<0.5	<0.5	<1.5	<100	--	--	--	--	16.02	345.81
	03/07/02	--	--	--	--	--	--	--	--	--	16.82	345.01
	05/31/02	<0.5	<1.0	<1.0	<1.0	<100	--	--	--	--	16.49	345.34
	09/13/02	<0.5	<1.0	<1.0	<2.0	<100	--	--	--	--	16.09	345.74
	12/13/02	<0.5	<1.0	<1.0	<3.0	<100	--	--	--	--	16.55	345.28
	03/20/03	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	16.92	344.91
	06/06/03	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	16.61	345.22
	09/18/03	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	16.82	345.01
	12/04/03	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	17.38	344.45
	04/02/04	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	17.53	344.30
	06/29/04	--	--	--	--	--	--	--	--	--	17.03	344.80
	10/06/04	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	17.21	344.62
	12/23/04	--	--	--	--	--	--	--	--	--	17.75	344.08
04/07/05	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	17.89	343.94	
06/21/05	--	--	--	--	--	--	--	--	--	17.03	344.80	
09/21/05	--	--	--	--	--	--	--	--	--	DRY	--	
11/22/05	--	--	--	--	--	--	--	--	--	17.94	343.89	
02/06/06	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	17.55	344.28	
05/30/06	--	--	--	--	--	--	--	--	--	17.25	344.58	
08/14/06	--	--	--	--	--	--	--	--	--	DRY	--	
04/10/07	--	--	--	--	--	--	--	--	--	16.53	345.30	
06/05/07	--	--	--	--	--	--	--	--	--	16.25	345.58	
09/27/07	--	--	--	--	--	--	--	--	--	16.38	345.45	
12/07/07	--	--	--	--	--	--	--	--	--	DRY	--	
04/13/09	--	--	--	--	--	--	--	--	--	16.25	345.58	
10/22/09	--	--	--	--	--	--	--	--	--	16.47	345.36	
04/07/10	<0.20	<1	<0.20	<0.60	<100	<0.0097	<0.20	<0.20	<0.20	--	17.11	344.72

TABLE 1
GROUNDWATER MONITORING AND ANALYTICAL RESULTS
7-Eleven Store No. 25821
1824 George Washington Way, Richland, Washington
All results in micrograms per liter (µg/L), except where noted

Well ID (TOC)	Sample Date	Benzene	Toluene	Ethyl-benzene	Total Xylenes	TPH-G	EDB	EDC	MTBE	Lead	Depth To Groundwater (feet from TOC)	Groundwater Elevation (feet)	
MW-5 362.01	07/01/89	<0.5	0.8	<0.5	4.2	--	--	--	--	--	14.05	347.96	
	09/01/93	2.0	0.5	5.0	1.0	290	--	--	--	--	14.98	347.03	
	03/18/94	<0.3	1.0	7.0	6.0	37	--	--	--	--	15.76	346.25	
	09/19/94	1.5	0.7	14.0	38.0	420	--	--	--	--	15.02	346.99	
	03/02/95	5.4	8.0	13.0	63.0	930	--	--	--	--	15.90	346.11	
	08/09/95	<0.3	<0.3	1.3	1.0	210	--	--	--	--	14.28	347.73	
	06/13/96	<0.5	<0.5	12.7	30.1	424	--	--	--	<2.0	13.53	348.48	
	12/11/96	<0.5	0.8	33.5	210.0	1,860	--	--	--	<2.0	14.30	347.71	
	06/24/97	<0.5	<0.5	<0.5	1.5	<50	--	--	--	4.09	13.00	349.01	
	12/30/97	<0.5	<0.5	<0.5	<1.0	<50	--	--	--	<2.0	16.27	345.74	
	04/01/98	--	--	--	--	--	--	--	--	--	--	DRY	--
	06/25/98	<0.3	<0.3	<0.5	<0.6	<100	--	--	--	--	<5	15.96	346.05
	09/24/98	--	--	--	--	--	--	--	--	--	--	15.91	346.10
	12/15/98	--	--	--	--	--	--	--	--	--	--	DRY	--
	03/31/00	--	--	--	--	--	--	--	--	--	--	DRY	--
	06/13/00	--	--	--	--	--	--	--	--	--	--	DRY	--
	09/13/00	--	--	--	--	--	--	--	--	--	--	DRY	--
	10/25/00	--	--	--	--	--	--	--	--	--	--	DRY	--
	11/22/00	--	--	--	--	--	--	--	--	--	--	DRY	--
	04/24/01	--	--	--	--	--	--	--	--	--	--	DRY	--
	11/02/01	--	--	--	--	--	--	--	--	--	--	DRY	--
	03/07/02	--	--	--	--	--	--	--	--	--	--	DRY	--
	09/13/02	--	--	--	--	--	--	--	--	--	--	DRY	--
	12/13/02	--	--	--	--	--	--	--	--	--	--	DRY	--
	03/20/03	--	--	--	--	--	--	--	--	--	--	DRY	--
	06/06/03	--	--	--	--	--	--	--	--	--	--	DRY	--
	09/18/03	--	--	--	--	--	--	--	--	--	--	DRY	--
	12/04/03	--	--	--	--	--	--	--	--	--	--	DRY	--
	04/02/04	--	--	--	--	--	--	--	--	--	--	DRY	--
	06/29/04	--	--	--	--	--	--	--	--	--	--	17.25	344.76
	10/06/04	--	--	--	--	--	--	--	--	--	--	17.45	344.56
	12/23/04	--	--	--	--	--	--	--	--	--	--	DRY	--
	04/07/05	--	--	--	--	--	--	--	--	--	--	DRY	--
06/21/05	--	--	--	--	--	--	--	--	--	--	17.47	344.54	
09/21/05	--	--	--	--	--	--	--	--	--	--	DRY	--	
05/30/06	--	--	--	--	--	--	--	--	--	--	DRY	--	
08/14/06	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	--	18.01	344.00	
04/10/07	--	--	--	--	--	--	--	--	--	--	DRY	--	
06/05/07	--	--	--	--	--	--	--	--	--	--	DRY	--	
09/27/07	--	--	--	--	--	--	--	--	--	--	DRY	--	
12/07/07	--	--	--	--	--	--	--	--	--	--	DRY	--	
06/11/08	<4.0	<4.0	<4.0	<8.0	<400	--	--	--	--	--	16.45	345.56	
10/29/08	--	--	--	--	--	--	--	--	--	--	DRY	--	
04/13/09	--	--	--	--	--	--	--	--	--	--	DRY	--	
10/22/09	--	--	--	--	--	--	--	--	--	--	DRY	--	
04/07/10	--	--	--	--	--	--	--	--	--	--	DRY	--	
12/16/10	--	--	--	--	--	--	--	--	--	--	DRY	--	
03/08/11	--	--	--	--	--	--	--	--	--	--	DRY	--	

TABLE 1
GROUNDWATER MONITORING AND ANALYTICAL RESULTS
7-Eleven Store No. 25821
1824 George Washington Way, Richland, Washington
All results in micrograms per liter (µg/L), except where noted

Well ID (TOC)	Sample Date	Benzene	Toluene	Ethyl-benzene	Total Xylenes	TPH-G	EDB	EDC	MTBE	Lead	Depth To Groundwater (feet from TOC)	Groundwater Elevation (feet)	
MW-6 361.43	09/01/93	65.0	120.0	87.0	3,000	15,000	--	--	--	--	14.27	347.16	
	03/18/94	14.0	140.0	82.0	3,800	8,500	--	--	--	--	15.03	346.40	
	09/19/94	<3.0	120.0	140.0	4,700	43,000	--	--	--	--	14.35	347.08	
	03/02/95	14.0	38.0	33.0	1,500	15,000	--	--	--	--	15.21	346.22	
	08/09/95	<1.5	32.0	23.0	1,200	15,000	--	--	--	--	13.59	347.84	
	06/13/96	<0.5	1.2	3.2	155	3,000	--	--	--	6.63	12.82	348.61	
	12/11/96	3.2	7.1	11.2	387	4,000	--	--	--	3.75	13.58	347.85	
	06/24/97	<2.50	<2.50	6.4	211	2,040	--	--	--	2.58	12.32	349.11	
	12/30/97	17.1	<2.50	49.7	695	9,770	--	--	--	2.47	15.54	345.89	
	04/01/98	28.0	44.5	328.0	5,370	29,700	--	--	--	--	15.90	345.53	
	06/25/98	1.9	19.0	120.0	2,200	7,700	--	--	--	8	15.25	346.18	
	09/24/98	54.5	66.6	202.0	2,150	8,680	--	--	--	--	15.23	346.20	
	12/15/98	<3	525.0	56	6,500	25,000	--	--	--	13	15.79	345.64	
	03/31/00	<5	23.0	82	2,900	24,000	--	--	--	25	15.85	345.58	
	06/13/00	<0.5	<0.5	88	2,500	19,000	--	--	--	--	15.26	346.17	
	09/13/00	<50	<50	<50	1,100	19,000	--	--	--	--	15.78	345.65	
	10/25/00	--	--	--	--	--	--	--	--	--	15.33	346.10	
	11/22/00	--	--	--	--	--	--	--	--	--	15.54	345.89	
	04/24/01	<25	<25	560	4,900	22,000	--	--	--	--	16.23	345.20	
	11/02/01	<12	19.0	210	1,200	10,000	--	--	--	--	16.63	344.80	
	03/07/02	<0.5	8.6	83.6	432	11,900	--	--	--	--	16.48	344.95	
	05/31/02	3.5	3.3	155	889	6,610	--	--	--	--	16.09	345.34	
	09/13/02	4.5	4.3	252	907	10,600	--	--	--	--	15.66	345.77	
	12/13/02	<0.5	<1.0	227	889	8,220	--	--	--	--	16.16	345.27	
	03/20/03	23.0	5.9	370	1,940	26,000	--	--	--	--	16.50	344.93	
	06/06/03	4.0	4.0	10.0	10.0	1,000	--	--	--	--	16.19	345.24	
	09/18/03	4.8	4.0	240	1,020	9,300 ⁽⁹⁾	--	--	--	--	16.43	345.00	
	12/04/03	Sheen Observed										16.81	344.62
	04/02/04	<1.0	<1.0	150	1,260	8,900	--	--	--	--	17.12	344.31	
	06/29/04	3.8	1.1	110	940	8,300	--	--	--	--	16.50	344.93	
	10/06/04	3.1	1.3	300	1,620	16,000	--	--	--	--	16.80	344.63	
	12/23/04	3.6	<1.0	210	1,190	9,900	--	--	--	--	17.34	344.09	
	04/07/05	<1.0	<1.0	<1.0	<2.0	920	--	--	--	--	16.21	345.22	
	06/21/05	<1.0	2.2	1	<2.0	330	--	--	--	--	17.91	343.52	
	09/21/05	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	16.41	345.02	
	11/22/05	--	--	--	--	--	--	--	--	--	18.04	343.39	
	02/06/06	3.8	<1.0	110	400	6,300	--	--	--	--	17.11	344.32	
	05/30/06	7.9	<1.0	130	770	7,500	--	--	--	--	16.85	344.58	
	08/14/06	5.4	<1.0	<1.0	1.3	720	--	--	--	--	17.68	343.75	
	11/07/06	14	290	1,300	7,600	35,000	--	--	--	--	14.26	347.17	
04/10/07	12	<4.0	260	1,200	13,000	--	--	--	--	16.11	345.32		
06/05/07	11	<4.0	140	540	7,600	--	--	--	--	15.84	345.59		
09/27/07	9.0	<10	620	3,300	20,000	--	--	--	--	15.93	345.50		
12/07/07	5.5	<4.0	280	1,290	9,200	--	--	--	--	16.42	345.01		
06/11/08	12	<10	250	940	11,000	--	--	--	--	16.03	345.40		
10/29/08	7.3	<4.0	240	1,040	9,000	--	--	--	--	16.01	345.42		
04/13/09	9.0	<4.0	75	198	5,300	--	--	--	--	16.15	345.28		
10/22/09	5.5	<4.0	90	206	3,800	--	--	--	--	16.07	345.36		
04/07/10	<0.4	<2.0	52	97	2,600	<0.0096 ⁹	<0.40	<0.40	--	16.67	344.76		
12/16/10	<0.50	<0.50	73	240	5,300	--	--	--	--	16.10	345.33		
03/08/11	<0.50	<0.50	42	140	3,600	--	--	--	--	16.15	345.28		

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 1824 George Washington Way, Richland, Washington
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Well ID (TOC)	Sample Date	Benzene	Toluene	Ethyl-benzene	Total Xylenes	TPH-G	EDB	EDC	MTBE	Lead	Depth To Groundwater (feet from TOC)	Groundwater Elevation (feet)
MW-7 361.23	06/24/97	--	--	--	--	--	--	--	--	--	12.17	349.06
	04/24/01	--	--	--	--	--	--	--	--	--	16.03	345.20
	11/02/01	<1	1.0	17.0	49.0	6,100	--	--	--	--	15.41	345.82
	03/07/02	<0.5	2.2	5.9	13.5	6,900	--	--	--	--	16.18	345.05
	05/31/02	1.5	1.6	6.7	28.6	5,110	--	--	--	--	15.88	345.35
	09/13/02	3.5	1.2	8.8	13.0	5,240	--	--	--	--	15.43	345.80
	12/13/02	<0.5	<1.0	9.0	<3.0	7,600	--	--	--	--	15.95	345.28
	03/20/03	12.0	<1.0	1.6	3.1	2,400	--	--	--	--	16.30	344.93
	06/06/03	5.7	<1.0	8.0	17.2	7,800	--	--	--	--	15.97	345.26
	09/18/03	6.1	<1.0	5.4	5.7	3,600 ^(b)	--	--	--	--	16.22	345.01
	12/04/03	7.4	<5.0	<5.0	<10	3,300	--	--	--	--	16.75	344.48
	04/02/04	6.3	<1.0	2.0	2.2	2,500	--	--	--	--	16.91	344.32
	06/29/04	3.7	<1.0	1.0	<2.0	1,800	--	--	--	--	16.30	344.93
	10/06/04	4.6	<1.0	2.0	<2.0	2,700	--	--	--	--	16.60	344.63
	12/23/04	7.8	1.7	2.5	4.6	5,100	--	--	--	--	17.12	344.11
	04/07/05	6.9	<1.0	1.1	<2.0	4,700	--	--	--	--	17.2	344.03
	06/21/05	5.7	<1.0	1.6	1.7	5,600	--	--	--	--	15.97	345.26
	09/21/05	<4.0	<4.0	<4.0	<8.0	<400	--	--	--	--	16.91	344.32
	11/22/05	2.6	<1.0	<1.0	<2.0	1,100	--	--	--	--	16.82	344.41
	02/06/06	5.8	<1.0	1.3	<2.0	3,300	--	--	--	--	16.96	344.27
	05/30/06	<1.0	<1.0	<1.0	<2.0	190	--	--	--	--	16.60	344.63
	08/14/06	3.8	<1.0	<1.0	<2.0	250	--	--	--	--	17.29	343.94
	11/07/06	11	<1.0	17	18.5	710	--	--	--	--	13.11	348.12
	04/10/07	1.4	<1.0	<1.0	<2.0	750	--	<1.0	--	--	15.91	345.32
	06/05/07	3.0	<1.0	<1.0	<2.0	910	--	--	--	--	15.62	345.61
	09/27/07	5.1	<4.0	<4.0	<8.0	800	--	--	--	--	15.71	345.52
	12/07/07	11	<1.0	<1.0	<2.0	2,200	--	--	--	--	16.24	344.99
	06/11/08	<1.0	<1.0	<1.0	<2.0	190	--	--	--	--	15.83	345.40
	10/29/08	<4.0	<4.0	<4.0	<8.0	480	--	--	--	--	15.93	345.30
	04/13/09	1.7	<1.0	<1.0	<2.0	240	--	--	--	--	15.95	345.28
10/22/09	3.0	1.4	<1.0	4.5	1,500	--	--	--	--	15.87	345.36	
04/07/10	<0.2	<1	0.24	1.63	910	<0.0096 ^a	<0.20	<0.20	--	16.46	344.77	
12/16/10	<0.50	<0.50	<0.50	<0.50	390	--	--	--	--	16.04	345.19	
03/08/11	<0.50	<0.50	<0.50	<0.50	290	--	--	--	--	15.93	345.30	

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 All results in micrograms per liter (µg/L), except where noted

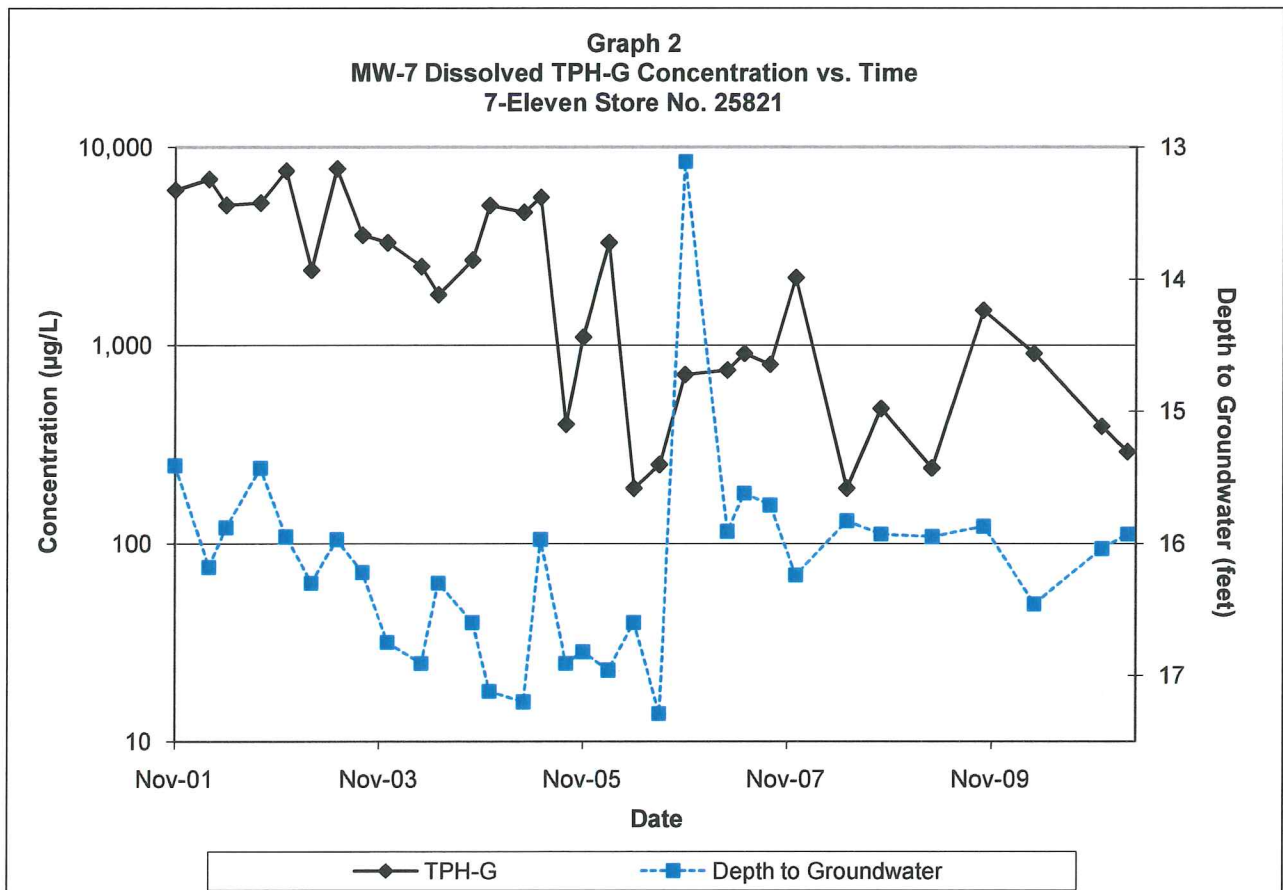
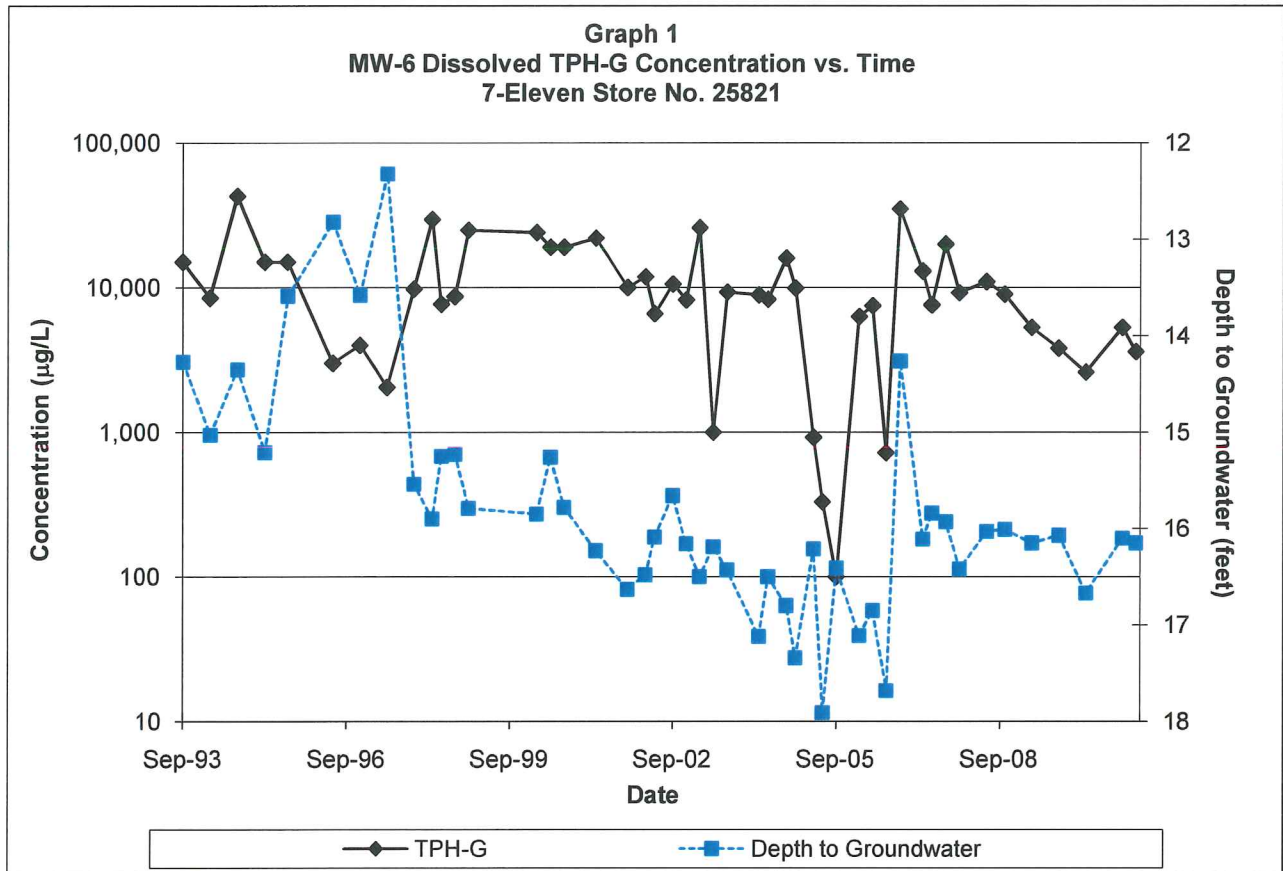
Well ID (TOC)	Sample Date	Benzene	Toluene	Ethyl-benzene	Total Xylenes	TPH-G	EDB	EDC	MTBE	Lead	Depth To Groundwater (feet from TOC)	Groundwater Elevation (feet)	
MW-8 361.34	04/24/01	<5	40.0	49.0	840.0	9,200	--	--	--	--	16.18	345.16	
	11/02/01	5.9	43.0	32.0	240.0	4,900	--	--	--	--	15.56	345.78	
	03/07/02	<0.5	<1.0	<1.0	<3.0	326	--	--	--	--	16.34	345.00	
	05/31/02	<0.5	<1.0	<1.0	1.4	<100	--	--	--	--	16.04	345.30	
	09/13/02	1.6	0.6	20.0	54.5	1,240	--	--	--	--	15.59	345.75	
	12/13/02	<0.5	<1.0	<1.0	<3.0	<100	--	--	--	--	--	16.08	345.26
	03/20/03	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	--	16.43	344.91
	06/06/03	<1.0	<1.0	13.0	44	1,100	--	--	--	--	--	16.03	345.31
	09/18/03	<1.0	<1.0	97	187	5,200^(a)	--	--	--	--	--	16.35	344.99
	12/04/03	4.5	1.9	100	57	4,200	--	--	--	--	--	16.75	344.59
	04/02/04	2.1	3.4	96	130	2,500	--	--	--	--	--	17.05	344.29
	06/29/04	2.7	2.2	83	241	3,800	--	--	--	--	--	16.54	344.80
	10/06/04	1.9	2.3	100	156	4,000	--	--	--	--	--	16.63	344.71
	12/23/04	2.5	4.1	67	11.8	1,900	--	--	--	--	--	17.26	344.08
	04/07/05	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	--	17.37	343.97
	06/21/05	<1.0	2.3	1.2	1.1	280	--	--	--	--	--	16.15	345.19
	09/21/05	16.0	<4.0	<4.0	<8.0	<400	--	--	--	--	--	17.01	344.33
	11/22/05	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	--	16.95	344.39
	02/06/06	<1.0	<1.0	1.4	<2.2	190	--	--	--	--	--	17.09	344.25
	05/30/06	<1.0	<1.0	1.0	29.0	450	--	--	--	--	--	16.80	344.54
	08/14/06	--	--	--	--	--	--	--	--	--	--	17.47	343.87
	11/07/06	12	330	1,600	9,500	36,000	--	--	--	--	--	13.24	348.10
	04/10/07	<4.0	<4.0	<4.0	<8.0	<400	--	--	--	--	--	16.04	345.30
	06/05/07	<1.0	<1.0	<1.0	7.2	210	--	--	--	--	--	15.76	345.58
	09/27/07	<4.0	<4.0	8.7	4.9	<400	--	--	--	--	--	15.85	345.49
12/07/07	<4.0	<4.0	<4.0	<8.0	<400	--	--	--	--	--	16.32	345.02	
06/11/08	<4.0	<4.0	<4.0	<8.0	<400	--	--	--	--	--	15.96	345.38	
10/29/08	<1.0	<1.0	11	<2.0	180	--	--	--	--	--	16.05	345.29	
04/13/09	4.3	9.6	3.4	10.1	230	--	--	--	--	--	16.10	345.24	
10/22/09	<1.0	<1.0	22	18.0	640	--	--	--	--	--	16.00	345.34	
04/07/10	<0.2	<1.0	0.75	0.31	130	<0.0096	<0.20	<0.20	--	--	16.61	344.73	
12/16/10	<0.50	<0.50	1.9	18	<250	--	--	--	--	--	16.20	345.14	
03/08/11	<0.50	<0.50	<0.50	<0.50	<250	--	--	--	--	--	16.05	345.29	
MTCA Method A Cleanup Level		5	1,000	700	1,000	800/1,000^b	0.01	5	20	15			

- TOC = top of casing elevation. Elevations are based on a survey by Rogers Surveying, Inc. and are relative to mean sea level.
- TPH-G = total petroleum hydrocarbons as gasoline
- mg/L = milligrams per liter
- < = less than the laboratory practical quantitation limits
- = not measured, not available or not sampled
- ° = Hydrocarbons outside the defined gasoline range are present in the sample
- ¶ = surrogate recovery is outside of the control limits
- MTCA = Model Toxics Control Act

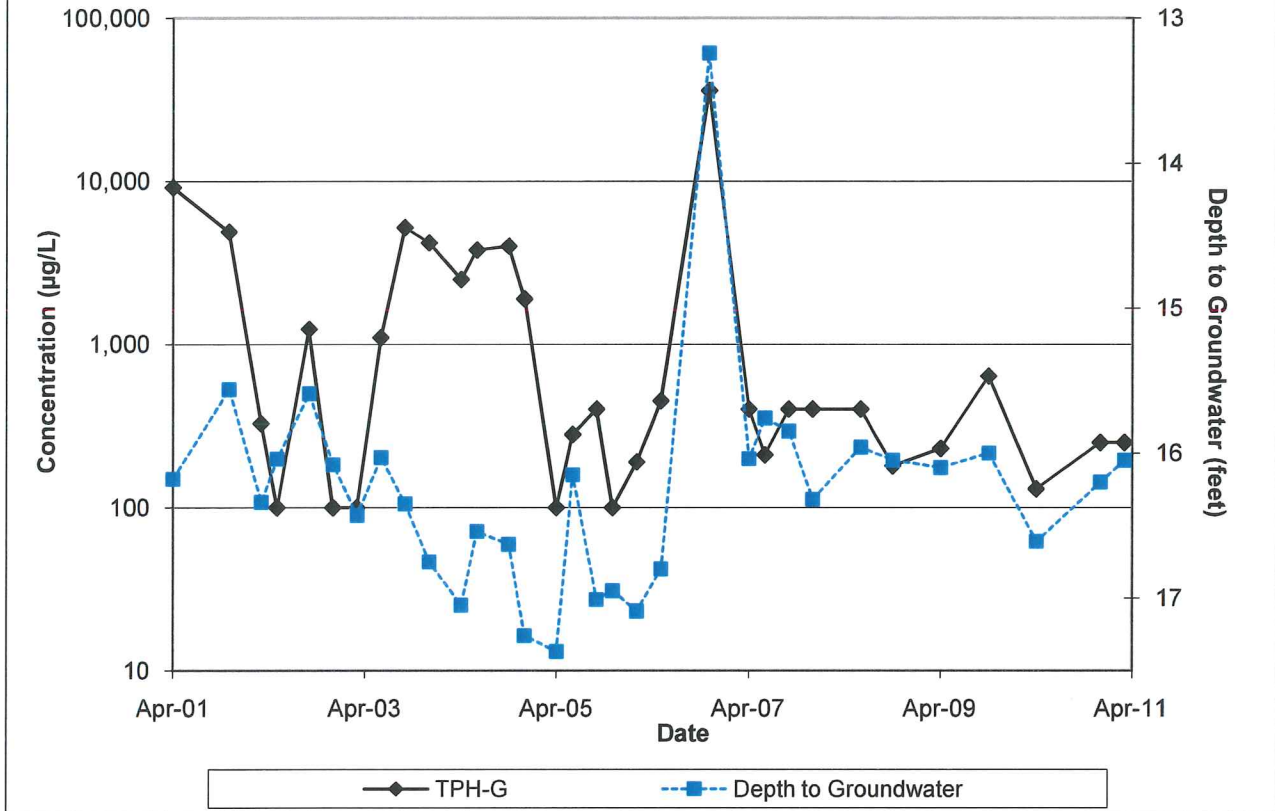
Bold values exceed MTCA Method A Cleanup Levels

^a MW-1 has been dry and not sampled since 09/01/93

^b The TPH-G cleanup level is reduced from 1,000 µg/L to 800 µg/L if benzene is present in the sample



Graph 3
MW-8 Dissolved TPH-G Concentration vs. Time
7-Eleven Store No. 25821



Laboratory Results

Paul Fairbairn
Stantec Consulting Corporation - Redmond, WA
12034 134th Court Northeast Suite 102
Redmond, WA 98052

Subject : 4 Water Samples
Project Name : 7-11 #25821
Project Number : 212302332.210.0400

Dear Mr. Fairbairn,

Chemical analysis of the samples referenced above has been completed. Summaries of the data are contained on the following pages. Sample(s) were received under documented chain-of-custody. US EPA protocols for sample storage and preservation were followed. Testing procedures comply with the 2003 NELAC standard. All soil samples are reported on a total weight (wet weight) basis unless noted otherwise in the case narrative. Laboratory results relate only to the samples tested. This report may be freely reproduced in full, but may only be reproduced in part with the express permission of Kiff Analytical, LLC. Kiff Analytical, LLC is certified by the State of California under the National Environmental Laboratory Accreditation Program (NELAP), lab # 08263CA. If you have any questions regarding procedures or results, please call me at 530-297-4800.

Sincerely,


Joel Kiff



Report Number : 76681

Date : 03/14/2011

Project Name : 7-11 #25821

Project Number : 212302332.210.0400

Sample : MW-3

Matrix : Water

Lab Number : 76681-01

Sample Date :03/08/2011

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date/Time Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	03/12/11 01:41
Toluene	< 0.50	0.50	ug/L	EPA 8260B	03/12/11 01:41
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	03/12/11 01:41
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	03/12/11 01:41
Gasoline Range Organics	< 250	250	ug/L	NWTPH-Gx	03/11/11 02:59
1,2-Dichloroethane-d4 (Surr)	101		% Recovery	EPA 8260B	03/12/11 01:41
Toluene - d8 (Surr)	100		% Recovery	EPA 8260B	03/12/11 01:41
4-Bromofluorobenzene (Surr)	95.6		% Recovery	NWTPH-Gx	03/11/11 02:59

Sample : MW-6

Matrix : Water

Lab Number : 76681-02

Sample Date :03/08/2011

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date/Time Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	03/12/11 02:18
Toluene	< 0.50	0.50	ug/L	EPA 8260B	03/12/11 02:18
Ethylbenzene	42	0.50	ug/L	EPA 8260B	03/12/11 02:18
Total Xylenes	140	0.50	ug/L	EPA 8260B	03/12/11 02:18
Gasoline Range Organics	3600	250	ug/L	NWTPH-Gx	03/11/11 04:09
1,2-Dichloroethane-d4 (Surr)	99.4		% Recovery	EPA 8260B	03/12/11 02:18
Toluene - d8 (Surr)	99.7		% Recovery	EPA 8260B	03/12/11 02:18
4-Bromofluorobenzene (Surr)	96.8		% Recovery	NWTPH-Gx	03/11/11 04:09



Report Number : 76681

Date : 03/14/2011

Project Name : 7-11 #25821

Project Number : 212302332.210.0400

Sample : MW-7

Matrix : Water

Lab Number : 76681-03

Sample Date :03/08/2011

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date/Time Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	03/12/11 02:55
Toluene	< 0.50	0.50	ug/L	EPA 8260B	03/12/11 02:55
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	03/12/11 02:55
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	03/12/11 02:55
Gasoline Range Organics	290	250	ug/L	NWTPH-Gx	03/11/11 04:43
1,2-Dichloroethane-d4 (Surr)	98.7		% Recovery	EPA 8260B	03/12/11 02:55
Toluene - d8 (Surr)	100		% Recovery	EPA 8260B	03/12/11 02:55
4-Bromofluorobenzene (Surr)	95.5		% Recovery	NWTPH-Gx	03/11/11 04:43

Sample : MW-8

Matrix : Water

Lab Number : 76681-04

Sample Date :03/08/2011

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date/Time Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	03/12/11 03:32
Toluene	< 0.50	0.50	ug/L	EPA 8260B	03/12/11 03:32
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	03/12/11 03:32
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	03/12/11 03:32
Gasoline Range Organics	< 250	250	ug/L	NWTPH-Gx	03/11/11 05:19
1,2-Dichloroethane-d4 (Surr)	101		% Recovery	EPA 8260B	03/12/11 03:32
Toluene - d8 (Surr)	99.9		% Recovery	EPA 8260B	03/12/11 03:32
4-Bromofluorobenzene (Surr)	94.9		% Recovery	NWTPH-Gx	03/11/11 05:19

Report Number : 76681

Date : 03/14/2011

QC Report : Method Blank Data

Project Name : 7-11 #25821

Project Number : 212302332.210.0400

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed	Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Gasoline Range Organics	< 250	250	ug/L	NWTPH-Gx	03/11/2011						
4-Bromofluorobenzene (Surr)	95.9		%	NWTPH-Gx	03/11/2011						
Benzene	< 0.50	0.50	ug/L	EPA 8260B	03/11/2011						
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	03/11/2011						
Toluene	< 0.50	0.50	ug/L	EPA 8260B	03/11/2011						
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	03/11/2011						
1,2-Dichloroethane-d4 (Surr)	101		%	EPA 8260B	03/11/2011						
Toluene - d8 (Surr)	99.7		%	EPA 8260B	03/11/2011						

Report Number : 76681

Date : 03/14/2011

QC Report : Matrix Spike/ Matrix Spike Duplicate

Project Name : **7-11 #25821**

Project Number : **212302332.210.0400**

Parameter	Spiked Sample	Sample Value	Spike Level	Spike Dup. Level	Spiked Sample Value	Duplicate Spiked Sample Value	Units	Analysis Method	Date Analyzed	Spiked Sample Percent Recov.	Duplicate Spiked Sample Percent Recov.	Relative Percent Diff.	Spiked Sample Percent Recov. Limit	Relative Percent Diff. Limit
Benzene	76710-03	<0.50	40.0	40.0	39.4	38.1	ug/L	EPA 8260B	3/11/11	98.4	95.2	3.37	80-120	25
Ethylbenzene	76710-03	<0.50	40.0	40.0	40.3	39.4	ug/L	EPA 8260B	3/11/11	101	98.6	2.15	80-120	25
P + M Xylene	76710-03	<0.50	40.0	40.0	37.8	37.5	ug/L	EPA 8260B	3/11/11	94.4	93.8	0.693	76.8-120	25
Toluene	76710-03	<0.50	40.0	40.0	39.4	38.1	ug/L	EPA 8260B	3/11/11	98.4	95.3	3.26	80-120	25

Report Number : 76681

Date : 03/14/2011

QC Report : Laboratory Control Sample (LCS)

Project Name : **7-11 #25821**

Project Number : **212302332.210.0400**

Parameter	Spike Level	Units	Analysis Method	Date Analyzed	LCS Percent Recov.	LCS Percent Recov. Limit
Benzene	40.1	ug/L	EPA 8260B	3/11/11	96.3	80-120
Ethylbenzene	40.1	ug/L	EPA 8260B	3/11/11	101	80-120
P + M Xylene	40.1	ug/L	EPA 8260B	3/11/11	94.5	76.8-120
Toluene	40.1	ug/L	EPA 8260B	3/11/11	96.5	80-120

Report Number : 76681

Date : 03/14/2011

QC Report : Sample Duplicate

Project Name : **7-11 #25821**

Project Number : **212302332.210.0400**

Parameter	Sample ID	Units	Analysis Method	Date Analyzed	Sample Value	Duplicate Value	RPD	RPD Limit
Gasoline Range Organics	76681-01	ug/L	NWTPH-Gx	3/11/11	< 250	< 250	NC	25

Page 7 of 9
NC RPD not calculated. Both Sample and Duplicate < Lab PQL

KIFF ANALYTICAL, LLC

2795 2nd Street, Suite 300 Davis, CA 95618 530-297-4800



2795 2nd Street, Suite 300
 Davis, CA 95618
 Lab: 530.297.4800
 Fax: 530.297.4802

SRG # / Lab No. 76081

Page 1 of 1

Project Contact (Hardcopy or PDF To):
Paul Fairbairn

Company / Address: Stanford
2034 13th Ct. N.E. Ste. 102 Redmond
WA

Phone Number: 425 298-1000

Fax Number: 425 298-1019

Project #: 212302332

Project Name: 7-11 #25821

Project Address: 1824 George Washington Way
Richland WA

Sampling Date: 07/08/11

Sampling Time: 0920

Sample Designation: MW-3

Sample Designation: MW-6

Sample Designation: MW-7

Sample Designation: MW-8

California EDF Report? Yes No

Sampling Company Log Code:

Global ID:

EDF Deliverable To (Email Address):

Bill to:

Sampler Print Name: David Reitz

Sampler Signature: [Signature]

Container: [Signature]

Preservative: [Signature]

Matrix: [Signature]

40 ml VOA

Sieve

Poly

Glass

Tedlar

None

HNO₃

HCl

Water

Soil

Air

Chain-of-Custody Record and Analysis Request

Analysis Request

CIRCLE METHOD	Analysis Request	TAT
<input type="checkbox"/>	TPH Gas (EPA 8260B)	<input checked="" type="checkbox"/> 1 wk
<input type="checkbox"/>	BTEX (EPA 8260B)	<input type="checkbox"/> 72hr
<input type="checkbox"/>	TPH as Diesel (EPA 8015M)	<input type="checkbox"/> 48hr
<input type="checkbox"/>	TPH as Motor Oil (EPA 8015M)	<input type="checkbox"/> 24 hr
<input type="checkbox"/>	Volatile Organics Full List (EPA 8260B)	<input type="checkbox"/> 12 hr
<input type="checkbox"/>	Volatile Organics (EPA 524.2 Drinking Water)	
<input type="checkbox"/>	Volatile Halocarbons (EPA 8260B)	
<input type="checkbox"/>	Lead Scav. (1,2 DCA & 1,2 EDB) (EPA 8260B)	
<input type="checkbox"/>	7 Oxygenates (5 oxy + EtOH, MeOH) (EPA 8260B)	
<input type="checkbox"/>	5 Oxygenates (MTBE, DPE, ETBE, TAME, TBA) (EPA 8260B)	
<input type="checkbox"/>	TPH Gas (EPA 8260B)	
<input type="checkbox"/>	5 Oxygenates (MTBE, DPE, ETBE, TAME, TBA) (EPA 8260B)	
<input type="checkbox"/>	Lead Scav. (1,2 DCA & 1,2 EDB) (EPA 8260B)	
<input type="checkbox"/>	Volatile Halocarbons (EPA 8260B)	
<input type="checkbox"/>	Volatile Organics Full List (EPA 8260B)	
<input type="checkbox"/>	Volatile Organics (EPA 524.2 Drinking Water)	
<input type="checkbox"/>	TPH as Diesel (EPA 8015M)	
<input type="checkbox"/>	TPH as Motor Oil (EPA 8015M)	
<input type="checkbox"/>	CAM 17 Metals (EPA 200.7 / 6010)	
<input type="checkbox"/>	5 Waste Oil Metals (Cd, Cr, Ni, Pb, Zn) (EPA 200.7 / 6010)	
<input type="checkbox"/>	Mercury (EPA 245.1 / 7470 / 7471)	
<input type="checkbox"/>	Total Lead (EPA 200.7 / 6010)	
<input type="checkbox"/>	WE.T. Lead (STLC)	
<input type="checkbox"/>	MW-TPH Gx	

Remarks:

Date	Time	Received by:
03/08/11	1600	David Reitz - KIFF Analytical
03/08/11	0950	David Reitz - KIFF Analytical
03/10/11	0839	Michelle Spence - Analytical

Relinquished by: [Signature]

Relinquished by: [Signature]

Relinquished by: [Signature]

Relinquished by: [Signature]

Received by Laboratory: [Signature]

Received by Laboratory: [Signature]

Received by Laboratory: [Signature]

Received by Laboratory: [Signature]

Distribution: White - Lab; Pink - Originator

Rev: 060406



Stantec



WATER SAMPLE FIELD DATA SHEET

PROJECT #: 212302 332 Purged & Sampled By: D. Roife Well & Sample ID: MW-3
 CLIENT NAME: 7-Eleven LOCATION: 1824 George Washington Way, Richland, WA

Purged & Sampled Date: 03, 08, 11 START (2400hr): 0905
 Sample Time: 0920 LOW-FLOW USED: X
 SAMPLE TYPE: Groundwater x Surface Water _____ Treatment Effluent _____ Other _____

CASING DIAMETER: 2" X 4" _____ 6" _____
 Casing Volume: (liters per foot) (0.16) (0.6) (1.46)

DEPTH TO BOTTOM (feet) = 19.50
 DEPTH TO WATER (feet) = 17.01
 WATER COLUMN HEIGHT (feet) = 2.49 ACTUAL PURGE (L) = 2.5

FIELD MEASUREMENTS

DATE	TIME (2400hr)	VOLUME (L)	TEMP (degrees C)	CONDUCTIVITY (umhos/cm)	pH (units)	COLOR (visual)	O.R.P.
<u>3/8/10</u>	<u>0910</u>	<u>900</u>	<u>13.3</u>	<u>1.20</u>	<u>6.45</u>	<u>Clr</u>	<u>152</u>
	<u>0913</u>	<u>500</u>	<u>13.4</u>	<u>1.20</u>	<u>6.47</u>	<u>Clr</u>	<u>148</u>
	<u>0916</u>	<u>500</u>	<u>13.6</u>	<u>1.21</u>	<u>6.47</u>	<u>Clr</u>	<u>144</u>
	<u>0919</u>	<u>500</u>	<u>13.6</u>	<u>1.22</u>	<u>6.48</u>	<u>Clr</u>	<u>141</u>
<u>03, 08, 11</u>							
Calculated Variance of Final Three Samples:			<u>0.2</u>	<u>0.02</u>	<u>0.01</u>		<u>7.0</u>
Acceptable Variance Limits:			<u>≤ 10%</u>	<u>≤ 3%</u>	<u>≤ 0.1</u>		<u>≤ 10%</u>

DEPTH TO PURGE INTAKE DURING PURGE: 18.00 SAMPLE DTW: 17.04

QTY OF SAMPLE VESSELS & PRESERVATIVE: 3-HCL VOA'S PER WELL ANALYSES: NWTPH-g
BTEX-g (8260)
MTBE, EDB, EDC

PURGING EQUIPMENT: Cole Parmer Environmental Sampler Model# 7175-00 SAMPLING EQUIPMENT: Horiba

Flow Through Cell Disconnected Prior to Sample Collection?: YES X NO _____

WELL PAD CONDITION: Fair WELL CASING CONDITION: Fair
 WELL VAULT CONDITION: Fair SEAL PRESENT?: yes BOLTS PRESENT?: yes
 WELL INTEGRITY: Fair WELL TAG: yes LOCK#: yes

REMARKS: _____

SIGNATURE: [Signature] Page 1 of 1



Stantec



WATER SAMPLE FIELD DATA SHEET

Stantec

PROJECT #: 212302332

Purged & Sampled By: D. Ritz

Well & Sample ID: MW-6

CLIENT NAME: 7-Eleven

LOCATION: 1824 George Washington Way; Richland, WA

Purged & Sampled Date: 03/08/11

START (2400hr): 1025

Sample Time: 1040

LOW-FLOW USED: X

SAMPLE TYPE: Groundwater

Surface Water

Treatment Effluent

Other

CASING DIAMETER:

Casing Volume: (liters per foot)

2" (0.16)

4" (0.6)

6" (1.46)

DEPTH TO BOTTOM (feet) = 19.00

DEPTH TO WATER (feet) = 16.15

WATER COLUMN HEIGHT (feet) = 2.85

ACTUAL PURGE (L) = 2.5

FIELD MEASUREMENTS

DATE	TIME (2400hr)	VOLUME (L)	TEMP (degrees C)	CONDUCTIVITY (umhos/cm)	pH (units)	COLOR (visual)	O.R.P.
3/8/10	1030	500	14.7	1.06	6.67	ck	-81
	1033	500	14.2	1.05	6.60	ck	-88
	1036	500	14.1	1.02	6.57	ck	-101
	1039	500	13.9	1.00	6.56	ck	-109
Calculated Variance of Final Three Samples:			0.3	0.05	0.04		21.0
Acceptable Variance Limits:			≤ 10%	≤ 3%	≤ 0.1		≤ 10%

DEPTH TO PURGE INTAKE DURING PURGE: 17.00

SAMPLE DTW: 16.21

QTY OF SAMPLE VESSELS & PRESERVATIVE:

3-HCL VOA'S PER WELL

ANALYSES:

NWTPH-g

BTEX-g (8260)

MTBE, EDB, EDC

PURGING EQUIPMENT:

Cole Parmer Environmental Sampler Model# 7175-00

SAMPLING EQUIPMENT:

Horiba

Flow Through Cell Disconnected Prior to Sample Collection?:

YES

NO

WELL PAD CONDITION: Fair

WELL CASING CONDITION: Fair

WELL VAULT CONDITION: Fair

SEAL PRESENT?: YES

BOLTS PRESENT?: YES

WELL INTEGRITY: Fair

WELL TAG: YES

LOCK#: YES

REMARKS:

SIGNATURE: D. Ritz

Page 1 of 1



Stantec



WATER SAMPLE FIELD DATA SHEET

Stantec

PROJECT #: 212302332

Purged & Sampled By: D. Reitz

Well & Sample ID: MW-7

CLIENT NAME: 7-Eleven

LOCATION: 1824 George Washington Way; Richland, WA

Purged & Sampled Date: 03/08/11

START (2400hr): 1005

Sample Time: 1020

LOW-FLOW USED: X

SAMPLE TYPE: Groundwater x Surface Water Treatment Effluent Other

CASING DIAMETER: 2" 4" X 6"
Casing Volume: (liters per foot) (0.16) (0.6) (1.46)

DEPTH TO BOTTOM (feet) = 18.00
DEPTH TO WATER (feet) = 15.93
WATER COLUMN HEIGHT (feet) = 2.07 ACTUAL PURGE (L) = 2.5

FIELD MEASUREMENTS

Table with 8 columns: DATE, TIME (2400hr), VOLUME (L), TEMP (degrees C), CONDUCTIVITY (umhos/cm), pH (units), COLOR (visual), O.R.P. Includes handwritten data for three samples and variance calculations.

DEPTH TO PURGE INTAKE DURING PURGE: 17.00 SAMPLE DTW: 15.94

QTY OF SAMPLE VESSELS & PRESERVATIVE: 3-HCL VOA'S PER WELL
ANALYSES: NWTPh-g, BTEX-g (8260), MTBE, EDB, EDC

PURGING EQUIPMENT: Cole Parmer Environmental Sampler Model# 7175-00
SAMPLING EQUIPMENT: Horiba

Flow Through Cell Disconnected Prior to Sample Collection?: YES X NO

WELL PAD CONDITION: Fair WELL CASING CONDITION: Fair
WELL VAULT CONDITION: Fair SEAL PRESENT?: YES BOLTS PRESENT?: YES
WELL INTEGRITY: Fair WELL TAG: YES LOCK#: YES

REMARKS:

SIGNATURE: [Signature] Page 1 of 1



Stantec



WATER SAMPLE FIELD DATA SHEET

Stantec

PROJECT #: 212302 332

Purged & Sampled By: D. Reitz

Well & Sample ID: MW-8

CLIENT NAME: 7-Eleven

LOCATION: 1824 George Washington Way, Richland, WA

Purged & Sampled Date: 03, 08, 11

START (2400hr): 0935

Sample Time: 0950

LOW-FLOW USED: X

SAMPLE TYPE: Groundwater x Surface Water Treatment Effluent Other

CASING DIAMETER: 2" X 4" 6"
Casing Volume: (liters per foot) (0.16) (0.6) (1.46)

DEPTH TO BOTTOM (feet) = 26.80
DEPTH TO WATER (feet) = 16.05
WATER COLUMN HEIGHT (feet) = 10.75
ACTUAL PURGE (L) = 2.5

FIELD MEASUREMENTS

Table with 8 columns: DATE, TIME (2400hr), VOLUME (L), TEMP (degrees C), CONDUCTIVITY (umhos/cm), pH (units), COLOR (visual), O.R.P. Includes handwritten data for three samples and variance calculations.

DEPTH TO PURGE INTAKE DURING PURGE: 22.00 SAMPLE DTW: 16.06

QTY OF SAMPLE VESSELS & PRESERVATIVE: 3-HCL VOA'S PER WELL
ANALYSES: NWTPH-g, BTEX-g (8260), MTBE, EDB, EDC

PURGING EQUIPMENT: Cole Parmer Environmental Sampler Model# 7175-00
SAMPLING EQUIPMENT: Horiba

Flow Through Cell Disconnected Prior to Sample Collection?: YES X NO

WELL PAD CONDITION: Fair WELL CASING CONDITION: Fair
WELL VAULT CONDITION: Fair SEAL PRESENT?: YES BOLTS PRESENT?: YES
WELL INTEGRITY: Fair WELL TAG: YES LOCK#: YES

REMARKS:

SIGNATURE: [Signature] Page 1 of 1



2795 2nd Street, Suite 300
Davis, CA 95618
Lab: 530.297.4800
Fax: 530.297.4802

SRG # / Lab No.

Page _____ of _____

Project Contact (Hardcopy or PDF To)

California EDF Report? Yes No

Sampling Company Log Code:

Global ID

EDF Deliverable To (Email Address):

Bill to:

Sampler Print Name:

Sampler Signature:

Container

Preservative

Matrix

Sampling

Date

Time

40 ml VOA

Sleeve

Poly

Glass

Tedlar

HCl

HNO₃

None

Water

Soil

Air

Sample Designation

Date

Time

40 ml VOA

Sleeve

Poly

Glass

Tedlar

HCl

HNO₃

None

Water

Soil

Air

Relinquished by:

Date

Time

Received by:

Time

Received by:

Time

Received by:

Time

Remarks:

Chain-of-Custody Record and Analysis Request

Analysis Request

CIRCLE METHOD

MTBE @ 0.5 ppb (EPA 8260B)

BTEX (EPA 8260B)

TPH Gas (EPA 8260B)

5 Oxygenates (MTBE, DIFE, ETBE, TAME, TBA) (EPA 8260B)

7 Oxygenates (5 oxy + EtOH, MeOH) (EPA 8260B)

Lead Scav (1,2 DCA & 1,2 EDB) (EPA 8260B)

Volatile Halocarbons (EPA 8260B)

Volatile Organics Full List (EPA 8260B)

Volatile Organics (EPA 524.2 Drinking Water)

TPH as Diesel (EPA 8015M)

TPH as Motor Oil (EPA 8015M)

CAM 17 Metals (EPA 200.7/6010)

5 Waste Oil Metals (Cd, Cr, Ni, Pb, Zn) (EPA 200.7/6010)

Mercury (EPA 245.1/7470/7471)

Total Lead (EPA 200.7/6010)

WE T. Lead (STLC)

TAT 12 hr 24 hr 48 hr 72 hr 1 wk

For Lab Use Only

STANTEC MONITORING WELL PURGING AND SAMPLING PROCEDURES

Monitoring well purging and sampling was conducted using U.S. Environmental Protection Agency (EPA) approved low-flow sampling techniques.

Purging Procedures

- A. Using a decontaminated instrument (i.e., tape measure, continuity meter, or interface probe) measure the depth to groundwater in reference to the measuring point at the top of the casing. Measure the total depth of the well to calculate the height and volume of water in the borehole.
- B. Based on previously obtained data, if a monitoring well is suspected of containing liquid-phase hydrocarbons (LPH) concentrations, lower a transparent bailer into the well to evaluate the presence of a hydrocarbon sheen on the water table.
- C. Decontaminate the purge pump and/or PVC bailers by scrubbing in Alconox detergent solution, followed by a tap water rinse and then a deionized water rinse.
- D. Purge, by low-flow pumping (less than 0.5 liters per minute) for approximately five minutes. If low-flow purging is not possible and bailing is used to purge the well, then a minimum of three well volumes will be removed. If the well goes dry, the procedure listed in step E2 (below) should be followed. Parameters should be measured after each ½-casing volume is removed.
- E. Conduct field measurements (i.e., pH, specific conductivity, temperature, and oxidation-reduction potential) note clarity, color, turbidity, and odor of purge water, and measure depth to groundwater.
 1. If the well has not been purged dry, continue to pump and conduct field measurements (including depth to water) again every five minutes during purging.
 - a) If the first through third series of measurements vary by less than 10 percent, the well has been adequately purged. Allow the well to recover to 80 percent of its static condition and begin the sampling procedure.
 - b) If the measurements vary by 10 percent or greater, repeat Step E1 above.
 - c) If a minimum of three parameters cannot be measured during purging, remove three well volumes prior to sampling.
 2. If the well has been purged dry, measure the water level and allow the well to recharge to 80 percent, or for two hours, whichever occurs first. Calculate the percent recovery, and begin the sampling procedure.

Sampling Procedures

- Use the pump to collect the groundwater sample.
- Transfer the groundwater sample into the appropriate container(s). Where applicable, some containers are completely filled to achieve zero headspace. Label the samples according to location and date of collection.
- Enter the samples into Chain-of-Custody and preserve on ice until delivery to the analytical laboratory. Complete the Well Development or Purging/Sampling Log to be stored in the project file.

When requested by the client, collect a bailer rinsate blank of deionized water to check decontamination procedure. In addition, trip blanks prepared by the laboratory and kept with the samples may be included to check for cross contamination of samples within the cooler. Additional and/or alternate QA/QC samples can be collected and analyzed upon client request.