October 31, 2011
Project 101.00173.00010

Mr. Tom Middleton
Washington Department of Ecology
P.O. Box 47775
Olympia, Washington 98504-7775

Re: Groundwater Sampling Report – September 2011 Event
Former Arco Service Station #0855, Longview, Washington

Dear Mr. Middleton:

On behalf of Wakefield Family LLC (property owner), SLR International Corp (SLR) has prepared this report to present the results of the annual groundwater sampling activities conducted in September 2011 at the above-referenced property. The former Arco Service Station #0855 property is located at 4603 Ocean Beach Highway, near the western end of Longview, Washington (see Figure 1). The purposes of the groundwater sampling program for the site are to assess the effectiveness of the recently deactivated deep groundwater recovery operations and the 2007 site remedial action (soil excavation and shallow groundwater extraction), and to monitor the migration and attenuation of the petroleum hydrocarbon concentrations in the shallow groundwater-bearing unit and the deep aquifer over time.

BACKGROUND

After completing the 2007 remedial action at the property, quarterly groundwater sampling results in 2007 and 2008 showed that the samples from all of the shallow groundwater monitoring wells, except MW-10, and from all of the deep groundwater monitoring wells, except DMW-4, DMW-5, DMW-9, and DMW-10, contained petroleum hydrocarbon concentrations below the Model Toxics Control Act (MTCA) Method A groundwater cleanup levels for four consecutive quarters (SLR, 2008a; SLR, 2008b; and SLR, 2008c). To remediate the remaining impacted groundwater in the deep aquifer, a deep groundwater recovery well (RW-1) was installed and a recovery/treatment system operated from June 2009 through July 2011. After activating the system, the current groundwater sampling program has consisted of conducting annual sampling events (collect samples from all of the shallow and deep monitoring wells) in September, and conducting quarterly sampling events (collect samples from shallow well MW-10 and from deep wells DMW-5, DMW-9, and DMW-10) in December, March, and June. Based on the groundwater sampling results in September and December 2009 and March and June 2010, the samples from shallow monitoring well MW-10 contained petroleum hydrocarbon concentrations below the Method A cleanup levels for four consecutive quarters (SLR, 2009; SLR,

2010a; SLR, 2010b; and SLR, 2010c). Therefore, MW-10 was eliminated from the future quarterly groundwater sampling events.

SEPTEMBER 2011 SAMPLING EVENT

SLR personnel conducted the groundwater sampling activities on September 14, 2011. On September 13th, SLR deactivated the deep groundwater recovery/treatment system so that the deep aquifer would be under non-pumping static conditions at the time of sampling.

Immediately prior to sampling, SLR measured the depths to groundwater in all of the shallow monitoring wells (MW-5, MW-8, MW-9, MW-10, MW-11, MW-12, MW-13, and MW-14), all of the deep monitoring wells (DMW-3, DMW-4, DMW-5, DMW-6, DMW-7, DMW-8, DMW-9, and DMW-10), and in the inactive deep groundwater recovery well (RW-1) by using an electronic water level probe. The depth to groundwater measurements were converted to groundwater elevations by using the results of previous well elevation surveys conducted by Gibbs and Olson, Inc., of Longview, Washington. The depths to groundwater in the shallow wells ranged from 4.79 to 8.17 feet below the tops of the well casings. The groundwater elevations in the shallow wells ranged from -0.01 to 4.08 feet above the NAVD 88 datum. The depths to groundwater in the deep wells ranged from 4.73 to 7.82 feet below the tops of the well casings. The groundwater elevations in the deep wells ranged from 1.13 to 1.93 feet above the NAVD 88 datum. The groundwater elevations in the shallow and deep wells were inconsistent and could not be used to determine general shallow or deep groundwater flow directions beneath the site area. The groundwater monitoring data from the September 2011 sampling event, as well as from the previous groundwater sampling events, are presented in Table 1. The groundwater elevations in the shallow and deep wells on September 14, 2011, are shown on Figures 2 and 3, respectively.

SLR personnel collected groundwater samples from all of the shallow monitoring wells and all of the deep monitoring wells for laboratory analysis. SLR purged the wells by using a peristaltic pump with dedicated tubing at a flow rate of approximately 0.33 liters per minute. During purging, field parameters of temperature, conductivity, dissolved oxygen (DO), pH, dissolved ferrous iron, and oxidation-reduction potential were measured every three to five minutes. Each groundwater sample was collected following the stabilization of the field parameter measurements.

The groundwater samples were submitted to Friedman & Bruya, Inc. (F&B) in Seattle, Washington, for analysis of benzene, toluene, ethylbenzene, and total xylenes (BTEX) by EPA Method 8021B, and gasoline-range organics (GRO) by Ecology Method NWTPH-Gx. The analytical results indicated that the groundwater samples from deep well DMW-10 contained a benzene concentration [20 micrograms per liter (µg/L)] that

exceeded the MTCA Method A cleanup level (5 µg/L). The groundwater samples from deep wells DMW-9 and DMW-10 and from shallow well MW-10 contained total xylenes, and/or GRO concentrations that were below the Method A cleanup levels. The groundwater sample from shallow well MW-10 also contained a benzene concentration that was below the Method A cleanup level. The groundwater samples from all of the shallow wells, except MW-10, and from all of the deep wells, except DMW-9 and DMW-10, did not contain petroleum hydrocarbon concentrations greater than the method reporting limits (MRLs). The groundwater sample analytical results (petroleum hydrocarbons only) from the September 2011 event, as well as from the previous sampling events, are presented in Table 2. The benzene and GRO concentrations in the September 2011 samples from the shallow and deep wells are shown on Figures 2 and 3, respectively. Copies of the laboratory analytical reports are attached.

The groundwater samples were also analyzed for the following natural attenuation parameters: dissolved manganese by EPA Method 200.8, alkalinity by Standard Method SM 2320, dissolved methane by EPA Method RSK 175 Modified, sulfate by EPA Method 375.2, and nitrate by EPA Method 353.2. The sample analytical results showed that the greatest dissolved methane concentration (18.6 milligrams per liter) was at the source area deep well (at DMW-9). The groundwater sample analytical results and field measurements (DO, redox potential, and dissolved ferrous iron) for the natural attenuation parameters (for the September 2011 event as well as from the previous sampling events) are presented in Table 3. Copies of the laboratory analytical reports are attached.

CONCLUSIONS

The 2008 groundwater sampling results from the shallow wells indicated that the 2007 remediation activities effectively removed the source of the shallow groundwater contamination and extracted most of the impacted shallow groundwater (SLR, 2008a; SLR, 2008b; and SLR, 2008c). Based on the 2009, 2010, and 2011 groundwater sampling results (SLR, 2009; SLR, 2010a; SLR, 2010b; SLR, 2010c; SLR, 2010d; SLR, 2011a; SLR, 2011b; and SLR, 2011c), including the September 2011 results, the remaining petroleum hydrocarbon concentrations in the shallow groundwater have naturally attenuated to below the MTCA Method A cleanup levels.

The 2008 groundwater sampling results from the deep wells showed that the 2007 remediation activities had limited short-term affects on the deep groundwater concentrations (SLR, 2008a; SLR, 2008b; and SLR, 2008c). To actively remediate the impacted deep groundwater, a deep groundwater recovery/treatment system operated from June 2009 through July 2011. Based on the results of the quarterly groundwater sampling events that have been conducted since the activation of the system (SLR, 2009; SLR, 2010a; SLR, 2010b; SLR, 2010c; SLR, 2010d; SLR, 2011a; SLR, 2011b; and SLR, 2011c), including the September 2011 sampling results, the benzene and GRO

concentrations in the deep groundwater have decreased due to the operation of the system and to natural attenuation. At the source area deep well (DMW-9), the benzene and GRO concentrations in September 2011 were less than the MRL (1 µg/L) and 200 µg/L, respectively. These concentrations were 3,300 and 8,400 µg/L, respectively, lower than the concentrations in October 2008 (the last sampling event prior to activating the deep groundwater recovery/treatment system). The relatively higher dissolved methane concentrations in the remaining area of deep groundwater contamination are consistent with previous results, and indicate that the impacted groundwater occurs in a reducing (little or no oxygen) environment and that there is more biological activity where petroleum hydrocarbons are present.

If you have any questions, please call Mike Staton at (425) 471-0479.

Sincerely,

SLR International Corp

Michael D. Staton, L.G.
Principal Geologist

Attachments: Limitations
References
Tables 1, 2, and 3
Figures 1 through 3
Laboratory Analytical Reports

cc: Kurt Peterson, Cascadia Law Group PLLC (4 copies)

LIMITATIONS

The services reflected in this report were performed consistent with generally accepted professional consulting principals and practices. No other warranty, express or implied, is made. These services were performed consistent with our agreement with our client. This information is solely for the use of our client unless otherwise noted. Any reliance on this information by a third party is at such party's sole risk.

Opinions and recommendations contained herein apply to conditions existing when services were performed and are intended only for the client, purposes, location, timeframes, and project parameters indicated. We are not responsible for the impacts of any changes in environmental standards, practices, or regulations subsequent to performance of services. We do not warrant the accuracy of information supplied by others, nor the use of segregated portions of this report.

REFERENCES

SLR. 2008a. *Remedial Action Report, Former Arco Service Station #0855, 4603 Ocean Beach Highway, Longview, Washington.* July 21.

SLR. 2008b. *Quarterly Groundwater Sampling Report – July 2008 Event, Former Arco Service Station #0855, Longview, Washington.* August 29.

SLR. 2008c. *Quarterly Groundwater Sampling Report – September/October 2008 Event, Former Arco Service Station #0855, Longview, Washington.* October 29.

SLR. 2009. *Deep Groundwater Remediation System Installation and Performance Report, Former Arco Service Station #0855, Longview, Washington.* November 4.

SLR. 2010a. *Quarterly Groundwater Sampling Report – December 2009 Event, Former Arco Service Station #0855, Longview, Washington.* January 9.

SLR. 2010b. *Quarterly Groundwater Sampling Report – March 2010 Event, Former Arco Service Station #0855, Longview, Washington.* April 5.

SLR. 2010c. *Quarterly Groundwater Sampling Report – June 2010 Event, Former Arco Service Station #0855, Longview, Washington.* July 20.

SLR. 2010d. *Groundwater Sampling Report – September 2010 Event, Former Arco Service Station #0855, Longview, Washington.* October 25.

SLR. 2011a. *Groundwater Sampling Report – December 2010 Event, Former Arco Service Station #0855, Longview, Washington.* January 4.

SLR. 2011b. *Groundwater Sampling Report – March 2011 Event, Former Arco Service Station #0855, Longview, Washington.* May 23.

SLR. 2011c. *Groundwater Sampling Report – June 2011 Event, Former Arco Service Station #0855, Longview, Washington.* July 20.

Table 1
Groundwater Monitoring Data
Former Arco Service Station #0855
Longview Washington

Well Number	Top of Casing Elevation[a] (feet)	Date Measured	Depth to Groundwater[b] (feet)	Free Product Thickness (feet)	Groundwater Elevation (feet)
Shallow Monitoring Wells					
MW-1	8.34	03/27/00	4.36	NP	3.98
		05/23/00	5.20	NP	3.14
		07/20/00	5.55	NP	2.79
		10/18/00	5.41	NP	2.93
		01/18/01	4.81	NP	3.53
		04/18/01	4.58	NP	3.76
		07/17/01	5.54	NP	2.80
		10/18/01	5.26	NP	3.08
		01/16/02	4.45	NP	3.89
		07/09/03	5.80	NP	2.54
	8.25[c]	05/25/05	4.12	NP	4.13
		12/07/05	3.77	NP	4.48
		08/16/06	6.58	NP	1.67
		Well abandoned in September 2007.			
MW-2	8.76	03/27/00	3.61	NP	5.15
		05/23/00	4.64	NP	4.12
		07/20/00	5.06	NP	3.70
		10/18/00	5.19	NP	3.57
		01/18/00	3.96	NP	4.80
		04/18/01	3.83	NP	4.93
		07/17/01	5.08	NP	3.68
		10/18/01	4.83	NP	3.93
		01/16/02	3.71	NP	5.05
		07/09/03	5.36	NP	3.40
	8.89[c]	05/25/05	4.15	NP	4.74
		12/07/05	4.09	NP	4.80
		08/16/06	5.96	NP	2.93
		Well abandoned in September 2007.			
MW-3	8.78	03/27/00	5.61	NP	3.17
		05/23/00	6.46	NP	2.32
		07/20/00	7.05	NP	1.73
		10/18/00	6.84	NP	1.94
		01/18/01	6.37	NP	2.41
		04/18/01	5.46	NP	3.32
		07/17/01	6.93	NP	1.85
		10/18/01	6.47	NP	2.31
		01/16/01	4.83	NP	3.95
		07/09/03	6.72	0.02	2.08*
	8.58[c]	05/25/05	4.65	Film	3.93
		12/07/05	4.45	0.01	4.14*
		08/16/06	6.91	0.24	1.86*
		Well abandoned in September 2007.			

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Former Arco Service Station #0855
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Well Number	Top of Casing Elevation[a] (feet)	Date Measured	Depth to Groundwater[b] (feet)	Free Product Thickness (feet)	Groundwater Elevation (feet)
Shallow Monitoring Wells (continued)					
MW-4	8.78	11/15/00	6.88	NP	1.90
		01/18/01	6.78	NP	2.00
		04/18/01	6.90	NP	1.88
		07/17/01	7.50	NP	1.28
		10/18/01	6.92	NP	1.86
		01/16/02	6.15	NP	2.63
		07/09/03	7.04	NP	1.74
	8.69[c]	05/25/05	6.24	NP	2.45
		12/07/05	5.70	NP	2.99
		08/16/06	6.84	NP	1.85
		Well abandoned in September 2007.			
MW-5	8.78	11/15/00	6.54	NP	2.24
		01/18/01	6.07	NP	2.71
		04/18/01	5.46	NP	3.32
		07/17/01	6.79	NP	1.99
		10/18/01	6.50	NP	2.28
		01/16/02	5.49	NP	3.29
		07/09/03	6.86	NP	1.92
	8.67[c]	05/25/05	5.64	NP	3.03
		12/07/05	5.53	NP	3.14
		08/16/06	6.28	NP	2.39
		12/11/07	4.64	NP	4.03
		03/11/08	4.90	NP	3.77
		07/01/08	5.33	NP	3.34
		09/30/08	6.17	NP	2.50
		09/02/09	7.08	NP	1.59
		12/15/09	4.63	NP	4.04
		03/18/10	4.85	NP	3.82
		06/15/10	4.84	NP	3.83
		09/14/10	6.87	NP	1.80
		12/14/10	3.03	NP	5.64
		03/16/11	2.80	NP	5.87
		06/16/11	5.66	NP	3.01
		09/14/11	7.12	NP	1.55
MW-6	8.21	11/15/00	6.15	NP	2.06
		01/18/01	5.85	NP	2.36
		04/18/01	5.70	NP	2.51
		07/17/01	6.02	NP	2.19
		10/18/01	6.03	NP	2.18
		01/16/02	5.80	NP	2.41
		07/09/03	6.16	NP	2.05
	8.11[c]	05/25/05	4.00	NP	4.11
		12/07/05	5.70	NP	2.41
		08/16/06	6.40	NP	1.71
		Well destroyed in November 2007.			

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Well Number	Top of Casing Elevation[a] (feet)	Date Measured	Depth to Groundwater[b] (feet)	Free Product Thickness (feet)	Groundwater Elevation (feet)
Shallow Monitoring Wells (continued)					
MW-7	8.45	11/15/00	6.52	NP	1.93
		01/18/01	6.24	NP	2.21
		04/18/01	5.98	NP	2.47
		07/17/01	6.44	NP	2.01
		10/18/01	6.39	NP	2.06
		01/16/02	6.31	NP	2.14
		07/09/03	7.00	NP	1.45
	8.26[c]	05/25/05	5.61	NP	2.65
		12/07/05	6.36[d]	NP	1.90
		08/16/06	6.40	NP	1.86
		Well abandoned in September 2007.			
MW-8	6.45	05/25/05	4.50	NP	1.95
		12/07/05	3.69	NP	2.76
		08/16/06	4.67	NP	1.78
		12/11/07	3.55	NP	2.90
		03/11/08	3.51	NP	2.94
		07/01/08	4.03	NP	2.42
		09/30/08	4.19	NP	2.26
		09/02/09	4.55	NP	1.90
		12/15/09	3.31	NP	3.14
		03/18/10	3.05	NP	3.40
		06/15/10	2.48	NP	3.97
		09/14/10	4.32	NP	2.13
		12/14/10	2.70	NP	3.75
		03/16/11	2.15	NP	4.30
		06/16/11	2.37	NP	4.08
		09/14/11	4.79	NP	1.66
MW-9	9.43	05/25/05	4.66	NP	4.77
		12/07/05	4.59	NP	4.84
		08/16/06	5.23	NP	4.20
		12/11/07	4.52	NP	4.91
		03/11/08	4.65	NP	4.78
		07/01/08	5.06	NP	4.37
		09/30/08	5.08	NP	4.35
		09/02/09	5.20	NP	4.23
		12/15/09	4.51	NP	4.92
		03/18/10	4.64	NP	4.79
		06/15/10	4.72	NP	4.71
		09/14/10	4.94	NP	4.49
		12/14/10	4.66	NP	4.77
		03/16/11	3.91	NP	5.52
		06/16/11	4.83	NP	4.60
		09/14/11	5.35	NP	4.08
MW-10	9.52	05/25/05	10.30	NP	-0.78
		12/07/05	5.90	NP	3.62
		08/16/06	7.18	NP	2.34
		12/11/07	4.22	NP	5.30
		03/11/08	6.02	NP	3.50
		07/01/08	6.53	NP	2.99
		09/30/08	4.51	NP	5.01
		09/02/09	7.76	NP	1.76
		12/15/09	5.97	NP	3.55
		03/18/10	8.14	NP	1.38
		06/15/10	5.15	NP	4.37
		09/14/10	7.88	NP	1.64
		12/14/10	3.42	NP	6.10
		03/16/11	3.54	NP	5.98
		06/16/11	6.40	NP	3.12
		09/14/11	8.01	NP	1.51

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Groundwater Monitoring Data
Former Arco Service Station #0855
Longview Washington

Well Number	Top of Casing Elevation[a] (feet)	Date Measured	Depth to Groundwater[b] (feet)	Free Product Thickness (feet)	Groundwater Elevation (feet)
Shallow Monitoring Wells (continued)					
MW-11	8.16	12/07/05	3.87	NP	4.29
		08/16/06	6.10	NP	2.06
		12/11/07	3.51	NP	4.65
		03/11/08	4.86	NP	3.30
		07/01/08	5.61	NP	2.55
		09/30/08	6.56	NP	1.60
		09/02/09	7.52	NP	0.64
		12/15/09	4.35	NP	3.81
		03/18/10	4.17	NP	3.99
		06/15/10	4.22	NP	3.94
		09/14/10	6.28	NP	1.88
		12/14/10	1.86	NP	6.30
		03/16/11	2.59	NP	5.57
		06/16/11	5.43	NP	2.73
		09/14/11	8.17	NP	-0.01
MW-12	8.21	12/11/07	2.69	NP	5.52
		03/11/08	4.25	NP	3.96
		07/01/08	5.20	NP	3.01
		09/30/08	5.85	NP	2.36
		09/02/09	6.33	NP	1.88
		12/15/09	3.09	NP	5.12
		03/18/10	3.46	NP	4.75
		06/15/10	3.65	NP	4.56
		09/14/10	5.65	NP	2.56
		12/14/10	1.45	NP	6.76
		03/16/11	1.90	NP	6.31
		06/16/11	4.77	NP	3.44
		09/14/11	5.35	NP	2.86
MW-13	9.03	12/11/07	1.10	NP	7.93
		03/11/08	1.53	NP	7.50
		07/01/08	3.53	NP	5.50
		09/30/08	4.73	NP	4.30
		09/02/09	7.04	NP	1.99
		12/15/09	2.24	NP	6.79
		03/18/10	1.48	NP	7.55
		06/15/10	1.65	NP	7.38
		09/14/10	5.80	NP	3.23
		12/14/10	1.48	NP	7.55
		03/16/11	1.45	NP	7.58
		06/16/11	3.12	NP	5.91
		09/14/11	6.97	NP	2.06
MW-14	8.39	12/11/07	1.50	NP	6.89
		03/11/08	3.85	NP	4.54
		07/01/08	4.27	NP	4.12
		09/30/08	6.44	NP	1.95
		09/02/09	6.93	NP	1.46
		12/15/09	1.77	NP	6.62
		03/18/10	1.65	NP	6.74
		06/15/10	1.78	NP	6.61
		09/14/10	6.23	NP	2.16
		12/14/10	1.37	NP	7.02
		03/16/11	1.41	NP	6.98
		06/16/11	4.77	NP	3.62
		09/14/11	7.25	NP	1.14

Table 1
Groundwater Monitoring Data
Former Arco Service Station #0855
Longview Washington

Well Number	Top of Casing Elevation[a] (feet)	Date Measured	Depth to Groundwater[b] (feet)	Free Product Thickness (feet)	Groundwater Elevation (feet)
Deep Monitoring Wells					
DMW-1	8.55	12/07/05	6.73	NP	1.82
		08/16/06	6.28	NP	2.27
		Well abandoned in September 2007.			
DMW-2	8.29	12/07/05	6.10	NP	2.19
		08/16/06	6.71	NP	1.58
		Well abandoned in September 2007.			
DMW-3	6.66	12/07/05	12.15[d]	NP	-5.49
		08/16/06	4.55	NP	2.11
		12/11/07	4.60	NP	2.06
		03/11/08	5.68	NP	0.98
		07/01/08	5.52	NP	1.14
		09/30/08	5.03	NP	1.63
		09/02/09	5.19	NP	1.47
		12/15/09	4.71	NP	1.95
		03/18/10	4.55	NP	2.11
		06/15/10	4.42	NP	2.24
		09/14/10	5.01	NP	1.65
		12/14/10	4.36	NP	2.30
		03/16/11	3.95	NP	2.71
		06/16/11	4.10	NP	2.56
		09/14/11	4.73	NP	1.93
DMW-4	8.55	12/07/05	6.30	NP	2.25
		08/16/06	7.12	NP	1.43
		12/11/07	6.08	NP	2.47
		03/11/08	6.54	NP	2.01
		07/01/08	6.41	NP	2.14
		09/30/08	6.91	NP	1.64
		09/02/09	7.13	NP	1.42
		12/15/09	6.26	NP	2.29
		03/18/10	6.43	NP	2.12
		06/15/10	6.11	NP	2.44
		09/14/10	6.97	NP	1.58
		12/14/10	5.18	NP	3.37
		03/16/11	5.55	NP	3.00
		06/16/11	6.11	NP	2.44
		09/14/11	7.20	NP	1.35
DMW-5	8.14	12/07/05	5.88	NP	2.26
		08/16/06	6.57	NP	1.57
		12/11/07	5.75	NP	2.39
		03/11/08	6.14	NP	2.00
		07/01/08	5.01	NP	3.13
		09/30/08	6.52	NP	1.62
		09/02/09	6.75	NP	1.39
		12/15/09	5.87	NP	2.27
		03/18/10	6.03	NP	2.11
		06/15/10	5.68	NP	2.46
		09/14/10	6.55	NP	1.59
		12/14/10	4.80	NP	3.34
		03/16/11	5.17	NP	2.97
		06/16/11	5.69	NP	2.45
		09/14/11	6.79	NP	1.35

Table 1
Groundwater Monitoring Data
Former Arco Service Station #0855
Longview Washington

Well Number	Top of Casing Elevation[a] (feet)	Date Measured	Depth to Groundwater[b] (feet)	Free Product Thickness (feet)	Groundwater Elevation (feet)
Deep Monitoring Wells (continued)					
DMW-6	9.15	08/16/06	7.74	NP	1.41
		12/11/07	6.68	NP	2.47
		03/11/08	7.15	NP	2.00
		07/01/08	7.04	NP	2.11
		09/30/08	7.53	NP	1.62
		09/02/09	7.79	NP	1.36
		12/15/09	6.89	NP	2.26
		03/18/10	7.06	NP	2.09
		06/15/10	6.74	NP	2.41
		09/14/10	7.59	NP	1.56
		12/14/10	5.79	NP	3.36
		03/16/11	6.18	NP	2.97
		06/16/11	6.75	NP	2.40
		09/14/11	7.82	NP	1.33
DMW-7	8.12	08/16/06	6.68	NP	1.44
		12/11/07	5.68	NP	2.44
		03/11/08	6.11	NP	2.01
		07/01/08	6.02	NP	2.10
		09/30/08	6.61	NP	1.51
		09/02/09	6.74	NP	1.38
		12/15/09	5.85	NP	2.27
		03/18/10	5.93	NP	2.19
		06/15/10	5.82	NP	2.30
		09/14/10	6.55	NP	1.57
		12/14/10	5.27	NP	2.85
		03/16/11	5.15	NP	2.97
		06/16/11	5.70	NP	2.42
		09/14/11	6.64	NP	1.48
DMW-8	9.09	08/16/06	7.65	NP	1.44
		12/11/07	6.60	NP	2.49
		03/11/08	7.06	NP	2.03
		07/01/08	6.97	NP	2.12
		09/30/08	7.48	NP	1.61
		09/02/09	7.69	NP	1.40
		12/15/09	6.80	NP	2.29
		03/18/10	6.81	NP	2.28
		06/15/10	6.55	NP	2.54
		09/14/10	7.50	NP	1.59
		12/14/10	6.52	NP	2.57
		03/16/11	6.26	NP	2.83
		06/16/11	6.60	NP	2.49
		09/14/11	7.23	NP	1.86
DMW-9	8.86	12/11/07	5.39	NP	3.47
		03/11/08	6.84	NP	2.02
		07/01/08	6.85	NP	2.01
		09/30/08	7.20	NP	1.66
		09/02/09	7.44	NP	1.42
		12/15/09	6.54	NP	2.32
		03/18/10	6.69	NP	2.17
		06/15/10	6.39	NP	2.47
		09/14/10	7.23	NP	1.63
		12/14/10	5.66	NP	3.20
		03/16/11	5.87	NP	2.99
		06/16/11	6.39	NP	2.47
		09/14/11	7.46	NP	1.40

Table 1
Groundwater Monitoring Data
Former Arco Service Station #0855
Longview Washington

Well Number	Top of Casing Elevation[a] (feet)	Date Measured	Depth to Groundwater[b] (feet)	Free Product Thickness (feet)	Groundwater Elevation (feet)
Deep Monitoring Wells (continued)					
DMW-10	8.38	12/11/07	4.91	NP	3.47
		03/11/08	6.35	NP	2.03
		07/01/08	6.24	NP	2.14
		09/30/08	6.75	NP	1.63
		09/02/09	6.99	NP	1.39
		12/15/09	6.09	NP	2.29
		03/18/10	6.25	NP	2.13
		06/15/10	5.91	NP	2.47
		09/14/10	6.77	NP	1.61
		12/14/10	5.02	NP	3.36
		03/16/11	5.38	NP	3.00
		06/16/11	5.92	NP	2.46
		09/14/11	7.02	NP	1.36
Deep Recovery Well					
RW-1	8.08	09/02/09	6.69	NP	1.39
		12/15/09	5.78	NP	2.30
		03/18/10	5.96	NP	2.12
		06/15/10	5.60	NP	2.48
		12/14/10	4.70	NP	3.38
		03/16/11	5.06	NP	3.02
		06/16/11	5.61	NP	2.47
		09/14/11	6.95	NP	1.13

NOTES:

NP = Free product was not present.

[a] Top of well casing elevations were surveyed relative to NAVD 88 datum.

[b] Measurements in feet below top of well casing.

[c] Top of casing (TOC) elevation was re-surveyed in May 2005.

[d] Water in well was under pressure and rising when the cap was removed. The water level was recorded after the well cap was off for over 2 hours.

* Groundwater elevation corrected for product thickness by using the equation: Groundwater elevation = TOC elevation - depth to groundwater + (product thickness x 0.80).

Table 2
Groundwater Sample Analytical Results - Petroleum Hydrocarbons
Former Arco Service Station #0855
Longview, Washington

Well Number	Sample Date	Benzene[a] (µg/L)	Toluene[a] (µg/L)	Ethylbenzene[a] (µg/L)	Total Xylenes[a] (µg/L)	GRO[b] (µg/L)	DRO[c] (µg/L)
MTCA Method A Cleanup Levels[d]		**5**	**1,000**	**700**	**1,000**	**800**	**500**
Shallow Monitoring Wells							
MW-1	03/27/00	ND	ND	ND	ND	ND	ND
	05/23/00	ND	ND	ND	ND	ND	NA
	07/20/00	ND	ND	ND	ND	ND	NA
	10/18/00	ND	ND	1.61	ND	404	NA
	01/18/01	ND	ND	ND	ND	95.6	NA
	04/18/01	ND	ND	ND	ND	NA	NA
	07/17/01	ND	2.63	1.46	ND	386	NA
	10/18/01	ND	ND	ND	ND	ND	NA
	01/16/02	ND	ND	ND	ND	104	NA
	07/09/03	<0.50	<0.50	<0.50	<1.0	<50	<250
	05/25/05	<1.0	<1.0	<1.0	<2.0	<100	<50
	11/30/05	<1.0	<1.0	<1.0	<3.0	<100	<50
	Well abandoned in September 2007.						
MW-2	03/27/00	**6.89**	49.5	599	**2,490**	**17,100**	ND
	05/23/00	**26.2**	16.2	614	**1,770**	**13,200**	NA
	07/20/00	**11.9**	11.8	304	330	**7,220**	NA
	10/18/00	3.67	1.23	13.9	7.55	743	NA
	01/18/00	ND	ND	41.1	5.62	691	NA
	04/18/01	ND	ND	8.73	ND	NA	NA
	07/17/01	ND	1.26	14	ND	430	NA
	10/18/01	2.11	ND	3.64	ND	304	NA
	01/16/02	1.16	0.81	37.1	6.71	370	NA
	07/09/03	0.86	<0.50	6.43	1.28	131	<250
	05/30/05	<1.0	<1.0	<1.0	<2.0	<100	52
	12/01/05	<1.0	<1.0	<1.0	<3.0	120	<50
	Well abandoned in September 2007.						
MW-3	03/07/00	**7,520**	**12,900**	**2,780**	**14,500**	**93,700**	ND
	05/23/00	**4,710**	**8,330**	**2,280**	**11,200**	**65,200**	NA
	07/20/00	**10,700**	**22,600**	**3,160**	**17,400**	**145,000**	NA
	10/18/00	**12,900**	**33,000**	**4,890**	**26,700**	**179,000**	NA
	01/18/01	**9,380**	**17,200**	**3,940**	**20,230**	**121,000**	NA
	04/18/01	**7,700**	**15,300**	**3,430**	**16,990**	NA	NA
	07/17/01	**10,100**	**21,400**	**4,120**	**20,900**	**940,000**	NA
	10/18/01	**7,200**	**19,700**	**3,340**	**17,300**	**139,000**	NA
	01/16/02	**13,600**	**26,600**	**3,920**	**20,800**	**177,000**	NA
	07/09/03	**11,800**	**20,100**	**4,560**	**21,200**	**124,000**	**3,750**
	05/25/05	Not sampled due to presence of free product.					
	11/28/05	Not sampled due to presence of free product.					
	Well abandoned in September 2007.						

Table 2
Groundwater Sample Analytical Results - Petroleum Hydrocarbons
Former Arco Service Station #0855
Longview, Washington

Well Number	Sample Date	Benzene[a] (µg/L)	Toluene[a] (µg/L)	Ethylbenzene[a] (µg/L)	Total Xylenes[a] (µg/L)	GRO[b] (µg/L)	DRO[c] (µg/L)
MTCA Method A Cleanup Levels[d]		**5**	**1,000**	**700**	**1,000**	**800**	**500**
Shallow Monitoring Wells (continued)							
MW-4	11/15/00	**1,310**	53.6	**2,430**	**7,250**	**45,500**	NA
	01/18/01	**1,130**	ND	**2,030**	**2,764**	**29,400**	NA
	04/18/01	**1,280**	ND	**1,700**	**2,591**	NA	NA
	07/17/01	**1,610**	35	**2,870**	**1,870**	**34,900**	NA
	10/18/01	**1,040**	ND	**2,300**	**1,320**	**33,000**	NA
	01/16/02	**733**	ND	**920**	948	**19,300**	NA
	07/09/03	**906**	39.1	**1,350**	156	**14,100**	**798**
	05/24/05	**310**	2.90	410	185[e]	**9,600**	**2,300**
	12/01/05	**990**	140	**1,100**	**1,353**[e]	**11,000**	**2,900**[f]
	Well abandoned in September 2007.						
MW-5	11/15/00	ND	ND	ND	ND	ND	NA
	01/18/01	ND	ND	ND	ND	786	NA
	04/18/01	**9.42**	ND	6.76	10.1	NA	NA
	07/17/01	1.83	1.16	1.90	3.28	694	NA
	10/18/01	3.05	1.39	1.48	1.45	647	NA
	01/16/02	**52.3**	3.82	48	24.9	**2,800**	NA
	07/09/03	1.26	0.99	1.54	4.64	615	<250
	05/24/05	<1.0	<1.0	<1.0	<2.0	460	120
	11/28/05	<1.0	<1.0	<1.0	<3.0	420	230[f]
	12/11/07	<1.0	<1.0	<1.0	<3.0	140	<50
	03/11/08	<1.0	<1.0	<1.0	<3.0	<100	<50
	07/02/08	<1.0	<1.0	<1.0	<3.0	<100	<50
	10/02/08	<1.0	<1.0	<1.0	<3.0	<100	NA
	09/03/09	<1.0	<1.0	<1.0	<3.0	<100	NA
	09/14/10	<1.0	<1.0	<1.0	<3.0	<100	NA
	09/14/11	<1.0	<1.0	<1.0	<3.0	<100	NA
MW-6	11/15/00	ND	ND	ND	ND	131	NA
	01/18/01	ND	ND	ND	ND	732	NA
	04/18/01	ND	ND	ND	ND	NA	NA
	07/17/01	ND	1.35	1.33	5.79	**892**	NA
	10/18/01	ND	ND	2.60	5.48	**1,000**	NA
	01/16/02	ND	0.72	1.58	2.78	**810**	NA
	07/09/03	<0.50	0.53	1.15	4.84	462	**958**
	05/25/05	<1.0	<1.0	<1.0	<2.0	370	270
	11/28/05	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	Well destroyed in November 2007.						
MW-7	11/15/00	ND	ND	ND	1.35	113	NA
	01/18/01	ND	ND	ND	ND	242	NA
	04/18/01	ND	ND	ND	ND	NA	NA
	07/17/01	ND	ND	ND	ND	275	NA
	10/18/01	ND	ND	ND	ND	286	NA
	01/16/02	ND	ND	ND	ND	362	NA
	07/09/03	<0.50	<0.50	<0.50	1.48	232	**2,050**
	05/25/05	<1.0	<1.0	<1.0	<2.0	<100	220
	11/30/05	<1.0	<1.0	<1.0	<3.0	<100	140
	Well abandoned in September 2007.						

Table 2
Groundwater Sample Analytical Results - Petroleum Hydrocarbons
Former Arco Service Station #0855
Longview, Washington

Well Number	Sample Date	Benzene[a] (µg/L)	Toluene[a] (µg/L)	Ethylbenzene[a] (µg/L)	Total Xylenes[a] (µg/L)	GRO[b] (µg/L)	DRO[c] (µg/L)
MTCA Method A Cleanup Levels[d]		**5**	**1,000**	**700**	**1,000**	**800**	**500**
Shallow Monitoring Wells (continued)							
MW-8	05/25/05	<1.0	<1.0	<1.0	<3.0	<100	<70
	11/29/05	<1.0	<1.0	<1.0	<3.0	<100	<50
	12/11/07	<1.0	<1.0	<1.0	<3.0	<100	<50
	03/11/08	<1.0	<1.0	<1.0	<3.0	<100	<50
	07/01/08	<1.0	<1.0	<1.0	<3.0	<100	<50
	10/01/08	<1.0	<1.0	<1.0	<3.0	<100	NA
	09/03/09	<1.0	<1.0	<1.0	<3.0	<100	NA
	09/14/10	<1.0	<1.0	<1.0	<3.0	<100	NA
	09/14/11	<1.0	<1.0	<1.0	<3.0	<100	NA
MW-9	05/25/05	<1.0	<1.0	<1.0	<3.0	<100	<50
	11/28/05	<1.0	<1.0	<1.0	<3.0	<100	<50
	12/11/07	<1.0	<1.0	<1.0	<3.0	<100	<50
	03/11/08	<1.0	<1.0	<1.0	<3.0	<100	<50
	07/02/08	<1.0	<1.0	<1.0	<3.0	<100	<50
	10/02/08	<1.0	<1.0	<1.0	<3.0	<100	NA
	09/03/09	<1.0	<1.0	<1.0	<3.0	<100	NA
	09/14/10	<1.0	<1.0	<1.0	<3.0	<100	NA
	09/14/11	<1.0	<1.0	<1.0	<3.0	<100	NA
MW-10	05/25/05	**45**	<1.0	110	<2.0	**1,000**	**1,200**
	11/30/05	**31**	<1.0	110	<3.0	**1,400**	**1,000[f]**
	12/11/07	**9.0**	3.0	65	<3.0	**3,100**	**1,000[g]**
	03/11/08	**16**	2.0	40	<3.0	**3,000**	**1,200[g]**
	07/03/08	**18**	2.0	53	41	**2,500**	**1,100[g]**
	10/02/08	<1.0	<1.0	<1.0	<3.0	**1,300**	NA
	09/03/09	<1.0	<1.0	2.0	<3.0	200	NA
	12/15/09	3.0	<1.0	11	<3.0	310	NA
	03/18/10	<1.0	<1.0	<1.0	<3.0	<100	NA
	06/15/10	<1.0	<1.0	<1.0	<3.0	170	NA
	09/14/10	<1.0	<1.0	<1.0	<3.0	180	NA
	09/14/11	1.5	<1.0	<1.0	<3.0	120	NA
MW-11	12/05/05	<1.0	<1.0	<1.0	<3.0	<100	<50
	12/11/07	<1.0	<1.0	<1.0	<3.0	<100	<50
	03/11/08	<1.0	<1.0	<1.0	<3.0	<100	<50
	07/02/08	<1.0	<1.0	<1.0	<3.0	<100	<50
	10/02/08	<1.0	<1.0	<1.0	<3.0	<100	NA
	09/03/09	<1.0	<1.0	<1.0	<3.0	<100	NA
	09/14/10	<1.0	<1.0	<1.0	<3.0	<100	NA
	09/14/11	<1.0	<1.0	<1.0	<3.0	<100	NA

Table 2
Groundwater Sample Analytical Results - Petroleum Hydrocarbons
Former Arco Service Station #0855
Longview, Washington

Well Number	Sample Date	Benzene[a] (µg/L)	Toluene[a] (µg/L)	Ethylbenzene[a] (µg/L)	Total Xylenes[a] (µg/L)	GRO[b] (µg/L)	DRO[c] (µg/L)
MTCA Method A Cleanup Levels[d]		**5**	**1,000**	**700**	**1,000**	**800**	**500**
Shallow Monitoring Wells (continued)							
MW-12	12/11/07	<1.0	<1.0	<1.0	<3.0	<100	<50
	03/11/08	<1.0	<1.0	<1.0	<3.0	<100	<50
	07/02/08	<1.0	<1.0	<1.0	<3.0	<100	<50
	10/02/08	<1.0	<1.0	<1.0	<3.0	<100	NA
	09/03/09	<1.0	<1.0	<1.0	<3.0	<100	NA
	09/14/10	<1.0	<1.0	<1.0	<3.0	<100	NA
	09/14/11	<1.0	<1.0	<1.0	<3.0	<100	NA
MW-13	12/11/07	<1.0	<1.0	<1.0	<3.0	<100	<50
	03/11/08	<1.0	<1.0	<1.0	<3.0	<100	<50
	07/03/08	<1.0	<1.0	<1.0	<3.0	<100	<50
	10/02/08	<1.0	<1.0	<1.0	<3.0	<100	NA
	09/03/09	<1.0	<1.0	<1.0	<3.0	<100	NA
	09/14/10	<1.0	<1.0	<1.0	<3.0	<100	NA
	09/14/11	<1.0	<1.0	<1.0	<3.0	<100	NA
MW-14	12/11/07	<1.0	<1.0	<1.0	<3.0	<100	<50
	03/11/08	<1.0	<1.0	<1.0	<3.0	<100	50
	07/02/08	<1.0	<1.0	<1.0	<3.0	<100	<50
	10/01/08	<1.0	<1.0	<1.0	<3.0	<100	NA
	09/03/09	<1.0	<1.0	<1.0	<3.0	<100	NA
	09/14/10	<1.0	<1.0	<1.0	<3.0	<100	NA
	09/14/11	<1.0	<1.0	<1.0	<3.0	<100	NA
Deep Monitoring Wells							
DMW-1	12/07/05	**4,000**	160	**1,100**	**4,090[e]**	**22,000**	**2,900[f]**
	08/17/06	**4,100**	<1.0	**520**	**841[e]**	**16,000**	**930[f]**
	Well abandoned in September 2007.						
DMW-2	12/07/05	**11**	<1.0	40	46[f]	270	<50
	08/16/06	**10**	<1.0	5.6	<3.0	<100	<50
	Well abandoned in September 2007.						
DMW-3	12/07/05	<1.0	<1.0	<1.0	<3.0	<50	<50
	08/17/06	<1.0	<1.0	<1.0	<3.0	<100	<50
	12/11/07	<1.0	<1.0	<1.0	<3.0	<100	<50
	03/11/08	<1.0	<1.0	<1.0	<3.0	<100	<50
	07/02/08	<1.0	<1.0	<1.0	<3.0	<100	<50
	10/01/08	<1.0	<1.0	<1.0	<3.0	<100	NA
	09/03/09	<1.0	<1.0	<1.0	<3.0	<100	NA
	09/14/10	<1.0	<1.0	<1.0	<3.0	<100	NA
	09/14/11	<1.0	<1.0	<1.0	<3.0	<100	NA
DMW-4	12/05/05	**56**	<1.0	<1.0	<3.0	230	<50
	08/17/06	**5.7**	<1.0	<1.0	<3.0	210	<50
	12/11/07	**27**	3.0	2.0	4.0	260	<50
	03/11/08	**6.0**	<1.0	<1.0	<3.0	230	68[g]
	07/02/08	<1.0	<1.0	<1.0	<3.0	<100	<50
	10/02/08	<1.0	<1.0	<1.0	<3.0	<100	NA
	09/03/09	<1.0	<1.0	<1.0	<3.0	<100	NA
	09/14/10	<1.0	1.2	<1.0	3.3	<100	NA
	09/14/11	<1.0	<1.0	<1.0	<3.0	<100	NA

Table 2
Groundwater Sample Analytical Results - Petroleum Hydrocarbons
Former Arco Service Station #0855
Longview, Washington

Well Number	Sample Date	Benzene[a] (µg/L)	Toluene[a] (µg/L)	Ethylbenzene[a] (µg/L)	Total Xylenes[a] (µg/L)	GRO[b] (µg/L)	DRO[c] (µg/L)
MTCA Method A Cleanup Levels[d]		**5**	**1,000**	**700**	**1,000**	**800**	**500**
Deep Monitoring Wells (continued)							
DMW-5	12/05/05	**36**	<1.0	<1.0	<3.0	130	<50
	08/17/06	**74**	<1.0	<1.0	<3.0	170	<50
	12/11/07	**41**	<1.0	<1.0	<3.0	100	<50
	03/11/08	**10**	<1.0	<1.0	<3.0	<100	<50
	07/02/08	1.0	<1.0	<1.0	<3.0	<100	<50
	10/01/08	**42**	<1.0	<1.0	<3.0	110	NA
	09/03/09	<1.0	<1.0	<1.0	<3.0	<100	NA
	12/15/09	1.0	<1.0	<1.0	<3.0	<100	NA
	03/18/10	**13**	<1.0	<1.0	<3.0	<100	NA
	06/15/10	**13**	<1.0	<1.0	<3.0	<100	NA
	09/14/10	<1.0	<1.0	<1.0	<3.0	<100	NA
	12/14/10	**9.0**	<1.0	<1.0	<3.0	<100	NA
	03/16/11	**11**	<1.0	<1.0	<3.0	<100	NA
	06/16/11	<1.0	<1.0	<1.0	<3.0	<100	NA
	09/14/11	<1.0	<1.0	<1.0	<3.0	<100	NA
DMW-6	08/16/06	<1.0	<1.0	<1.0	<3.0	<100	<50
	12/11/07	<1.0	<1.0	<1.0	<3.0	<100	<50
	03/11/08	<1.0	<1.0	<1.0	<3.0	<100	<50
	07/02/08	<1.0	<1.0	<1.0	<3.0	<100	<50
	10/02/08	<1.0	<1.0	<1.0	<3.0	<100	NA
	09/03/09	<1.0	<1.0	<1.0	<3.0	<100	NA
	09/14/10	<1.0	<1.0	<1.0	<3.0	<100	NA
	09/14/11	<1.0	<1.0	<1.0	<3.0	<100	NA
DMW-7	08/16/06	<1.0	<1.0	<1.0	<3.0	<100	<50
	12/11/07	<1.0	<1.0	<1.0	<3.0	<100	<50
	03/11/08	<1.0	<1.0	<1.0	<3.0	<100	<50
	07/01/08	<1.0	<1.0	<1.0	<3.0	<100	<50
	10/01/08	<1.0	<1.0	<1.0	<3.0	<100	NA
	09/03/09	<1.0	<1.0	<1.0	<3.0	<100	NA
	09/14/10	<1.0	<1.0	<1.0	<3.0	<100	NA
	09/14/11	<1.0	<1.0	<1.0	<3.0	<100	NA
DMW-8	08/16/06	<1.0	<1.0	<1.0	<3.0	<100	<50
	12/11/07	<1.0	<1.0	<1.0	<3.0	<100	<50
	03/11/08	<1.0	<1.0	<1.0	<3.0	<100	<50
	07/02/08	<1.0	<1.0	<1.0	<3.0	<100	<50
	10/02/08	<1.0	<1.0	<1.0	<3.0	<100	NA
	09/03/09	<1.0	<1.0	<1.0	<3.0	<100	NA
	09/14/10	<1.0	<1.0	<1.0	<3.0	<100	NA
	09/14/11	<1.0	<1.0	<1.0	<3.0	<100	NA

Table 2
Groundwater Sample Analytical Results - Petroleum Hydrocarbons
Former Arco Service Station #0855
Longview, Washington

Well Number	Sample Date	Benzene[a] (µg/L)	Toluene[a] (µg/L)	Ethylbenzene[a] (µg/L)	Total Xylenes[a] (µg/L)	GRO[b] (µg/L)	DRO[c] (µg/L)
MTCA Method A Cleanup Levels[d]		**5**	**1,000**	**700**	**1,000**	**800**	**500**
Deep Monitoring Wells (continued)							
DMW-9	12/11/07	**6,100**	**1,900**	**970**	**3,100**	**27,000**	**600[g]**
	03/11/08	**3,000**	150	380	880	**13,000**	450[g]
	07/03/08	**3,600**	3.0	320	610	**9,500**	**520[g]**
	10/02/08	**3,300**	4.0	140	270	**8,600**	NA
	09/03/09	**2,800**	4.0	320	**1,100**	**14,000**	NA
	12/15/09	**980**	2.0	<1.0	**1,100**	**5,300**	NA
	03/18/10	**190**	<1.0	10	200	**1,600**	NA
	06/15/10	**50**	<1.0	9.1	60	630	NA
	09/14/10	**210**	<1.0	5.2	120	**1,000**	NA
	12/14/10	3.3	<1.0	1.3	9.8	320	NA
	03/16/11	**14**	<1.0	2.0	3.7	310	NA
	06/16/11	**87**	<1.0	<1.0	33	700	NA
	09/14/11	<1.0	<1.0	<1.0	3.4	200	NA
DMW-10	12/11/07	**60**	4.0	88	130	750	53[g]
	03/11/08	**75**	4.0	140	120	**1,000**	74[g]
	07/02/08	**89**	6.0	160	130	**1,100**	68[g]
	10/01/08	**90**	5.0	120	25	**820**	NA
	09/03/09	**9.0**	<1.0	2.0	<3.0	<100	NA
	12/15/09	**20**	<1.0	13	7.0	150	NA
	03/18/10	**41**	<1.0	21	13	310	NA
	06/15/10	**34**	2.3	14	12	340	NA
	09/14/10	**12**	<1.0	<1.0	<3.0	<100	NA
	12/14/10	**32**	1.7	7.1	11	120	NA
	03/16/11	**27**	1.2	8.2	11	220	NA
	06/16/11	**27**	1.8	<1.0	9.9	130	NA
	09/14/11	**20**	<1.0	<1.0	3.9	140	NA

NOTES: Values in bold exceed the MTCA Method A cleanup levels.

All concentrations in micrograms per liter (µg/L).

ND = Not detected above the laboratory method reporting limit (MRL).

NA = Not analyzed.

[a] Benzene, toluene, ethylbenzene, and total xylenes (BTEX) by EPA Method 8021B or EPA Method 8260B.

[b] Gasoline-range organics (GRO) by Ecology Method NWTPH-Gx.

[c] Diesel-range organics (DRO) by Ecology Method NWTPH-Dx.

[d] Chapter 173-340 WAC, Model Toxics Control Act (MTCA) Cleanup Regulation, Method A Cleanup Levels. Amended February 12, 2001.

[e] Total xylenes calculated by using the formula: total xylenes concentration = (m, p-xylene concentration) + (o-xylene concentration).

[f] The laboratory reported that the DRO concentration is due to overlap from the gasoline range.

[g] The laboratory reported that the pattern of chromatogram peaks from the sample were not indicative of diesel.

Table 3
Groundwater Sample Analytical Results - Natural Attenuation Parameters
Former Arco Service Station #0855
Longview, Washington

Sample Location	Sample Date	Nitrate[a] (mg/L)	Sulfate[a] (mg/L)	Dissolved Methane[b] (mg/L)	Dissolved Oxygen[c] (mg/L)	Dissolved Manganese[d] (mg/L)	Dissolved Ferrous Iron[e] (mg/L)	Alkalinity[f] (mg/L $CaCO^3$)	Redox Potential[g] (mV)
Shallow Wells									
MW-5	12/12/07	12.2	969	0.6	0.2	2.9	5.0	10.3	119
	03/13/08	2.3	341	<0.007	0.4	2.5	3.3	19.3	-123
	07/02/08	0.5	275	0.5	0.1	1.4	NM	80.8	10.0
	10/02/08	0.6	288	0.5	1.7	1.9	2.9	106	92.8
	09/03/09	<0.1	202	0.3	0.6	1.4	4.6	49.4	-67.4
	09/14/10	0.07	202	0.03	3.5	1.7	2.2	37.8	33.7
	09/14/11	<0.01	129	0.1	0.2	1.3	4.2	63.8	30.4
MW-8	12/12/07	<0.01	4.8	0.1	1.9	0.5	1.7	33.3	248
	03/13/08	<0.2	6.6	0.001	0.7	0.4	2.1	57.6	-140
	07/01/08	<0.1	14.0	2.0	0.2	0.4	NM	73.0	-78.9
	10/01/08	<0.1	15.9	1.1	1.3	0.5	3.6	74.1	-49.3
	09/03/09	<0.1	0.1	1.5	0.7	0.4	4.4	67.4	-110.3
	09/14/10	0.02	1.4	0.3	2.8	0.5	3.2	75.9	-70.6
	09/14/11	0.03	<1.0	1.5	0.2	0.4	4.2	80.0	-71.6
MW-9	12/12/07	0.5	5.0	0.0008	4.0	0.004	<0.1	40.1	237
	03/13/08	0.5	8.5	3.3	3.2	0.01	0.6	39.7	-33.5
	07/02/08	1.2	36.4	<0.0007	2.2	0.02	NM	80.2	85.6
	10/02/08	0.3	8.0	0.004	2.8	0.4	0.6	51.6	135
	09/03/09	0.3	9.3	0.010	1.9	0.5	0.4	52.9	-123
	09/14/10	1.8	25.2	0.02	4.1	0.01	<0.1	118	39.3
	09/14/11	0.09	6.1	0.01	0.4	1.6	<0.1	82.0	57.2
MW-10	12/12/07	0.04	74.9	6.5	3.0	2.4	2.0	174	294
	03/13/08	<0.2	186	1.8	2.1	2.2	3.1	160	-117
	07/02/08	<0.2	199	7.3	0.1	3.3	NM	232	15.2
	10/02/08	<0.1	69.0	1.7	1.3	2.1	3.0	181	111
	09/03/09	<0.1	34.3	7.9	1.3	1.4	3.0	180	111
	09/14/10	0.2	11.3	0.9	2.4	1.6	3.0	122	-24.6
	09/14/11	0.03	1.3	1.5	0.4	1.2	2.0	172	-81.6
MW-11	12/12/07	0.8	643	0.1	0.6	1.8	3.8	28.4	200
	03/13/08	0.4	199	<0.0007	0.6	2.5	1.4	45.1	-81.5
	07/02/08	0.04	162	0.2	0.2	1.0	NM	89.4	25.4
	10/02/08	<0.1	89.5	0.4	1.5	1.8	2.4	138	27.1
	09/03/09	<0.1	82.6	0.6	0.7	1.6	4.4	126	-88.1
	09/14/10	0.3	86.4	0.03	1.5	1.2	2.7	112	-67.4
	09/14/11	0.03	112	0.4	0.3	1.6	2.0	180	-48.4
MW-12	12/12/07	37.0	1,500	0.2	0.7	5.3	3.8	6.9	178
	03/13/08	27.5	1,060	0.0009	0.8	6.8	<0.1	58.8	-147
	07/02/08	<0.1	204	0.5	0.2	8.3	NM	52.3	83.7
	10/02/08	0.4	1,280	0.3	0.9	11.3	<0.1	91.8	141
	09/03/09	<0.1	882	0.8	1.7	11.5	1.2	146	-117
	09/14/10	0.02	547	0.03	2.8	6.6	<0.1	187	32.7
	09/14/11	<0.01	912	0.21	0.6	8.1	0.4	226	55.3
MW-13	12/12/07	31.7	1,590	0.04	NM	8.7	<0.1	70.7	236
	03/13/08	21.5	1,540	0.005	0.6	9.1	<0.1	218	-113
	07/03/08	4.5	1,420	0.007	0.1	9.8	NM	133	21.9
	10/02/08	1.9	1,800	0.02	1.3	16.3	<0.1	152	376
	09/03/09	<0.1	805	0.1	0.6	11.3	0.2	96	-66.8
	09/14/10	0.07	1,038	0.05	2.2	9.8	<0.1	74.2	64.8
	09/14/11	<0.01	775	0.01	0.5	6.0	<0.1	71.0	94.1

Table 3
Groundwater Sample Analytical Results - Natural Attenuation Parameters
Former Arco Service Station #0855
Longview, Washington

Sample Location	Sample Date	Nitrate[a] (mg/L)	Sulfate[a] (mg/L)	Dissolved Methane[b] (mg/L)	Dissolved Oxygen[c] (mg/L)	Dissolved Manganese[d] (mg/L)	Dissolved Ferrous Iron[e] (mg/L)	Alkalinity[f] (mg/L $CaCO^3$)	Redox Potential[g] (mV)
Shallow Wells (continued)									
MW-14	12/12/07	16.7	1,190	0.07	2.5	9.4	0.2	16.0	215
	03/13/08	5.7	945	0.0009	2.4	7.1	1.2	57.8	-164
	07/02/08	1.0	891	<0.0007	0.3	2.4	NM	43.4	28.7
	10/01/08	0.3	879	<0.0007	1.6	1.9	<0.1	80.7	547
	09/03/09	<0.1	444	0.10	0.7	1.1	<0.1	45.4	-108
	09/14/10	0.05	294	<0.005	2.7	0.02	<0.1	24.8	91.9
	09/14/11	0.01	154	<0.005	0.4	0.004	<0.1	23.7	128.9
Deep Wells									
DMW-3	12/12/07	<0.05	31.8	1.6	3.8	2.8	1.0	220	256
	03/13/08	<0.2	23.4	2.5	2.0	2.6	3.0	197	-129
	07/02/08	<0.1	43.9	1.6	0.2	2.3	NM	214	-96.2
	10/01/08	<0.1	22.2	2.2	1.3	2.8	3.5	210	276
	09/03/09	<0.1	8.8	1.4	1.3	2.3	3.5	220	276
	09/14/10	0.04	<1.0	0.2	3.0	1.9	2.5	155	-114
	09/14/11	0.01	5.5	0.8	0.5	1.6	2.8	191	-65.7
DMW-4	12/12/07	<0.01	22.4	10.1	0.1	2.2	3.6	174	105
	03/13/08	<0.2	297	0.0009	0.2	15.5	4.6	22.2	-137
	07/02/08	3.4	1,040	1.6	0.1	2.3	NM	65.8	-86.8
	10/02/08	<0.2	309	0.9	1.1	3.4	3.0	72.7	-18.4
	09/03/09	<0.1	24.4	4.2	1.5	1.7	4.4	178	-93.0
	09/14/10	0.03	50.6	0.4	3.4	2.1	2.2	133	-75.3
	09/14/11	0.03	106	2.1	0.3	1.2	3.0	111	-57.1
DMW-5	12/12/07	<0.01	13.0	13.7	0.1	2.3	3.4	177	102
	03/13/08	<0.2	10.3	8.2	0.2	2.9	3.6	180	-128
	07/02/08	<0.1	42.6	8.8	0.4	2.5	NM	221	-101
	10/01/08	<0.1	7.7	5.9	1.4	2.4	NM	166	48.6
	09/03/09	<0.05	33.6	4.2	1.7	1.6	2.8	126	-318
	09/14/10	0.01	<1.0	0.3	1.5	1.7	3.0	109	-82.7
	09/14/11	0.02	32.1	2.1	0.5	1.3	2.0	118	-74.7
DMW-6	12/12/07	<0.01	8.0	11.7	0.2	1.7	2.2	104	121
	03/13/08	<0.2	7.5	9.5	0.2	4.3	2.2	112	-137
	07/02/08	<0.1	54.0	7.6	0.1	2.0	NM	149	-86.1
	10/02/08	<0.1	39.0	6.4	1.1	2.0	2.6	154	-25.6
	09/03/09	<0.1	<0.1	9.5	0.5	1.7	4.2	146	-117.0
	09/14/10	0.02	1.3	0.9	1.9	1.9	5.1	124	-73.1
	09/14/11	0.02	6.3	6.8	0.5	1.9	3.0	150	-78.2
DMW-7	12/12/07	<0.01	23.3	9.1	0.3	3.7	3.1	158	93.6
	03/13/08	<0.2	29.6	8.3	0.4	12.4	3.0	155	-172
	07/01/08	<0.1	53.3	5.6	0.2	5.6	NM	195	-88.1
	10/01/08	<0.2	34.7	5.2	1.5	6.4	3.0	203	6.9
	09/03/09	<0.05	18.0	5.9	2.2	3.5	4.2	174	-261.0
	09/14/10	0.03	2.5	0.8	3.4	4.4	3.8	169	-93.5
	09/14/11	0.02	<1.0	6.1	0.7	4.3	5.2	236	-74.7
DMW-8	12/12/07	0.01	6.2	3.8	0.2	1.9	4.4	133	109
	03/13/08	<0.2	17.6	2.0	0.3	2.1	3.1	107	-160
	07/02/08	<0.1	37.0	1.6	0.2	1.8	NM	109	-5.9
	10/02/08	<0.1	26.8	2.0	1.2	2.0	2.6	151	1,103
	09/03/09	<0.05	23.2	3.1	1.7	1.9	3.6	142	-290
	09/14/10	0.03	1.3	0.4	1.4	2.0	3.1	127	-64.6
	09/14/11	0.02	34.5	2.6	0.3	1.7	2.6	128	-79.8

Table 3
Groundwater Sample Analytical Results - Natural Attenuation Parameters
Former Arco Service Station #0855
Longview, Washington

Sample Location	Sample Date	Nitrate[a] (mg/L)	Sulfate[a] (mg/L)	Dissolved Methane[b] (mg/L)	Dissolved Oxygen[c] (mg/L)	Dissolved Manganese[d] (mg/L)	Dissolved Ferrous Iron[e] (mg/L)	Alkalinity[f] (mg/L $CaCO^3$)	Redox Potential[g] (mV)
Deep Wells (continued)									
DMW-9	12/12/07	<0.01	55.7	27.4	0.2	1.9	5.7	270	113
	03/13/08	<0.5	32.2	19.8	0.2	3.4	3.7	355	-128
	07/03/08	<0.1	38.9	21.1	0.2	2.6	NM	406	-83.8
	10/02/08	<0.1	20.0	21.0	1.2	2.8	2.7	451	4.0
	09/03/09	<0.1	<0.1	20.6	0.7	2.1	4.2	330	-120.0
	09/14/10	0.03	<1.0	2.2	3.6	2.1	5.3	311	-89.2
	09/14/11	0.04	52.4	18.6	0.5	2.1	2.4	342	-71.8
DMW-10	12/12/07	<0.01	24.2	11.3	0.09	3.0	3.6	191	92.5
	03/13/08	<0.2	7.7	8.1	0.1	5.4	3.1	227	-94.2
	07/02/08	<0.1	27.9	11.0	0.3	4.0	NM	266	-113
	10/01/08	<0.2	5.3	11.5	1.5	4.5	4.4	271	-0.6
	09/03/09	<0.05	32.7	2.9	1.1	2.1	2.8	117	-343.0
	09/14/10	0.02	<1.0	3.7	1.2	1.7	3.9	93	-96.4
	09/14/11	0.03	59.9	3.2	0.3	1.8	3.4	132	-77.4

NOTES:

NM = Not measured.

mg/L = milligrams per liter (ppm).

[a] Nitrate by EPA Method 353.2.

[a] Sulfate by EPA Method 375.2.

[b] Dissolved methane by EPA Method RSK 175 Modified.

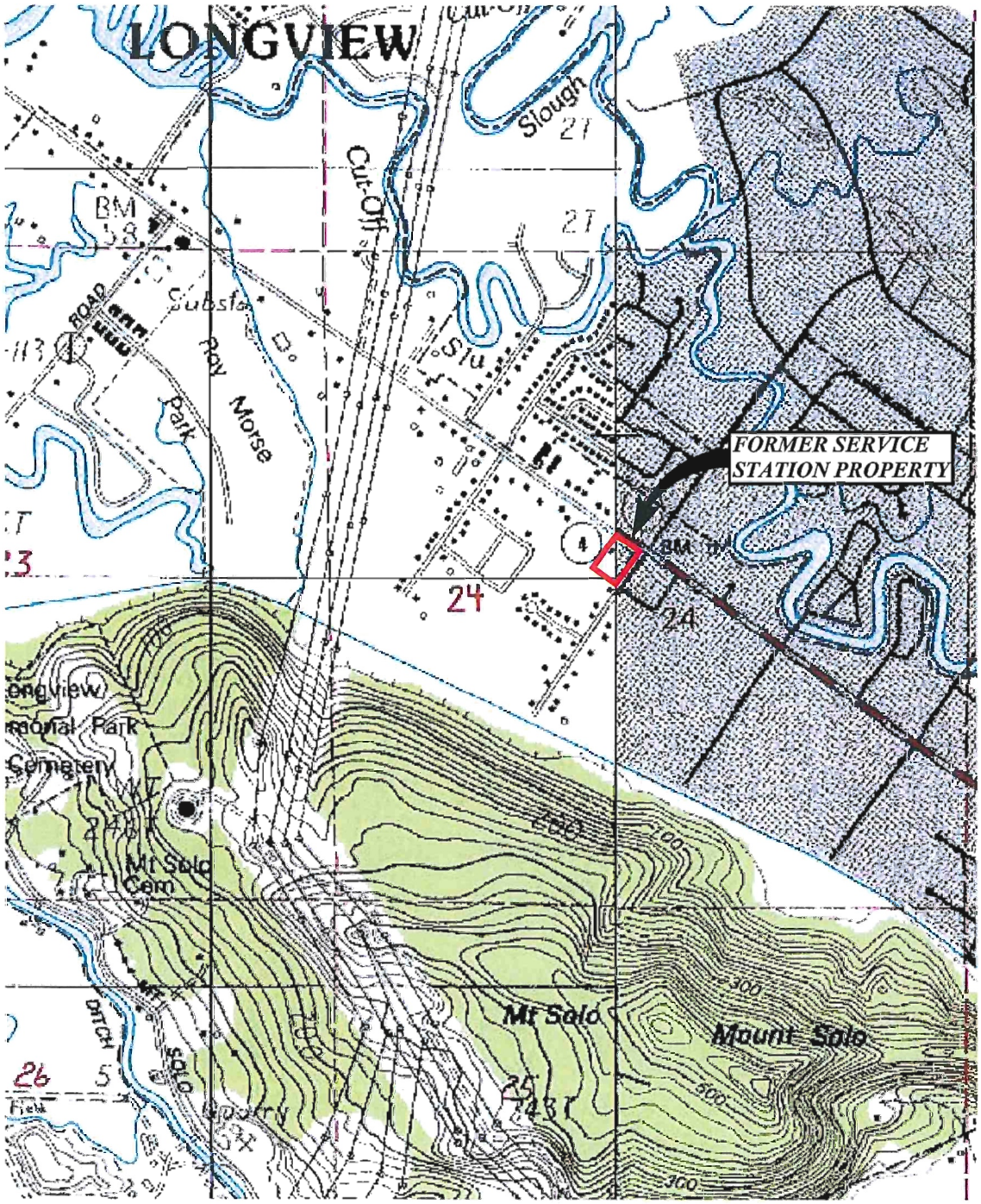
[c] Dissolved oxygen by EPA Method 360.1 (field instrument reading).

[d] Dissolved manganese by EPA Method 200.8.

[e] Dissolved ferrous iron by Standard Method SM 3500 (field test kit).

[f] Alkalinity by Standard Method SM 2320.

[g] Oxidation-reduction (redox) potential by EPA Method D1498-76 (field instrument reading).



WASHINGTON

0 1500 3000

SCALE IN FEET

SOURCE: USGS 7.5 Minute Quadrangles Kelso, 1970 Contour Interval 20 Feet and Abernathy Mtn., 1986 Contour Interval 20 Feet.

SLR

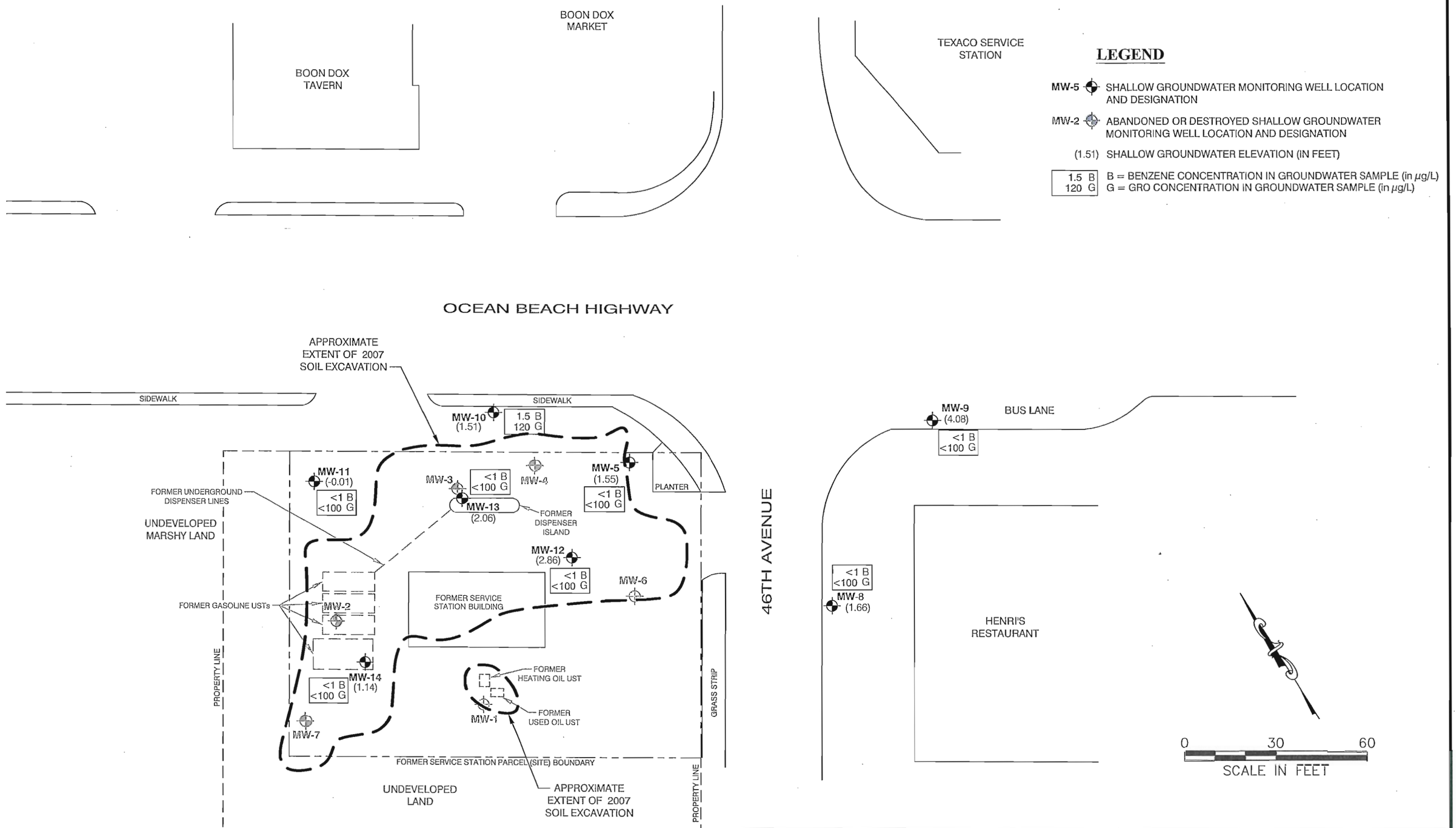
22118 20th AVE SE
BUILDING G, SUITE 202
BOTHELL, WA 98021

T: 425-402-8800
F: 425-402-8488

DATE 01/10
DWN. BDT
APPR. MJS
REVIS.
PROJECT NO.
101.00173.00010

FIGURE 1
FORMER ARCO SERVICE STATION #0855
LONGVIEW, WASHINGTON

PROPERTY LOCATION MAP



SLR
22118 20th AVE SE
BUILDING G, SUITE 202
BOTHELL, WA 98021
T: 425-402-8800
F: 425-402-8488

DATE	10/11
DWN.	HRK
APPR.	MDS
REVIS.	
PROJECT NO.	101.00173.00010

FIGURE 2
FORMER ARCO SERVICE STATION #0855
LONGVIEW, WASHINGTON

SHALLOW GROUNDWATER SAMPLING RESULTS
SEPTEMBER 14, 2011

BOON DOX MARKET

BOON DOX TAVERN

TEXACO SERVICE STATION

<1 B
<100 G
DMW-7
(1.48)

LEGEND

DMW-7 ⊙ DEEP GROUNDWATER MONITORING WELL LOCATION AND DESIGNATION

RW-1 △ INACTIVE DEEP GROUNDWATER RECOVERY WELL LOCATION AND LOCATION

DMW-1 ⊙ ABANDONED DEEP GROUNDWATER MONITORING WELL LOCATION AND DESIGNATION

(1.40) DEEP GROUNDWATER ELEVATION (IN FEET)

20 B
140 G
B = BENZENE CONCENTRATION IN GROUNDWATER SAMPLE (in µg/L)
G = GRO CONCENTRATION IN GROUNDWATER SAMPLE (in µg/L)

VALUES IN BOLD EXCEED MTCA METHOD A CLEANUP LEVELS

NM= NOT MEASURED

OCEAN BEACH HIGHWAY

SIDEWALK

DMW-8
(1.86)
<1 B
<100 G

SIDEWALK

<1 B
<100 G
DMW-6
(1.33)

BUS LANE

DMW-5
(1.35)
<1 B
<100 G

DMW-1
DMW-9
(1.40)
<1 B
200 G

DMW-4
(1.35)
PLANTER
<1 B
<100 G

FORMER UNDERGROUND DISPENSER LINES

UNDEVELOPED MARSHY LAND

RW-1
(1.13)

FORMER DISPENSER ISLAND

46TH AVENUE

FORMER GASOLINE USTs

FORMER SERVICE STATION BUILDING

DMW-10
(1.36)
20 B
140 G

DMW-2

PROPERTY LINE

FORMER HEATING OIL UST

FORMER USED OIL UST

GRASS STRIP

<1 B
<100 G
DMW-3
(1.93)

FORMER SERVICE STATION PARCEL (SITE) BOUNDARY

UNDEVELOPED LAND

PROPERTY LINE

HENRI'S RESTAURANT

0 30 60
SCALE IN FEET

SLR
22118 20th AVE SE
BUILDING G, SUITE 202
BOTHELL, WA 98021
T: 425-402-8800
F: 425-402-8488

DATE 10/11
DWN. HRK
APPR. MDS
REVIS.
PROJECT NO.
101.00173.00010

FIGURE 3
FORMER ARCO SERVICE STATION #0855
LONGVIEW, WASHINGTON

DEEP GROUNDWATER SAMPLING RESULTS SEPTEMBER 14, 2011

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Charlene Morrow, M.S.
Yelena Aravkina, M.S.
Bradley T. Benson, B.S.
Kurt Johnson, B.S.

3012 16th Avenue West
Seattle, WA 98119-2029
TEL: (206) 285-8282
FAX: (206) 283-5044
e-mail: fbi@isomedia.com

September 30, 2011

Mike Staton, Project Manager
SLR International Corp.
22118 20th Ave. SE., G-202
Bothell, WA 98021

Dear Mr. Staton:

Included are the results from the testing of material submitted on September 14, 2011 from the 101.00173.00010, F&BI 109173 project. There are 12 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Kurt Johnson
Chemist

Enclosures
SLR0930R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on September 14, 2011 by Friedman & Bruya, Inc. from the SLR International Corp. 101.00173.00010 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	SLR International Corp.
109173-01	MW-12
109173-02	DMW-4
109173-03	MW-5
109173-04	DMW-9
109173-05	MW-13
109173-06	MW-11

Aliquots of the samples were sent to Fremont Analytical for the analysis of Dissolved Methane by Method RSK-175 as well as to Aquatic Research for Nitrate by Standard Method 4500F, Sulfate by Standard Method 4500E, and Alkalinity by Standard Method 2320B. The data generated by Fremont Analytical and Aquatic Research are enclosed.

All quality control requirements were acceptable.

Date of Report: 09/30/11
Date Received: 09/14/11
Project: 101.00173.00010, F&BI 109173
Date Extracted: 09/14/11
Date Analyzed: 09/14/11

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR BENZENE, TOLUENE, ETHYLBENZENE, XYLENES AND TPH AS GASOLINE USING EPA METHOD 8021B AND NWTPH-Gx

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
MW-12 109173-01	<1	<1	<1	<3	<100	110
DMW-4 109173-02	<1	<1	<1	<3	<100	110
MW-5 109173-03	<1	<1	<1	<3	<100	109
DMW-9 109173-04	<1	<1	<1	3.4	200	118
MW-13 109173-05	<1	<1	<1	<3	<100	109
MW-11 109173-06	<1	<1	<1	<3	<100	108
Method Blank 01-1695 MB	<1	<1	<1	<3	<100	108

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 200.8

Client ID:	MW-12	Client:	SLR International Corp.
Date Received:	09/14/11	Project:	101.00173.00010, F&BI 109173
Date Extracted:	09/14/11	Lab ID:	109173-01
Date Analyzed:	09/15/11	Data File:	109173-01.077
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	87	60	125

Analyte:	Concentration ug/L (ppb)
Manganese	8,130

Analysis For Dissolved Metals By EPA Method 200.8

Client ID:	DMW-4	Client:	SLR International Corp.
Date Received:	09/14/11	Project:	101.00173.00010, F&BI 109173
Date Extracted:	09/14/11	Lab ID:	109173-02
Date Analyzed:	09/15/11	Data File:	109173-02.081
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	105	60	125

Analyte:	Concentration ug/L (ppb)
Manganese	1,210

Analysis For Dissolved Metals By EPA Method 200.8

Client ID:	MW-5	Client:	SLR International Corp.
Date Received:	09/14/11	Project:	101.00173.00010, F&BI 109173
Date Extracted:	09/14/11	Lab ID:	109173-03
Date Analyzed:	09/15/11	Data File:	109173-03.082
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	96	60	125

Analyte:	Concentration ug/L (ppb)
Manganese	1,320

Analysis For Dissolved Metals By EPA Method 200.8

Client ID:	DMW-9	Client:	SLR International Corp.
Date Received:	09/14/11	Project:	101.00173.00010, F&BI 109173
Date Extracted:	09/14/11	Lab ID:	109173-04
Date Analyzed:	09/15/11	Data File:	109173-04.083
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	123	60	125

Analyte:	Concentration ug/L (ppb)
Manganese	2,090

Analysis For Dissolved Metals By EPA Method 200.8

Client ID:	MW-13	Client:	SLR International Corp.
Date Received:	09/14/11	Project:	101.00173.00010, F&BI 109173
Date Extracted:	09/14/11	Lab ID:	109173-05
Date Analyzed:	09/15/11	Data File:	109173-05.084
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	89	60	125

Analyte:	Concentration ug/L (ppb)
Manganese	6,020

Analysis For Dissolved Metals By EPA Method 200.8

Client ID:	MW-11	Client:	SLR International Corp.
Date Received:	09/14/11	Project:	101.00173.00010, F&BI 109173
Date Extracted:	09/14/11	Lab ID:	109173-06
Date Analyzed:	09/15/11	Data File:	109173-06.085
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	104	60	125

Analyte:	Concentration ug/L (ppb)
Manganese	1,640

Analysis For Dissolved Metals By EPA Method 200.8

Client ID:	Method Blank	Client:	SLR International Corp.
Date Received:	Not Applicable	Project:	101.00173.00010, F&BI 109173
Date Extracted:	09/14/11	Lab ID:	I1-642 mb
Date Analyzed:	09/15/11	Data File:	I1-642 mb.075
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	88	60	125

Analyte:	Concentration ug/L (ppb)
Manganese	<1

Date of Report: 09/30/11
Date Received: 09/14/11
Project: 101.00173.00010, F&BI 109173

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR BENZENE, TOLUENE, ETHYLBENZENE, XYLENES, AND TPH AS GASOLINE USING EPA METHOD 8021B AND NWTPH-Gx

Laboratory Code: 109169-01 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference (Limit 20)
Benzene	ug/L (ppb)	<1	<1	nm
Toluene	ug/L (ppb)	<1	<1	nm
Ethylbenzene	ug/L (ppb)	<1	<1	nm
Xylenes	ug/L (ppb)	<3	<3	nm
Gasoline	ug/L (ppb)	<100	<100	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recover y LCS	Acceptance Criteria
Benzene	ug/L (ppb)	50	98	72-119
Toluene	ug/L (ppb)	50	96	71-113
Ethylbenzene	ug/L (ppb)	50	97	72-114
Xylenes	ug/L (ppb)	150	93	72-113
Gasoline	ug/L (ppb)	1,000	85	70-119

Date of Report: 09/30/11
Date Received: 09/14/11
Project: 101.00173.00010, F&BI 109173

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR DISSOLVED METALS USING EPA METHOD 200.8

Laboratory Code: 109173-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Manganese	ug/L (ppb)	20	8,130	0 b	51 b	50-150	200 b

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Manganese	ug/L (ppb)	20	104	70-130

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

A1 – More than one compound of similar molecule structure was identified with equal probability.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for this range fell outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte indicated may be due to carryover from previous sample injections.

d - The sample was diluted. Detection limits may be raised due to dilution.

ds - The sample was diluted. Detection limits are raised due to dilution and surrogate recoveries may not be meaningful.

dv - Insufficient sample was available to achieve normal reporting limits and limits are raised accordingly.

fb - Analyte present in the blank and the sample.

fc – The compound is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. The variability is attributed to sample inhomogeneity.

ht - Analysis performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of normal control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.

j – The result is below normal reporting limits. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The analyte result in the laboratory control sample is out of control limits. The reported concentration should be considered an estimate.

jr - The rpd result in laboratory control sample associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the compound indicated is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc – The sample was received in a container not approved by the method. The value reported should be considered an estimate.

pr – The sample was received with incorrect preservation. The value reported should be considered an estimate.

ve - Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

AQUATIC RESEARCH INCORPORATED

LABORATORY & CONSULTING SERVICES

3927 AURORA AVENUE NORTH, SEATTLE, WA 98103

PHONE: (206) 632-2715 FAX: (206) 632-2417

CASE FILE NUMBER:	**FBI008-60**		**PAGE 1**
REPORT DATE:	**09/29/11**		
DATE SAMPLED:	**09/13/11**	**DATE RECEIVED:**	**09/14/11**

FINAL REPORT, LABORATORY ANALYSIS OF SELECTED PARAMETERS ON WATER SAMPLES FROM FRIEDMAN & BRUYA, INC. / PROJECT NO. 109173

CASE NARRATIVE

Six water samples were received by the laboratory in good condition and analyzed according to the chain of custody. No difficulties were encountered in the preparation or analysis of these samples. Sample data follows while QA/QC data is contained on subsequent pages.

SAMPLE DATA

SAMPLE ID	ALKALINITY (mgCaCO3/L)	SULFATE (mg/L)	NITRATE (mg/L)
MW-12	226	912	<0.010
DMW-4	111	106	0.032
MW-5	63.8	129	<0.010
DMW-9	342	52.4	0.043
MW-13	71.0	775	<0.010
MW-11	180	112	0.032

AQUATIC RESEARCH INCORPORATED

LABORATORY & CONSULTING SERVICES

3927 AURORA AVENUE NORTH, SEATTLE, WA 98103

PHONE: (206) 632-2715 FAX: (206) 632-2417

CASE FILE NUMBER:	**FBI008-60**		**PAGE 3**
REPORT DATE:	**09/29/11**		
DATE SAMPLED:	**09/13/11**	**DATE RECEIVED:**	**09/14/11**

FINAL REPORT, LABORATORY ANALYSIS OF SELECTED PARAMETERS ON WATER SAMPLES FROM FRIEDMAN & BRUYA, INC. / PROJECT NO. 109173

QA/QC DATA

QC PARAMETER	ALKALINITY (mgCaCO3/L)	SULFATE (mg/L)	NITRATE (mg/L)
METHOD	SM18 2320B	SM184500SO4E	SM184500N03F
DATE ANALYZED	09/24/11	09/29/11	09/15/11
DETECTION LIMIT	1.00	1.00	0.010
DUPLICATE			
SAMPLE ID	BATCH	BATCH	BATCH
ORIGINAL	191	6.12	0.026
DUPLICATE	189	6.10	0.027
RPD	1.32%	0.42%	4.67%
SPIKE SAMPLE			
SAMPLE ID		BATCH	BATCH
ORIGINAL		6.12	0.026
SPIKED SAMPLE		15.9	0.225
SPIKE ADDED		10.0	0.200
% RECOVERY	NA	98.26%	99.20%
QC CHECK			
FOUND	98.0	9.90	0.413
TRUE	100	10.0	0.408
% RECOVERY	98.00%	99.03%	101.35%
BLANK	NA	<1.00	<0.010

RPD = RELATIVE PERCENT DIFFERENCE.
NA = NOT APPLICABLE OR NOT AVAILABLE.
NC = NOT CALCULABLE DUE TO ONE OR MORE VALUES BEING BELOW THE DETECTION LIMIT.
OR = RECOVERY NOT CALCULABLE DUE TO SPIKE SAMPLE OUT OF RANGE OR SPIKE TOO LOW RELATIVE TO SAMPLE CONCENTRATION.

SUBMITTED BY:

Damien Gadomski
Project Manager

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

Page # 1 of 1

Send Report To ~~Michael Erdahl~~ Kurt Johnson

Company Friedman and Bruya, Inc.

Address 3012 16th Ave W

City, State, ZIP Seattle, WA 98119

Phone # (206) 285-8282 Fax # (206) 283-5044

SUBCONTRACTER Ag. Research

PROJECT NAME/NO. 109173

PO # B-303

REMARKS

Kjohnson Please Email Results

~~merdahl~~@friedmanandbruya.com

TURNAROUND TIME

☒ Standard (2 Weeks)

☐ RUSH

Rush charges authorized by:

SAMPLE DISPOSAL

☐ Dispose after 30 days

☐ Return samples

☐ Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	ANALYSES REQUESTED: Oil and Grease	EPH	VPH	Nitrate	Sulfate	Alkalinity					Notes
MW-12		9/13/11	1300	W	2				X	X	X					
DMW-4			1333													
MW-5			1355													
DMW-9			1425													
MW-13			1445													
MW-11		↓	1510	↓					↓	↓	↓					

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Michael Erdahl	Friedman & Bruya	9/14/11	10:00AM.
Received by:				
Relinquished by:				
Received by:				

RECEIVED

SEP 27 2011

Fremont Analytical

2930 Westlake Ave N Suite 100
Seattle, WA 98109
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

Friedman & Bruya
Kurt Johnson
3012 16th Ave. W.
Seattle, Washington 98119

RE: 109173
Lab ID: 1109053

September 19, 2011

Attention Kurt Johnson:

Fremont Analytical, Inc. received 6 sample(s) on 9/14/2011 for the analyses presented in the following report.

Dissolved Gases by RSK-175

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Michael Dee
Sr. Chemist / Principal

Fremont Analytical

Date: *09/19/2011*

CLIENT: Friedman & Bruya
Project: 109173
Lab Order: 1109053

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1109053-001	MW-12	09/13/2011 1:00 PM	09/14/2011 1:35 PM
1109053-002	DMW-4	09/13/2011 1:33 PM	09/14/2011 1:35 PM
1109053-003	MW-5	09/13/2011 1:55 PM	09/14/2011 1:35 PM
1109053-004	DMW-9	09/13/2011 2:25 PM	09/14/2011 1:35 PM
1109053-005	MW-11	09/13/2011 3:10 PM	09/14/2011 1:35 PM
1109053-006	MW-13	09/13/2011 2:45 PM	09/15/2011 12:03 PM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

Fremont Analytical

Case Narrative

WO#: **1109053**
Date: **9/19/2011**

CLIENT: Friedman & Bruya
Project: 109173

I. SAMPLE RECEIPT:
Sample MW-13 was noted on the Chain of Custody, but was not delivered to the laboratory. The Project Mangager was notified on 9.14.11. The sample was delivered on 9.15.11

II. GENERAL REPORTING COMMENTS:
Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:
Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Fremont Analytical

Analytical Report

WO#: **1109053**
Date Reported: **9/19/2011**

Client: Friedman & Bruya
Project: 109173
Lab ID: 1109053-001
Client Sample ID: **MW-12**

Collection Date: 9/13/2011 1:00:00 PM
Matrix: Groundwater

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dissolved Gases by RSK-175				Batch ID: R1860		Analyst: PH
Methane	0.214	0.00500		mg/L	1	9/14/2011 5:54:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1109053**
Date Reported: **9/19/2011**

Client: Friedman & Bruya
Project: 109173
Lab ID: 1109053-002
Client Sample ID: DMW-4

Collection Date: 9/13/2011 1:33:00 PM
Matrix: Groundwater

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dissolved Gases by RSK-175				Batch ID: R1860		Analyst: PH
Methane	2.09	0.00500		mg/L	1	9/14/2011 5:58:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1109053**
Date Reported: **9/19/2011**

Client: Friedman & Bruya
Collection Date: 9/13/2011 1:55:00 PM
Project: 109173
Lab ID: 1109053-003
Matrix: Groundwater
Client Sample ID: MW-5

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dissolved Gases by RSK-175				Batch ID: R1860		Analyst: PH
Methane	0.0967	0.00500		mg/L	1	9/14/2011 6:03:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1109053**
Date Reported: **9/19/2011**

Client: Friedman & Bruya
Project: 109173
Lab ID: 1109053-004
Client Sample ID: DMW-9

Collection Date: 9/13/2011 2:25:00 PM
Matrix: Groundwater

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dissolved Gases by RSK-175				Batch ID: R1860		Analyst: PH
Methane	18.6	0.00500		mg/L	1	9/14/2011 6:09:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Analytical Report

WO#: **1109053**
Date Reported: **9/19/2011**

Client: Friedman & Bruya
Project: 109173
Lab ID: 1109053-005
Client Sample ID: MW-11

Collection Date: 9/13/2011 3:10:00 PM
Matrix: Groundwater

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dissolved Gases by RSK-175				Batch ID: R1860		Analyst: PH
Methane	0.385	0.00500		mg/L	1	9/14/2011 6:14:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Analytical Report

WO#: **1109053**
Date Reported: **9/19/2011**

Client: Friedman & Bruya
Project: 109173
Lab ID: 1109053-006
Client Sample ID: **MW-13**

Collection Date: 9/13/2011 2:45:00 PM
Matrix: Groundwater

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dissolved Gases by RSK-175				Batch ID: R1884		Analyst: PH
Methane	0.0147	0.00500		mg/L	1	9/16/2011 5:34:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1109053
CLIENT: Friedman & Bruya
Project: 109173

QC SUMMARY REPORT

Dissolved Gases by RSK-175

Sample ID: MB-R1860	SampType: MBLK			Units: mg/L		Prep Date: 9/14/2011		RunNo: 1860		
Client ID: MBLKW	Batch ID: R1860					Analysis Date: 9/14/2011		SeqNo: 33268		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methane	ND	0.00500									

Sample ID: LCS-R1860	SampType: LCS			Units: mg/L		Prep Date: 9/14/2011		RunNo: 1860		
Client ID: LCSW	Batch ID: R1860					Analysis Date: 9/14/2011		SeqNo: 33269		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methane	114	0.00500	100.0	0	114	80	120				

Sample ID: 1109053-005ADUP	SampType: DUP			Units: mg/L		Prep Date: 9/14/2011		RunNo: 1860		
Client ID: MW-11	Batch ID: R1860					Analysis Date: 9/14/2011		SeqNo: 33291		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methane	0.410	0.00500						0.3852	6.33	30	

Sample ID: MB-R1884	SampType: MBLK			Units: mg/L		Prep Date: 9/16/2011		RunNo: 1884		
Client ID: MBLKW	Batch ID: R1884					Analysis Date: 9/16/2011		SeqNo: 33579		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methane	ND	0.00500									

Sample ID: LCS-R1884	SampType: LCS			Units: mg/L		Prep Date: 9/16/2011		RunNo: 1884		
Client ID: LCSW	Batch ID: R1884					Analysis Date: 9/16/2011		SeqNo: 33580		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methane	110	0.00500	100.0	0	110	80	120				

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not detected at the Reporting Limit	R	RPD outside accepted recovery limits	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits				

Fremont Analytical

Date: *9/19/2011*

Work Order: 1109053
CLIENT: Friedman & Bruya
Project: 109173

QC SUMMARY REPORT
Dissolved Gases by RSK-175

Sample ID: **1109058-003ADUP** SampType: **DUP** Units: **mg/L** Prep Date: **9/16/2011** RunNo: **1884**
Client ID: **BATCH** Batch ID: **R1884** Analysis Date: **9/16/2011** SeqNo: **33584**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methane	0.293	0.00500						0.2741	6.61	30	

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not detected at the Reporting Limit	R	RPD outside accepted recovery limits	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits				

1109053

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

Send Report To ~~Michael Erdahl~~ Kurt Johnson

Company Friedman and Bruya, Inc.

Address 3012 16th Ave W

City, State, ZIP Seattle, WA 98119

Phone # (206) 285-8282 Fax # (206) 283-5044

SUBCONTRACTER Eamon 1

PROJECT NAME/NO.	PO #
109173	B-290

REMARKS

Please Email Results

kjohnson ~~merdahl~~@friedmanandbruya.com

Page # 1 of 1

TURNAROUND TIME

☒ Standard (2 Weeks)

☐ RUSH

Rush charges authorized by:

SAMPLE DISPOSAL

☐ Dispose after 30 days

☐ Return samples

☐ Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	ANALYSES REQUESTED: Oil and Grease	EPH	VPH	Nitrate	Sulfate	Alkalinity	Diss Methane ESK 175				Notes
MW-12		9/13/11	1300	W	2							x				
DMW-4			1333													
MW-5			1355													
DMW-9			1425													
MW-13			1445													
MW-11			1510									↓				

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Michael Erdahl	Friedman & Bruya	9/14/11	10:00AM
Received by:	Caitlyn Frazier	FAI	9/14/11	1335
Relinquished by:				
Received by:				

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044

109173

SAMPLE CHAIN OF CUSTODY

KJ 09/14/11 V4/AI2

Page # 1 of 1

Send Report To Mike Staton

Company SLR

Address mstaton@SLRCONSULTING.com

City, State, ZIP

Phone # (425) 425-8800 Fax #

SAMPLERS (signature)

PROJECT NAME/NO.: 101.00173.00010

PO#

REMARKS

TURNAROUND TIME
- ☒ Standard (2 Weeks)
- ☐ RUSH
- Rush charges authorized by

SAMPLE DISPOSAL
- ☐ Dispose after 30 days
- ☐ Return samples
- ☐ Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of containers	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by8260	SVOCs by 8270	HFS	Diss. Manganese Zon. B	Alkalinity SM 2320	Diss. Methane RSK 175	Sulfate 375.2	Nitrate 353.2	Notes
MW-12	01 A-H	9/13/11	1300	W	8		X	X				X	X	X	X	X	
DMW-4	02		1333				X	X				X	X	X	X	X	
MW-5	03		1355				X	X				X	X	X	X	X	
DMW-9	04		1425				X	X				X	X	X	X	X	
MW-13	05		1445				X	X				X	X	X	X	X	
MW-11	06		1510				X	X				X	X	X	X	X	

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Chris Kamer	SLR	9/13/11	1545
Received by:	Minh Pham	FeBI	9/14/11	0855
Relinquished by:				
Received by:		Samples received at 2 °C		

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Charlene Morrow, M.S.
Yelena Aravkina, M.S.
Bradley T. Benson, B.S.
Kurt Johnson, B.S.

3012 16th Avenue West
Seattle, WA 98119-2029
TEL: (206) 285-8282
FAX: (206) 283-5044
e-mail: fbi@isomedia.com

September 30, 2011

Mike Staton, Project Manager
SLR International Corp.
22118 20th Ave. SE., G-202
Bothell, WA 98021

Dear Mr. Staton:

Included are the results from the testing of material submitted on September 15, 2011 from the 101.00173.00010, F&BI 109201 project. There are 16 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Kurt Johnson
Chemist

Enclosures
SLR0930R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on September 15, 2011 by Friedman & Bruya, Inc. from the SLR International Corp. 101.00173.00010, F&BI 109201 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	SLR International Corp.
109201-01	DMW-8
109201-02	MW-8
109201-03	MW-9
109201-04	DMW-6
109201-05	DMW-7
109201-06	MW-14
109201-07	DMW-10
109201-08	DMW-5
109201-09	MW-10
109201-10	DMW-3

Aliquots of the samples were sent to Fremont Analytical for the analysis of Dissolved Methane by Method RSK-175 as well as to Aquatic Research for Nitrate by Standard Method 4500F, Sulfate by Standard Method 4500E, and Alkalinity by Standard Method 2320B. The data generated by Fremont Analytical and Aquatic Research are enclosed.

All quality control requirements were acceptable.

Date of Report: 09/30/11
Date Received: 09/15/11
Project: 101.00173.00010, F&BI 109201
Date Extracted: 09/20/11
Date Analyzed: 09/21/11 and 09/22/11

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR BENZENE, TOLUENE, ETHYLBENZENE, XYLENES AND TPH AS GASOLINE USING EPA METHOD 8021B AND NWTPH-Gx

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
DMW-8 109201-01	<1	<1	<1	<3	<100	100
MW-8 109201-02	<1	<1	<1	<3	<100	104
MW-9 109201-03	<1	<1	<1	<3	<100	99
DMW-6 109201-04	<1	<1	<1	<3	<100	108
DMW-7 109201-05	<1	<1	<1	<3	<100	107
MW-14 109201-06	<1	<1	<1	<3	<100	107
DMW-10 109201-07	20	<1	<1	3.9	140	107
DMW-5 109201-08	<1	<1	<1	<3	<100	106
MW-10 109201-09	1.5	<1	<1	<3	120	108
DMW-3 109201-10	<1	<1	<1	<3	<100	107
Method Blank 01-1729 MB	<1	<1	<1	<3	<100	104

Analysis For Dissolved Metals By EPA Method 200.8

Client ID:	DMW-8	Client:	SLR International Corp.
Date Received:	09/15/11	Project:	101.00173.00010, F&BI 109201
Date Extracted:	09/15/11	Lab ID:	109201-01
Date Analyzed:	09/15/11	Data File:	109201-01.090
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	108	60	125

Analyte:	Concentration ug/L (ppb)
Manganese	1,680

Analysis For Dissolved Metals By EPA Method 200.8

Client ID:	MW-8	Client:	SLR International Corp.
Date Received:	09/15/11	Project:	101.00173.00010, F&BI 109201
Date Extracted:	09/15/11	Lab ID:	109201-02
Date Analyzed:	09/15/11	Data File:	109201-02.092
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	102	60	125

Analyte:	Concentration ug/L (ppb)
Manganese	370

Analysis For Dissolved Metals By EPA Method 200.8

Client ID:	MW-9	Client:	SLR International Corp.
Date Received:	09/15/11	Project:	101.00173.00010, F&BI 109201
Date Extracted:	09/15/11	Lab ID:	109201-03
Date Analyzed:	09/15/11	Data File:	109201-03.093
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	87	60	125

Analyte:	Concentration ug/L (ppb)
Manganese	1,550

Analysis For Dissolved Metals By EPA Method 200.8

Client ID:	DMW-6	Client:	SLR International Corp.
Date Received:	09/15/11	Project:	101.00173.00010, F&BI 109201
Date Extracted:	09/15/11	Lab ID:	109201-04
Date Analyzed:	09/15/11	Data File:	109201-04.094
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	120	60	125

Analyte:	Concentration ug/L (ppb)
Manganese	1,900

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 200.8

Client ID:	DMW-7	Client:	SLR International Corp.
Date Received:	09/15/11	Project:	101.00173.00010, F&BI 109201
Date Extracted:	09/15/11	Lab ID:	109201-05
Date Analyzed:	09/15/11	Data File:	109201-05.095
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	124	60	125

Analyte:	Concentration ug/L (ppb)
Manganese	4,260

Analysis For Dissolved Metals By EPA Method 200.8

Client ID:	MW-14	Client:	SLR International Corp.
Date Received:	09/15/11	Project:	101.00173.00010, F&BI 109201
Date Extracted:	09/15/11	Lab ID:	109201-06
Date Analyzed:	09/15/11	Data File:	109201-06.096
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	92	60	125

Analyte:	Concentration ug/L (ppb)
Manganese	3.74

Analysis For Dissolved Metals By EPA Method 200.8

Client ID:	DMW-10	Client:	SLR International Corp.
Date Received:	09/15/11	Project:	101.00173.00010, F&BI 109201
Date Extracted:	09/15/11	Lab ID:	109201-07
Date Analyzed:	09/15/11	Data File:	109201-07.097
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	106	60	125

Analyte:	Concentration ug/L (ppb)
Manganese	1,790

Analysis For Dissolved Metals By EPA Method 200.8

Client ID:	DMW-5	Client:	SLR International Corp.
Date Received:	09/15/11	Project:	101.00173.00010, F&BI 109201
Date Extracted:	09/15/11	Lab ID:	109201-08
Date Analyzed:	09/15/11	Data File:	109201-08.098
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	100	60	125

Analyte:	Concentration ug/L (ppb)
Manganese	1,300

Analysis For Dissolved Metals By EPA Method 200.8

Client ID:	MW-10	Client:	SLR International Corp.
Date Received:	09/15/11	Project:	101.00173.00010, F&BI 109201
Date Extracted:	09/15/11	Lab ID:	109201-09
Date Analyzed:	09/15/11	Data File:	109201-09.099
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	116	60	125

Analyte:	Concentration ug/L (ppb)
Manganese	1,220

Analysis For Dissolved Metals By EPA Method 200.8

Client ID:	DMW-3	Client:	SLR International Corp.
Date Received:	09/15/11	Project:	101.00173.00010, F&BI 109201
Date Extracted:	09/15/11	Lab ID:	109201-10
Date Analyzed:	09/15/11	Data File:	109201-10.100
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	101	60	125

Analyte:	Concentration ug/L (ppb)
Manganese	1,550

Analysis For Dissolved Metals By EPA Method 200.8

Client ID:	Method Blank	Client:	SLR International Corp.
Date Received:	Not Applicable	Project:	101.00173.00010, F&BI 109201
Date Extracted:	09/14/11	Lab ID:	I1-642 mb
Date Analyzed:	09/15/11	Data File:	I1-642 mb.075
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	88	60	125

Analyte:	Concentration ug/L (ppb)
Manganese	<1

Date of Report: 09/30/11
Date Received: 09/15/11
Project: 101.00173.00010, F&BI 109201

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR BENZENE, TOLUENE, ETHYLBENZENE, XYLENES, AND TPH AS GASOLINE USING EPA METHOD 8021B AND NWTPH-Gx

Laboratory Code: 109201-01 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference (Limit 20)
Benzene	ug/L (ppb)	<1	<1	nm
Toluene	ug/L (ppb)	<1	<1	nm
Ethylbenzene	ug/L (ppb)	<1	<1	nm
Xylenes	ug/L (ppb)	<3	<3	nm
Gasoline	ug/L (ppb)	<100	<100	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	ug/L (ppb)	50	99	72-119
Toluene	ug/L (ppb)	50	94	71-113
Ethylbenzene	ug/L (ppb)	50	96	72-114
Xylenes	ug/L (ppb)	150	93	72-113
Gasoline	ug/L (ppb)	1,000	89	70-119

Date of Report: 09/30/11
Date Received: 09/15/11
Project: 101.00173.00010, F&BI 109201

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR DISSOLVED METALS USING EPA METHOD 200.8

Laboratory Code: 109173-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Manganese	ug/L (ppb)	20	8,130	0 b	51 b	50-150	200 b

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Manganese	ug/L (ppb)	20	104	70-130

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

A1 – More than one compound of similar molecule structure was identified with equal probability.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for this range fell outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte indicated may be due to carryover from previous sample injections.

d - The sample was diluted. Detection limits may be raised due to dilution.

ds - The sample was diluted. Detection limits are raised due to dilution and surrogate recoveries may not be meaningful.

dv - Insufficient sample was available to achieve normal reporting limits and limits are raised accordingly.

fb - Analyte present in the blank and the sample.

fc – The compound is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. The variability is attributed to sample inhomogeneity.

ht - Analysis performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of normal control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.

j – The result is below normal reporting limits. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The analyte result in the laboratory control sample is out of control limits. The reported concentration should be considered an estimate.

jr - The rpd result in laboratory control sample associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the compound indicated is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc – The sample was received in a container not approved by the method. The value reported should be considered an estimate.

pr – The sample was received with incorrect preservation. The value reported should be considered an estimate.

ve - Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

AQUATIC RESEARCH INCORPORATED

LABORATORY & CONSULTING SERVICES

3927 AURORA AVENUE NORTH, SEATTLE, WA 98103

PHONE: (206) 632-2715 FAX: (206) 632-2417

CASE FILE NUMBER:	**FBI008-61**		**PAGE 1**
REPORT DATE:	**09/29/11**		
DATE SAMPLED:	**09/14/11**	**DATE RECEIVED:**	**09/15/11**

FINAL REPORT, LABORATORY ANALYSIS OF SELECTED PARAMETERS ON WATER SAMPLES FROM FRIEDMAN & BRUYA, INC. / PROJECT NO. 109201

CASE NARRATIVE

Ten water samples were received by the laboratory in good condition and analyzed according to the chain of custody. No difficulties were encountered in the preparation or analysis of these samples. Sample data follows while QA/QC data is contained on subsequent pages.

SAMPLE DATA

SAMPLE ID	ALKALINITY (mgCaCO3/L)	SULFATE (mg/L)	NITRATE (mg/L)
DMW-8	128	34.5	0.022
MW-8	80.0	<1.00	0.026
MW-9	82.0	6.12	0.090
DMW-6	150	6.27	0.022
DMW-7	236	<1.00	0.022
MW-14	23.7	154	0.011
DMW-10	132	59.9	0.026
DMW-5	118	32.1	0.018
MW-10	172	1.25	0.033
DMW-3	191	5.48	0.013

AQUATIC RESEARCH INCORPORATED

LABORATORY & CONSULTING SERVICES

3927 AURORA AVENUE NORTH, SEATTLE, WA 98103

PHONE: (206) 632-2715 FAX: (206) 632-2417

CASE FILE NUMBER:	**FBI008-61**		**PAGE 3**
REPORT DATE:	**09/29/11**		
DATE SAMPLED:	**09/14/11**	**DATE RECEIVED:**	**09/15/11**

FINAL REPORT, LABORATORY ANALYSIS OF SELECTED PARAMETERS ON WATER SAMPLES FROM FRIEDMAN & BRUYA, INC. / PROJECT NO. 109201

QA/QC DATA

QC PARAMETER	ALKALINITY (mgCaCO3/L)	SULFATE (mg/L)	NITRATE (mg/L)
METHOD	SM18 2320B	SM184500SO4E	SM184500N03F
DATE ANALYZED	09/24/11	09/29/11	09/15/11
DETECTION LIMIT	1.00	1.00	0.010
DUPLICATE			
SAMPLE ID	DMW-3	MW-9	BATCH
ORIGINAL	191	6.12	0.026
DUPLICATE	189	6.10	0.027
RPD	1.32%	0.42%	4.67%
SPIKE SAMPLE			
SAMPLE ID		MW-9	BATCH
ORIGINAL		6.12	0.026
SPIKED SAMPLE		15.9	0.225
SPIKE ADDED		10.0	0.200
% RECOVERY	NA	98.26%	99.20%
QC CHECK			
FOUND	98.0	9.90	0.413
TRUE	100	10.0	0.408
% RECOVERY	98.00%	99.03%	101.35%
BLANK	NA	<1.00	<0.010

RPD = RELATIVE PERCENT DIFFERENCE.
NA = NOT APPLICABLE OR NOT AVAILABLE.
NC = NOT CALCULABLE DUE TO ONE OR MORE VALUES BEING BELOW THE DETECTION LIMIT.
OR = RECOVERY NOT CALCULABLE DUE TO SPIKE SAMPLE OUT OF RANGE OR SPIKE TOO LOW RELATIVE TO SAMPLE CONCENTRATION.

SUBMITTED BY:

Damien Gadomski
Project Manager

RECEIVED

SEP 27 2011

Fremont Analytical

2930 Westlake Ave N Suite 100
Seattle, WA 98109
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

Friedman & Bruya
Kurt Johnson
3012 16th Ave. W.
Seattle, Washington 98119

RE: 109201
Lab ID: 1109063

September 19, 2011

Attention Kurt Johnson:

Fremont Analytical, Inc. received 10 sample(s) on 9/15/2011 for the analyses presented in the following report.

Dissolved Gases by RSK-175

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Michael Dee
Sr. Chemist / Principal

Fremont Analytical

Date: *09/19/2011*

CLIENT: Friedman & Bruya
Project: 109201
Lab Order: 1109063

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1109063-001	DMW-8	09/14/2011 10:15 AM	09/15/2011 12:03 PM
1109063-002	MW-8	09/14/2011 10:40 AM	09/15/2011 12:03 PM
1109063-003	MW-9	09/14/2011 11:10 AM	09/15/2011 12:03 PM
1109063-004	DMW-6	09/14/2011 11:50 AM	09/15/2011 12:03 PM
1109063-005	DMW-7	09/14/2011 12:15 PM	09/15/2011 12:03 PM
1109063-006	MW-14	09/14/2011 12:50 PM	09/15/2011 12:03 PM
1109063-007	DMW-10	09/14/2011 1:15 PM	09/15/2011 12:03 PM
1109063-008	DMW-5	09/14/2011 1:35 PM	09/15/2011 12:03 PM
1109063-009	MW-10	09/14/2011 1:55 PM	09/15/2011 12:03 PM
1109063-010	DMW-3	09/14/2011 2:25 PM	09/15/2011 12:03 PM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

Fremont Analytical

Case Narrative

WO#: **1109063**
Date: **9/19/2011**

CLIENT: Friedman & Bruya
Project: 109201

I. SAMPLE RECEIPT:
All samples were received intact.

II. GENERAL REPORTING COMMENTS:
Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:
Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Client: Friedman & Bruya
Project: 109201
Lab ID: 1109063-001
Client Sample ID: DMW-8

Collection Date: 9/14/2011 10:15:00 AM
Matrix: Groundwater

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dissolved Gases by RSK-175				Batch ID: R1884		Analyst: PH
Methane	2.62	0.00500		mg/L	1	9/16/2011 5:39:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1109063**
Date Reported: **9/19/2011**

Client: Friedman & Bruya
Project: 109201
Lab ID: 1109063-002
Client Sample ID: MW-8

Collection Date: 9/14/2011 10:40:00 AM
Matrix: Groundwater

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dissolved Gases by RSK-175				Batch ID: R1884		Analyst: PH
Methane	1.45	0.00500		mg/L	1	9/16/2011 5:44:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Friedman & Bruya
Project: 109201
Lab ID: 1109063-003
Client Sample ID: MW-9

Collection Date: 9/14/2011 11:10:00 AM
Matrix: Groundwater

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dissolved Gases by RSK-175				Batch ID: R1884		Analyst: PH
Methane	0.00706	0.00500		mg/L	1	9/16/2011 5:49:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Analytical Report

WO#: **1109063**
Date Reported: **9/19/2011**

Client: Friedman & Bruya
Project: 109201
Lab ID: 1109063-004
Client Sample ID: DMW-6

Collection Date: 9/14/2011 11:50:00 AM
Matrix: Groundwater

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dissolved Gases by RSK-175				Batch ID: R1884		Analyst: PH
Methane	6.76	0.00500		mg/L	1	9/16/2011 5:55:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Analytical Report

WO#: **1109063**
Date Reported: **9/19/2011**

Client: Friedman & Bruya
Project: 109201
Lab ID: 1109063-005
Client Sample ID: DMW-7

Collection Date: 9/14/2011 12:15:00 PM
Matrix: Groundwater

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dissolved Gases by RSK-175				Batch ID: R1884		Analyst: PH
Methane	6.12	0.00500		mg/L	1	9/16/2011 6:03:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client: Friedman & Bruya
Collection Date: 9/14/2011 12:50:00 PM
Project: 109201
Lab ID: 1109063-006
Matrix: Groundwater
Client Sample ID: MW-14

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dissolved Gases by RSK-175				Batch ID: R1884		Analyst: PH
Methane	ND	0.00500		mg/L	1	9/16/2011 6:09:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Analytical Report

WO#: **1109063**
Date Reported: **9/19/2011**

Client: Friedman & Bruya
Project: 109201
Lab ID: 1109063-007
Client Sample ID: DMW-10

Collection Date: 9/14/2011 1:15:00 PM
Matrix: Groundwater

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dissolved Gases by RSK-175				Batch ID: R1884		Analyst: PH
Methane	3.23	0.00500		mg/L	1	9/16/2011 6:14:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Analytical Report

WO#: **1109063**
Date Reported: **9/19/2011**

Client: Friedman & Bruya
Project: 109201
Lab ID: 1109063-008
Client Sample ID: DMW-5

Collection Date: 9/14/2011 1:35:00 PM
Matrix: Groundwater

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dissolved Gases by RSK-175				Batch ID: R1884		Analyst: PH
Methane	2.06	0.00500		mg/L	1	9/16/2011 6:19:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1109063**
Date Reported: **9/19/2011**

Client: Friedman & Bruya
Project: 109201
Lab ID: 1109063-009
Client Sample ID: MW-10

Collection Date: 9/14/2011 1:55:00 PM
Matrix: Groundwater

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dissolved Gases by RSK-175				Batch ID: R1884		Analyst: PH
Methane	1.49	0.00500		mg/L	1	9/16/2011 6:24:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Analytical Report

WO#: **1109063**
Date Reported: **9/19/2011**

Client: Friedman & Bruya
Project: 109201
Lab ID: 1109063-010
Client Sample ID: DMW-3

Collection Date: 9/14/2011 2:25:00 PM
Matrix: Groundwater

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dissolved Gases by RSK-175				Batch ID: R1884		Analyst: PH
Methane	0.756	0.00500		mg/L	1	9/16/2011 6:30:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Fremont Analytical

Date: *9/19/2011*

Work Order: 1109063
CLIENT: Friedman & Bruya
Project: 109201

QC SUMMARY REPORT
Dissolved Gases by RSK-175

Sample ID: **MB-R1884**	SampType: **MBLK**	Units: **mg/L**	Prep Date: **9/16/2011**	RunNo: **1884**
Client ID: **MBLKW**	Batch ID: **R1884**		Analysis Date: **9/16/2011**	SeqNo: **33579**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methane	ND	0.00500									

Sample ID: **LCS-R1884**	SampType: **LCS**	Units: **mg/L**	Prep Date: **9/16/2011**	RunNo: **1884**
Client ID: **LCSW**	Batch ID: **R1884**		Analysis Date: **9/16/2011**	SeqNo: **33580**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methane	110	0.00500	100.0	0	110	80	120				

Sample ID: **1109063-010ADUP**	SampType: **DUP**	Units: **mg/L**	Prep Date: **9/16/2011**	RunNo: **1884**
Client ID: **DMW-3**	Batch ID: **R1884**		Analysis Date: **9/16/2011**	SeqNo: **33596**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methane	0.677	0.00500						0.7557	11.0	30	

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not detected at the Reporting Limit	R	RPD outside accepted recovery limits	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits				

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

1109063

Send Report To ~~Michael Erdahl~~ Kurt Johnson

Company Friedman and Bruya, Inc.

Address 3012 16th Ave W

City, State, ZIP Seattle, WA 98119

Phone # (206) 285-8282 Fax # (206) 283-5044

SUBCONTRACTER

~~PROJECT NAME~~/NO. 109201

PO #

REMARKS

Please Email Results
merdahl@friedmanandbruya.com

Page # _____ of _____

TURNAROUND TIME
☐ Standard (2 Weeks)
☐ RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
☐ Dispose after 30 days
☐ Return samples
☐ Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	ANALYSES REQUESTED: Oil and Grease	EPH	VPH	Nitrate	Sulfate	Alkalinity	Dissolved methane				Notes
DMW-8		9/14/11	1015	W	2							X				
~~DMW~~ MW-8			1040									X				
MW-9			1110									X				
DMW-6			1150									X				
DMW-7			1215									X				
MW-14			1250									X				
DMW-10			1315									X				
DMW-5			1335									X				
MW-10			1359									X				
DMW-3			1425									X				

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Michael Erdahl ~~Kurt~~ Johnson	Friedman & Bruya	9/15/11	11:13 a.m.
Received by:	Caithyn Frazier	FAI	9/15/11	1203
Relinquished by:				
Received by:				

109201

SAMPLE CHAIN OF CUSTODY

KJ 09-15-11 V4/BI4

Page # 1 of 2

Send Report To Mike Staton

Company SLR

Address Mstaton@SLRconsulting.com

City, State, ZIP

Phone # (425) 402-8800 Fax #

SAMPLERS (signature)

PROJECT NAME/NO. 101.00173.00010

PO#

REMARKS

TURNAROUND TIME
☒ Standard (2 Weeks)
☐ RUSH
Rush charges authorized by

SAMPLE DISPOSAL
☐ Dispose after 30 days
☐ Return samples
☐ Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of containers	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by8260	SVOCs by 8270	HFS	Manganese	Alkalinity	diss. methane	Sulfate	Nitrate	Notes
DMW-8	01 A-H	9/14/11	1015	W	8		X	X				X	X	X	X	X	
MW-8	02		1040		8		X	X				X	X	X	X	X	
MW-9	03		1110		8		X	X				X	X	X	X	X	
DMW-6	04		1150		8		X	X				X	X	X	X	X	
DMW-7	05		1215		8		X	X				X	X	X	X	X	
MW-14	06		1250		8		X	X				X	X	X	X	X	
DMW-10	07		1315		8		X	X				X	X	X	X	X	
DMW-5	08		1335		8		X	X				X	X	X	X	X	
MW-10	09		1355		8		X	X				X	X	X	X	X	
DMW-3	10 A-G		1425		7		X	X				X	X	X	X	X	

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Chris Kramer	SLR	9/14/11	1505
Received by:	Nhien Phan	FeBI	9/15/11	0910
Relinquished by:				
Received by:		Samples received at 1 °C		

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044