SLR

August 29, 2008
Project 001.0173.00007

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

Re: Quarterly Groundwater Sampling Report – July 2008 Event, Former Arco Service Station #0855, Longview, Washington

Dear Mr. Middleton:

On behalf of the Wakefield Family LLC (property owner), SLR International Corp (SLR) has prepared this report to present the results of the quarterly groundwater sampling activities conducted in July 2008 at the above-referenced property (the site). The site is located at 4603 Ocean Beach Highway in Longview, Washington (Figure 1). The results of previous investigations showed that the groundwater beneath the site contains petroleum hydrocarbon concentrations greater than Model Toxics Control Act (MTCA) Method A cleanup levels[1]. Remediation activities were conducted in 2007 to: 1) remediate the soil that contained petroleum hydrocarbon concentrations greater than MTCA Method A cleanup levels, 2) remove the source of impacted shallow groundwater beneath the site, 3) remove the primary sources of the impacted deep groundwater beneath the site, and 4) extract the accessible impacted shallow groundwater. The purposes of the groundwater sampling program are to assess the effectiveness of these site remediation activities, and to monitor the migration and attenuation of the petroleum hydrocarbon concentrations over time in the shallow and deep aquifers.

SLR conducted the groundwater sampling activities on July 1, 2, and 3, 2008. Prior to sampling, SLR measured the depths to groundwater in all of the monitoring wells 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 3.53 to 6.53 feet below the tops of the well casings. The groundwater elevations in the shallow wells ranged from 2.42 to 5.50 feet above the NAVD88 datum. The depths to groundwater in the deep wells ranged from 5.01 to 7.04 feet below the tops of the well casings. The groundwater elevations in the

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

deep wells ranged from 1.14 to 3.13 feet above the NAVD88 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 July 2008 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 in July 2008 are shown on Figures 2 and 3, respectively.

SLR personnel collected groundwater samples from all of the shallow monitoring wells (MW-5, MW-8, MW-9, MW-10, MW-11, MW-12, MW-13, and MW-14) and all of the deep monitoring wells (DMW-3, DMW-4, DMW-5, DMW-6, DMW-7, and DMW-8) 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, 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 samples were labeled, placed on ice in a cooler, and submitted to Friedman & Bruya, Inc. (F&B) in Seattle, Washington for analysis, following standard chain-of-custody protocol. The purge water is stored on site in properly labeled, 55-gallon drums, pending off-site disposal.

The groundwater samples were analyzed for benzene, toluene, ethylbenzene, and total xylenes (BTEX) by EPA Method 8021B, gasoline-range organics (GRO) by Washington Department of Ecology (Ecology) Method NWTPH-Gx, and diesel-range organics (DRO) by Ecology Method NWTPH-Dx (after silica gel cleanup). The analytical results indicated that the groundwater sample from on-site shallow well MW-10 and on-site deep wells DMW-9 and DMW-10 contained benzene concentrations [18, 3,600, and 89 micrograms per liter (µg/L), respectively] that exceeded the MTCA Method A cleanup level (5 µg/L). The samples collected from MW-10, DMW-9 and DMW-10 also contained GRO concentrations (2,500, 9,500 and 1,100 µg/L, respectively) that exceeded the Method A cleanup level (800 µg/l). Additionally, the samples from MW-10 and DMW-9 contained DRO concentrations that exceeded the Method A cleanup level; however, the laboratory reported that the patterns of the chromatogram peaks were not indicative of diesel. The reported DRO concentrations were likely due to overlap from the gasoline range. The groundwater samples from all of the other shallow and deep wells did not contain analyte concentrations above the method reporting limits. The groundwater sample analytical results (petroleum hydrocarbons only) from the July 2008 event, as well as from the previous sampling events, are presented in Table 2. The benzene and GRO

concentrations in the July 2008 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 groundwater sample analytical results and field measurements (DO and oxidation-reduction potential) for the natural attenuation parameters are presented in Table 3, and copies of the laboratory analytical reports are attached. The relatively higher dissolved methane and alkalinity concentrations in the areas of shallow and deep groundwater contamination are consistent with previous results, and indicate that the impacted groundwater occurs in reducing (little or no oxygen) environments and that there is more biological activity where petroleum hydrocarbons are present.

If you have any questions, please call Mike Staton at (425) 402-8800.

Sincerely,

SLR International Corp

Michael D. Staton, L.G.
Principal Geologist

Attachments: Limitations
Tables 1 through 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.

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.			
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.			

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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-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
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.			
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
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
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
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

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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-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
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
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
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
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
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
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
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
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
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
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

NOTES:

NP = Free prroduct 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 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.						
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.						

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 Wells (continued)							
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
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.						
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
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
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]**
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
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
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

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 Wells (continued)							
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
Deep Wells/Wellpoint							
SSB-15	05/25/05	**9,600**	**1,200**	**2,400**	**11,600[e]**	**67,000 E**	**2,300**
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
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
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
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
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
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
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]**
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]

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] (µg/L)	Dissolved Oxygen[c] (mg/L)	Dissolved Manganese[d] (µg/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	608	0.15	2,850	5.0	10.3	119.2
	03/13/08	2.25	341	<0.7	0.39	2,480	3.3	19.3	-122.8
	07/02/08	0.468	275	475	0.09	1,380	NM	80.8	10.0
MW-8	12/12/07	<0.010	4.8	98.8	1.91	531	1.7	33.3	248.2
	03/13/08	<0.2	6.6	1.2	0.66	463	2.1	57.6	-140.0
	07/01/08	<0.1	14.0	1,980	0.18	407	NM	73.0	-78.9
MW-9	12/12/07	0.50	5.0	0.8	4.0	3.99	<0.10	40.1	237.0
	03/13/08	0.47	8.5	3,330	3.18	14.0	0.6	39.7	-33.5
	07/02/08	1.24	36.4	<0.7	2.24	18.0	NM	80.2	85.6
MW-10	12/12/07	0.036	74.9	6,510	2.99	2,420	2.0	174	294.2
	03/13/08	<0.2	186	1,820	2.12	2,170	3.1	160	-117.0
	07/02/08	<0.2	199	7,340	0.14	3,250	NM	232	15.2
MW-11	12/12/07	0.78	643	103	0.63	1,780	3.8	28.4	199.7
	03/13/08	0.39	199	<0.7	0.63	2,520	1.4	45.1	-81.5
	07/02/08	0.044	162	201	0.23	963	NM	89.4	25.4
MW-12	12/12/07	37.0	1,500	160	0.67	5,330	3.8	6.9	178.0
	03/13/08	27.5	1,060	0.90	0.77	6,770	<0.10	58.8	-146.8
	07/02/08	<0.1	204	467	0.22	8,340	NM	52.3	83.7
MW-13	12/12/07	31.7	1,590	40.2	NM	8,690	<0.10	70.7	235.9
	03/13/08	21.5	1,540	4.5	0.56	9,140	<0.10	218	-112.8
	07/03/08	4.49	1,420	6.8	0.10	9,750	NM	133	21.9
MW-14	12/12/07	16.7	1,190	72.8	2.48	9,350	0.2	16.0	215.1
	03/13/08	5.7	945	0.90	2.42	7,050	1.2	57.8	-163.7
	07/02/08	0.95	891	<0.70	0.29	2,380	NM	43.4	28.7
Deep Wells									
DMW-3	12/12/07	<0.050	31.8	1,630	3.84	2,770	1.0	220	255.6
	03/13/08	<0.2	23.4	2,480	2.0	2,550	3.0	197	-129.1
	07/02/08	<0.1	43.9	1,580	0.16	2,310	NM	214	-96.2
DMW-4	12/12/07	<0.010	22.4	10,100	0.11	2,190	3.6	174	105.1
	03/13/08	<0.2	297	0.9	0.17	15,500	4.6	22.2	-136.6
	07/02/08	3.38	1,040	1,580	0.12	2,260	NM	65.8	-86.8
DMW-5	12/12/07	<0.010	13.0	13,700	0.13	2,280	3.4	177	101.8
	03/13/08	<0.2	10.3	8,180	0.17	2,900	3.6	180	-127.9
	07/02/08	<0.1	42.6	8,780	0.42	2,510	NM	221	-101.1
DMW-6	12/12/07	<0.010	8.0	11,700	0.15	1,740	2.2	104	121.0
	03/13/08	<0.2	7.5	9,530	0.19	4,270	2.2	112	-136.5
	07/02/08	<0.1	54.0	7,590	0.12	2,000	NM	149	-86.1
DMW-7	12/12/07	<0.010	23.3	9,140	0.25	3,720	3.1	158	93.6
	03/13/08	<0.2	29.6	8,320	0.39	12,400	3.0	155	-171.6
	07/01/08	<0.1	53.3	5,560	0.24	5,570	NM	195	-88.1
DMW-8	12/12/07	0.014	6.2	3,780	0.22	1,940	4.4	133	109.4
	03/13/08	<0.2	17.6	1,950	0.28	2,070	3.1	107	-159.9
	07/02/08	<0.1	37.0	1,620	0.21	1,780	NM	109	-5.9
DMW-9	12/12/07	<0.010	55.7	27,400	0.15	1,920	5.7	270	113.2
	03/13/08	<0.5	32.2	19,800	0.19	3,400	3.7	355	-128.4
	07/03/08	<0.1	38.9	21,100	0.16	2,580	NM	406	-83.8
DMW-10	12/12/07	<0.010	24.2	11,300	0.09	2,950	3.6	191	92.5
	03/13/08	<0.2	7.7	8,050	0.12	5,360	3.1	227	-94.2
	07/02/08	<0.1	27.9	11,000	0.33	3,980	NM	266	-112.9

NOTES:

NM = Not measured.

mg/L = milligrams per liter (ppm).

µg/L = micrograms per liter (ppb).

[a] Nitrate by EPA Method 353.2.

[a] Sulfate by EPA Method 375.2.

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

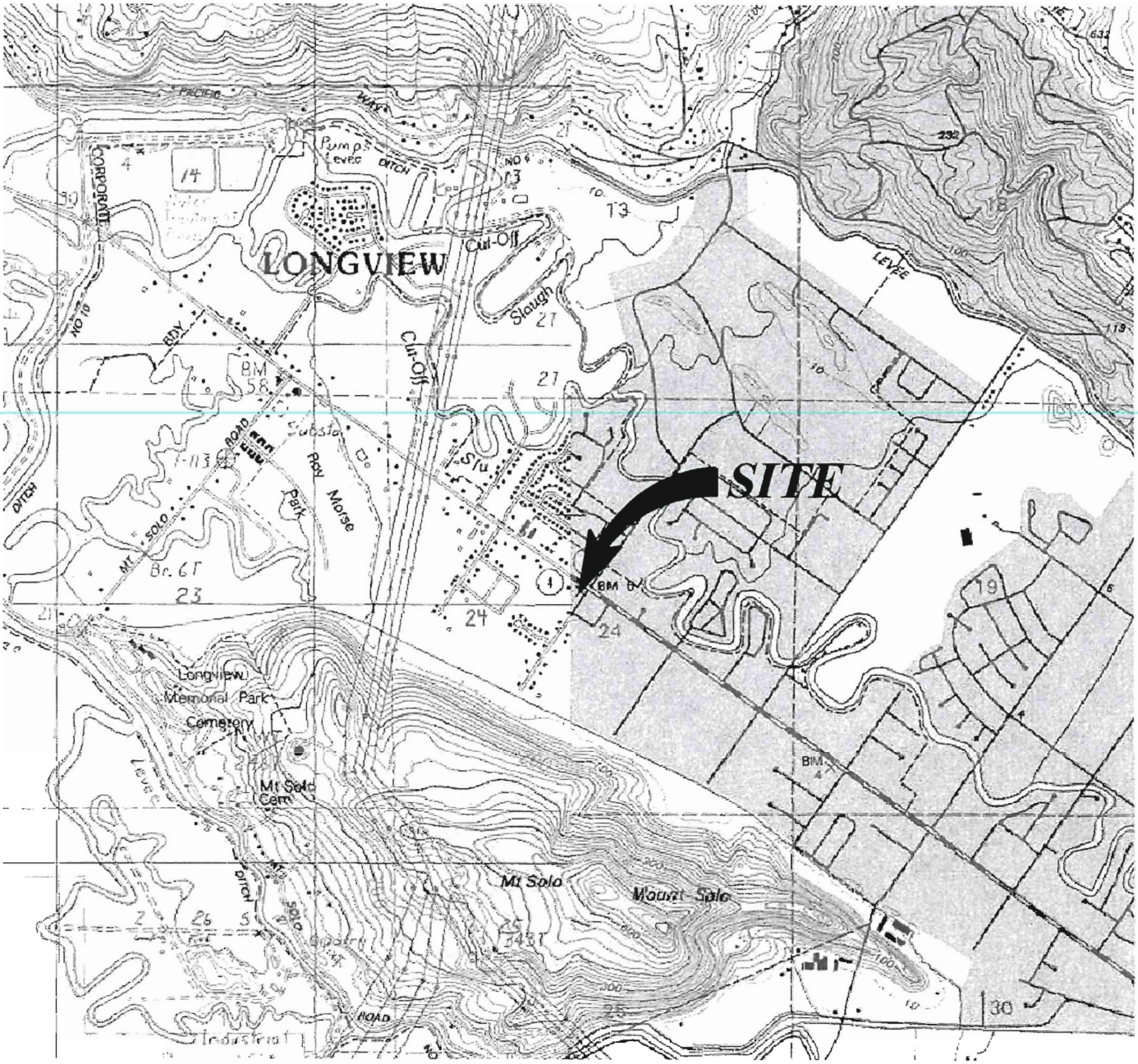
[c] Dissolved oxygen by EPA Method 360.1 (field instrument reading).

[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).



SLR International Corp

22122 20th AVE SE
BLDG. H, SUITE 150
BOTHELL, WA 98021

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

DATE 06/04
DWN. BDT
APPR. _____
REVIS. _____
PROJECT NO.
001.0173.00003

FIGURE 1
FORMER ARCO SERVICE STATION #0855
LONGVIEW, WASHINGTON

SITE LOCATION MAP

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BOON DOX MARKET

BOON DOX TAVERN

TEXACO SERVICE STATION

LEGEND

- **MW-5** — SHALLOW GROUNDWATER MONITORING WELL LOCATION AND DESIGNATION
- MW-2 — ABANDONED OR DESTROYED SHALLOW GROUNDWATER MONITORING WELL LOCATION AND DESIGNATION
- (3.34) — SHALLOW GROUNDWATER ELEVATION (IN FEET)
- **18** B / **2,500** 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

OCEAN BEACH HIGHWAY

SIDEWALK

SIDEWALK

MW-10 (2.99) **18** B **2,500** G

MW-9 (4.37) <1 B <100 G

BUS LANE

MW-11 (2.55) <1 B <100 G

MW-3

MW-4

MW-5 (3.34) <1 B <100 G

PLANTER

FORMER UNDERGROUND DISPENSER LINES

UNDEVELOPED MARSHY LAND

MW-13 (5.50) <1 B <100 G

FORMER DISPENSER ISLAND

MW-12 (3.01) <1 B <100 G

MW-6

FORMER GASOLINE USTs

MW-2

FORMER SERVICE STATION BUILDING

MW-14 (4.12) <1 B <100 G

FORMER HEATING OIL UST

FORMER USED OIL UST

MW-1

MW-7

PROPERTY LINE

GRASS STRIP

FORMER SERVICE STATION PARCEL (SITE) BOUNDARY

UNDEVELOPED LAND

PROPERTY LINE

46TH AVENUE

MW-8 (2.42) <1 B <100 G

HENRI'S RESTAURANT

0 30 60

SCALE IN FEET

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SLR International Corp
22122 20th AVE SE
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BOTHELL, WA 98021
T: 425-402-8800
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DATE 08/08
DWN. BDT
APPR.
REVIS.
PROJECT NO. 001.0173.00007

FIGURE 2
FORMER ARCO SERVICE STATION #0855
4603 OCEAN BEACH HIGHWAY
LONGVIEW, WASHINGTON
SHALLOW GROUNDWATER SAMPLING RESULTS - JULY 2008

BOON DOX MARKET

BOON DOX TAVERN

TEXACO SERVICE STATION

DMW-7 (2.10)
<1 B
<100 G

LEGEND

DMW-7 DEEP GROUNDWATER MONITORING WELL LOCATION AND DESIGNATION

DMW-1 ABANDONED DEEP GROUNDWATER MONITORING WELL LOCATION AND DESIGNATION

(2.10) DEEP GROUNDWATER ELEVATION (IN FEET)

<1 B
<100 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

OCEAN BEACH HIGHWAY

SIDEWALK

DMW-8 (2.12)
<1 B
<100 G

SIDEWALK

DMW-6 (2.11)
<1 B
<100 G

BUS LANE

46TH AVENUE

DMW-5 (3.13)
1 B
<100 G

DMW-1
DMW-9 (2.01)
3,600 B
9,500 G

DMW-4 (2.14)
<1 B
<100 G

PLANTER

FORMER UNDERGROUND DISPENSER LINES

UNDEVELOPED MARSHY LAND

FORMER DISPENSER ISLAND

FORMER GASOLINE USTs

FORMER SERVICE STATION BUILDING

DMW-2
DMW-10 (2.14)
89 B
1,100 G

PROPERTY LINE

FORMER HEATING OIL UST

FORMER USED OIL UST

GRASS STRIP

DMW-3 (1.14)
<1 B
<100 G

FORMER SERVICE STATION PARCEL (SITE) BOUNDARY

UNDEVELOPED LAND

PROPERTY LINE

HENRI'S RESTAURANT

0 30 60
SCALE IN FEET

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SLR International Corp
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DATE 08/08
DWN. BDT
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REVIS.
PROJECT NO.
001.0173.00007

FIGURE 3
FORMER ARCO SERVICE STATION #0855
4603 OCEAN BEACH HIGHWAY
LONGVIEW, WASHINGTON
DEEP GROUNDWATER SAMPLING RESULTS - JULY 2008

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Charlene Morrow, M.S.
Yelena Aravkina, M.S.
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3012 16th Avenue West
Seattle, WA 98119-2029
TEL: (206) 285-8282
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e-mail: fbi@isomedia.com

July 21, 2008

Mike Staton, Project Manager
SLR International Corp.
22122 20th Ave. SE., H-150
Bothell, WA 98021

Dear Mr. Staton:

Included are the results from the testing of material submitted on July 3, 2008 from the 001.0173.00007 Longview Arco, F&BI 807048 project. There are 24 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.

Michael Erdahl
Project Manager

Enclosures
SLR0721R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on July 3, 2008 by Friedman & Bruya, Inc. from the SLR International Corp. 001.0173.00007 Longview Arco, F&BI 807048 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	SLR International Corp.
807048-01	DMW8-0708
807048-02	DMW3-0708
807048-03	MW14-0708
807048-04	DMW10-0708
807048-05	DMW5-0708
807048-06	MW11-0708
807048-07	MW5-0708
807048-08	DMW4-0708
807048-09	MW12-0708
807048-10	MW9-0708
807048-11	DMW6-0708
807048-12	DMW9-0708
807048-13	MW13-0708
807048-14	MW10-0708

The samples were sent to Analytical Resources, Inc. for nitrate, sulfate, alkalinity, and dissolved methane analyses. The report is enclosed.

All quality control requirements were acceptable.

Date of Report: 07/21/08
Date Received: 07/03/08
Project: 001.0173.00007 Longview Arco, F&BI 807048
Date Extracted: 07/08/08
Date Analyzed: 07/08/08 and 07/10/08

RESULTS FROM THE ANALYSIS OF THE 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 52-124)
DMW8-0708 807048-01	<1	<1	<1	<3	<100	118
DMW3-0708 807048-02	<1	<1	<1	<3	<100	120
MW14-0708 807048-03	<1	<1	<1	<3	<100	99
DMW10-0708 d 807048-04 1/5	89	6	160	130	1,100	102
DMW5-0708 807048-05	1	<1	<1	<3	<100	102
MW11-0708 807048-06	<1	<1	<1	<3	<100	122
MW5-0708 807048-07	<1	<1	1	<3	<100	123
DMW4-0708 807048-08	<1	<1	<1	<3	<100	122
MW12-0708 807048-09	<1	<1	<1	<3	<100	115
MW9-0708 807048-10	<1	<1	<1	<3	<100	102
DMW6-0708 807048-11	<1	<1	<1	<3	<100	114

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 07/21/08
Date Received: 07/03/08
Project: 001.0173.00007 Longview Arco, F&BI 807048
Date Extracted: 07/08/08
Date Analyzed: 07/08/08 and 07/10/08

RESULTS FROM THE ANALYSIS OF THE 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 52-124)
DMW9-0708 807048-12 1/40	3,600	3	320	610	9,500	120
MW13-0708 d 807048-13	<1	<1	<1	<3	<100	123
MW10-0708 807048-14	18	2	53	41	2,500	115
Method Blank	<1	<1	<1	<3	<100	125

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 07/21/08
Date Received: 07/03/08
Project: 001.0173.00007 Longview Arco, F&BI 807048
Date Extracted: 07/08/08
Date Analyzed: 07/10/08 and 07/11/08

RESULTS FROM THE ANALYSIS OF THE WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL RANGE USING METHOD NWTPH-Dx
Sample Extracts Passed Through a Silica Gel Column Prior to Analysis
Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Surrogate (% Recovery) (Limit 50-150)
DMW8-0708 807048-01	<50	106
DMW3-0708 807048-02	<50	105
MW14-0708 807048-03	<50	108
DMW10-0708 807048-04	68 x	97
DMW5-0708 807048-05	<50	98
MW11-0708 807048-06	<50	111
MW5-0708 807048-07	<50	117
DMW4-0708 807048-08	<50	110
MW12-0708 807048-09	<50	111
MW9-0708 807048-10	<50	89

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 07/21/08
Date Received: 07/03/08
Project: 001.0173.00007 Longview Arco, F&BI 807048
Date Extracted: 07/08/08
Date Analyzed: 07/10/08 and 07/11/08

RESULTS FROM THE ANALYSIS OF THE WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL RANGE USING METHOD NWTPH-Dx
Sample Extracts Passed Through a Silica Gel Column Prior to Analysis
Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Surrogate (% Recovery) (Limit 50-150)
DMW6-0708 807048-11	<50	93
DMW9-0708 807048-12	520 x	145
MW13-0708 807048-13	<50	106
MW10-0708 807048-14	1,100 x	108
Method Blank	<50	108

Analysis For Dissolved Metals By EPA Method 200.8

Client ID:	DMW8-0708	Client:	SLR International Corp.
Date Received:	07/03/08	Project:	001.0173.00007 Longview Arco
Date Extracted:	07/16/08	Lab ID:	807048-01
Date Analyzed:	07/16/08	Data File:	807048-01.010
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	hr

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	98	60	125

Analyte:	Concentration ug/L (ppb)
Manganese	1,780

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 200.8

Client ID:	DMW3-0708	Client:	SLR International Corp.
Date Received:	07/03/08	Project:	001.0173.00007 Longview Arco
Date Extracted:	07/16/08	Lab ID:	807048-02
Date Analyzed:	07/16/08	Data File:	807048-02.013
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	hr

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

Analyte:	Concentration ug/L (ppb)
Manganese	2,310

Analysis For Dissolved Metals By EPA Method 200.8

Client ID:	MW14-0708	Client:	SLR International Corp.
Date Received:	07/03/08	Project:	001.0173.00007 Longview Arco
Date Extracted:	07/16/08	Lab ID:	807048-03
Date Analyzed:	07/16/08	Data File:	807048-03.014
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	hr

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	93	60	125

Analyte:	Concentration ug/L (ppb)
Manganese	2,380

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 200.8

Client ID:	DMW10-0708	Client:	SLR International Corp.
Date Received:	07/03/08	Project:	001.0173.00007 Longview Arco
Date Extracted:	07/16/08	Lab ID:	807048-04
Date Analyzed:	07/16/08	Data File:	807048-04.015
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	hr

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

Analyte:	Concentration ug/L (ppb)
Manganese	3,980

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 200.8

Client ID:	DMW5-0708	Client:	SLR International Corp.
Date Received:	07/03/08	Project:	001.0173.00007 Longview Arco
Date Extracted:	07/16/08	Lab ID:	807048-05
Date Analyzed:	07/16/08	Data File:	807048-05.016
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	hr

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	94	60	125

Analyte:	Concentration ug/L (ppb)
Manganese	2,510

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 200.8

Client ID:	MW11-0708	Client:	SLR International Corp.
Date Received:	07/03/08	Project:	001.0173.00007 Longview Arco
Date Extracted:	07/16/08	Lab ID:	807048-06
Date Analyzed:	07/16/08	Data File:	807048-06.017
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	hr

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	95	60	125

Analyte:	Concentration ug/L (ppb)
Manganese	963

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 200.8

Client ID:	MW5-0708	Client:	SLR International Corp.
Date Received:	07/03/08	Project:	001.0173.00007 Longview Arco
Date Extracted:	07/16/08	Lab ID:	807048-07
Date Analyzed:	07/16/08	Data File:	807048-07.019
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	hr

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	97	60	125

Analyte:	Concentration ug/L (ppb)
Manganese	1,380

Analysis For Dissolved Metals By EPA Method 200.8

Client ID:	DMW4-0708	Client:	SLR International Corp.
Date Received:	07/03/08	Project:	001.0173.00007 Longview Arco
Date Extracted:	07/16/08	Lab ID:	807048-08
Date Analyzed:	07/16/08	Data File:	807048-08.020
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	hr

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	111	60	125

Analyte:	Concentration ug/L (ppb)
Manganese	2,260

Analysis For Dissolved Metals By EPA Method 200.8

Client ID:	MW12-0708	Client:	SLR International Corp.
Date Received:	07/03/08	Project:	001.0173.00007 Longview Arco
Date Extracted:	07/16/08	Lab ID:	807048-09 x10
Date Analyzed:	07/21/08	Data File:	807048-09 x10.010
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	hr

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	97	60	125

Analyte:	Concentration ug/L (ppb)
Manganese	8,340

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 200.8

Client ID:	MW9-0708	Client:	SLR International Corp.
Date Received:	07/03/08	Project:	001.0173.00007 Longview Arco
Date Extracted:	07/16/08	Lab ID:	807048-10
Date Analyzed:	07/16/08	Data File:	807048-10.022
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	hr

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

Analyte:	Concentration ug/L (ppb)
Manganese	18.0

Analysis For Dissolved Metals By EPA Method 200.8

Client ID:	DMW6-0708	Client:	SLR International Corp.
Date Received:	07/03/08	Project:	001.0173.00007 Longview Arco
Date Extracted:	07/16/08	Lab ID:	807048-11
Date Analyzed:	07/16/08	Data File:	807048-11.023
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	hr

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

Analyte:	Concentration ug/L (ppb)
Manganese	2,000

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 200.8

Client ID:	DMW9-0708	Client:	SLR International Corp.
Date Received:	07/03/08	Project:	001.0173.00007 Longview Arco
Date Extracted:	07/16/08	Lab ID:	807048-12
Date Analyzed:	07/16/08	Data File:	807048-12.024
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	hr

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	103	60	125

Analyte:	Concentration ug/L (ppb)
Manganese	2,580

Analysis For Dissolved Metals By EPA Method 200.8

Client ID:	MW13-0708	Client:	SLR International Corp.
Date Received:	07/03/08	Project:	001.0173.00007 Longview Arco
Date Extracted:	07/16/08	Lab ID:	807048-13 x10
Date Analyzed:	07/21/08	Data File:	807048-13 x10.011
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	hr

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

Analyte:	Concentration ug/L (ppb)
Manganese	9,750

Analysis For Dissolved Metals By EPA Method 200.8

Client ID:	MW10-0708	Client:	SLR International Corp.
Date Received:	07/03/08	Project:	001.0173.00007 Longview Arco
Date Extracted:	07/16/08	Lab ID:	807048-14
Date Analyzed:	07/16/08	Data File:	807048-14.026
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	hr

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	117	60	125

Analyte:	Concentration ug/L (ppb)
Manganese	3,250

Analysis For Dissolved Metals By EPA Method 200.8

Client ID:	Method Blank	Client:	SLR International Corp.
Date Received:	NA	Project:	001.0173.00007 Longview Arco
Date Extracted:	07/16/08	Lab ID:	I8-286 mb
Date Analyzed:	07/16/08	Data File:	I8-286 mb.008
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	hr

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

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

Date of Report: 07/21/08
Date Received: 07/03/08
Project: 001.0173.00007 Longview Arco, F&BI 807048

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: 807048-14 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference (Limit 20)
Benzene	ug/L (ppb)	18	16	12
Toluene	ug/L (ppb)	2	2	0
Ethylbenzene	ug/L (ppb)	53	52	2
Xylenes	ug/L (ppb)	41	40	2
Gasoline	ug/L (ppb)	2,500	2,600	4

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	ug/L (ppb)	50	104	65-118
Toluene	ug/L (ppb)	50	105	72-122
Ethylbenzene	ug/L (ppb)	50	108	73-126
Xylenes	ug/L (ppb)	150	104	74-118
Gasoline	ug/L (ppb)	1,000	93	69-134

Date of Report: 07/21/08
Date Received: 07/03/08
Project: 001.0173.00007 Longview Arco, F&BI 807048

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL USING METHOD NWTPH-Dx

Laboratory Code: Laboratory Control Sample Silica Gel

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel	ug/L (ppb)	2,500	96	89	70-130	8

Date of Report: 07/21/08
Date Received: 07/03/08
Project: 001.0173.00007 Longview Arco, F&BI 807048

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

Laboratory Code: 807048-01 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference	Acceptance Criteria
Manganese	ug/L (ppb)	1,780	1,790	0	0-20

Laboratory Code: 807048-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Manganese	ug/L (ppb)	20	1,780	558 b	50-150

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Manganese	ug/L (ppb)	20	116	70-130

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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 probablility.

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 - The analyte indicated was found in the method blank. The result should be considered an estimate.

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 - The sample was extracted outside of holding time. Results should be considered estimates.

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 - The value reported exceeded the calibration range established for the analyte. The reported concentration should be considered an estimate.

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

x - The pattern of peaks present is not indicative of diesel.

y - The pattern of peaks present is not indicative of motor oil.

NEDS

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

ad Report To Michael Erdahl

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.	PO #
807048	H-1486

REMARKS

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	Dissolved Methane				Notes
DMW8-0708		7/2/08	935	W	1				X	X	X	X				
DMW3-0708			1040													
MW14-0708			1141													
DMW10-0708			1220													
~~DMW5~~ DMW5-0708			1305													
MW11-0708			1350													
MW5-0708			1440													
DMW4-0708			1520													
MW12-0708			1815													
MW9-0708			1905													
DMW6-0708			1945													
DMW9-0708			~~1~~ 910													
MW13-0708			950													

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	7/3/08	2:10PM
Received by: Kimberly Rigg	Kimberly Rigg		7/3/08	15:45
Relinquished by:				
Received by:				

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

Send Report To Michael Erdahl

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.	PO #
807048	11-1486

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
MW10-0708		7/2/08	1035	W	1				X	X	X	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	Friedman & Bruya	7/3/08	2:10PM
Received by:	Kimberly Rigg	Kimberly Rigg		7/3/08	15:45
Relinquished by:					
Received by:					

Analytical Resources, Incorporated
Analytical Chemists and Consultants

July 17, 2008

Mike Erdahl
Friedman & Bruya
3012 – 16th Avenue West
Seattle, WA 9819-2029

Project: 807048 PO# H-1486
ARI ID: NE05

Dear Mr. Erdahl:

Please find enclosed the original Chain of Custody record, sample receipt documentation, and analytical results for the project referenced above. Analytical Resources, Inc. accepted fourteen water samples in good condition on July 03, 2008. Please refer to the enclosed Cooler Receipt Form for further details regarding sample receipt.

The samples were analyzed for Dissolved Methane/Ethane/Ethene, Alkalinity, Nitrate, and Sulfate, as requested on the Chain of Custody.

All analyses were completed routinely, with the exception of the irregularities below.

Nitrate and Sulfate

The reporting limits were elevated on a per sample basis due to dilutions necessary according to the nature of the sample matrix.

Quality control analysis results are included for your review. Copies of the reports and all associated raw data will be kept on file electronically at ARI. If you have any questions or require additional information, please contact me at your convenience.

Respectfully,

Eric Branson
Client Services – Project Support
ANALYTICAL RESOURCES, INC.
(206) 695-6213
eric@arilabs.com
www.arilabs.com

• Enclosures •

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: Friedman & Bruya Inc Project Name: 807048

COC No: _____ Delivered by: Courier

Assigned ARI Job No: NEOF Tracking No: —

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler?	YES	(NO)
Were custody papers included with the cooler?	(YES)	NO
Were custody papers properly filled out (ink, signed, etc.)	(YES)	NO
Record cooler temperature (recommended 2.0-6.0 °C for chemistry	~~4.6~~ 3.8 °C	

Cooler Accepted by: KR Date: 7/03/08 Time: 15:45

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler?	YES	[NO]
What kind of packing material was used?	Ice	
Was sufficient ice used (if appropriate)?	[YES]	NO
Were all bottles sealed in individual plastic bags?	YES	[NO]
Did all bottle arrive in good condition (unbroken)?	[YES]	NO
Were all bottle labels complete and legible?	[YES]	NO
Did all bottle labels and tags agree with custody papers?	[YES]	NO
Were all bottles used correct for the requested analyses?	[YES]	NO
Do any of the analyses (bottles) require preservation? (attach preservation checklist)	YES	[NO]
Were all VOC vials free of air bubbles? [NA]	YES	NO
Was sufficient amount of sample sent in each bottle?	[YES]	NO

Samples Logged by: (KR) Date: 7/7/08 Time: 1000

***** Notify Project Manager of discrepancies or concerns *****

Explain discrepancies or negative responses:

By: Date:

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
METHANE ETHANE ETHENE
Modified RSK 175

Matrix: Water

QC Report No: NE05-Friedman & Bruya, Inc.
Project: H-1486
807048
Date Received: 07/03/08

Data Release Authorized:
Reported: 07/14/08

ARI ID	Sample ID	Analysis Date	DL	Analyte	RL	Result
NE05A	DMW8-0708	07/10/08	1.0	**Methane**	**0.7**	**1,190**
08-14634				Ethane	1.2	< 1.2 U
				Ethene	1.1	< 1.1 U
NE05B	DMW3-0708	07/10/08	1.0	**Methane**	**0.7**	**1,580**
08-14635				Ethane	1.2	< 1.2 U
				Ethene	1.1	< 1.1 U
NE05C	MW14-0708	07/10/08	1.0	Methane	0.7	< 0.7 U
08-14636				Ethane	1.2	< 1.2 U
				Ethene	1.1	< 1.1 U
NE05D	DMW10-0708	07/10/08	1.0	**Methane**	**0.7**	**11,000**
08-14637				**Ethane**	**1.2**	**16.0**
				Ethene	1.1	< 1.1 U
NE05E	DMW5-0708	07/10/08	1.0	**Methane**	**0.7**	**8,780**
08-14638				**Ethane**	**1.2**	**1.4**
				Ethene	1.1	< 1.1 U
NE05F	MW11-0708	07/10/08	1.0	**Methane**	**0.7**	**201**
08-14639				Ethane	1.2	< 1.2 U
				Ethene	1.1	< 1.1 U
NE05G	MW5-0708	07/10/08	1.0	**Methane**	**0.7**	**475**
08-14640				Ethane	1.2	< 1.2 U
				Ethene	1.1	< 1.1 U
NE05H	DMW4-0708	07/10/08	1.0	**Methane**	**0.7**	**1,580**
08-14641				Ethane	1.2	< 1.2 U
				Ethene	1.1	< 1.1 U
NE05I	MW12-0708	07/10/08	1.0	**Methane**	**0.7**	**467**
08-14642				Ethane	1.2	< 1.2 U
				Ethene	1.1	< 1.1 U
NE05J	MW9-0708	07/10/08	1.0	Methane	0.7	< 0.7 U
08-14643				Ethane	1.2	< 1.2 U
				Ethene	1.1	< 1.1 U
NE05K	DMW6-0708	07/10/08	1.0	**Methane**	**0.7**	**7,590**
08-14644				Ethane	1.2	< 1.2 U
				Ethene	1.1	< 1.1 U
NE05L	DMW9-0708	07/10/08	1.0	**Methane**	**0.7**	**21,100**
08-14645				**Ethane**	**1.2**	**35.7**
				Ethene	1.1	< 1.1 U
NE05M	MW13-0708	07/10/08	1.0	**Methane**	**0.7**	**6.8**
08-14646				Ethane	1.2	< 1.2 U
				Ethene	1.1	< 1.1 U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
METHANE ETHANE ETHENE

Modified RSK 175

Matrix: Water

QC Report No: NE05-Friedman & Bruya, Inc.
Project: H-1486
807048
Date Received: 07/03/08

Data Release Authorized:
Reported: 07/14/08

ARI ID	Sample ID	Analysis Date	DL	Analyte	RL	Result
NE05N	MW10-0708	07/10/08	1.0	**Methane**	**0.7**	**7,340**
08-14647				**Ethane**	**1.2**	**3.2**
				Ethene	1.1	< 1.1 U
NE05ADUP	DMW8-0708	07/10/08	1.0	**Methane**	**0.7**	**1,620**
					RPD:	30.60 %
				Ethane	1.2	< 1.2 U
				Ethene	1.1	< 1.1 U
071008MB	Method Blank	07/10/08	1.0	Methane	0.7	< 0.7 U
071008MB	Method Blank	07/10/08	1.0	Ethane	1.2	< 1.2 U
071008MB	Method Blank	07/10/08	1.0	Ethene	1.1	< 1.1 U

Reported in ug/L (ppb)

ANALYTICAL RESOURCES INCORPORATED

RSK 175/METHANE-ETHANE-ETHENE WATER SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: NE05-Friedman & Bruya, Inc.
Project: H-1486
807048

ARI ID	Client ID	PRP	TOT OUT
NE05A	DMW8-0708	95.9%	0
NE05ADUP	DMW8-0708	95.8%	0
NE05B	DMW3-0708	94.5%	0
NE05C	MW14-0708	97.2%	0
NE05D	DMW10-0708	92.4%	0
NE05E	DMW5-0708	91.1%	0
NE05F	MW11-0708	96.2%	0
NE05G	MW5-0708	95.7%	0
NE05H	DMW4-0708	93.9%	0
NE05I	MW12-0708	91.4%	0
NE05J	MW9-0708	98.1%	0
NE05K	DMW6-0708	92.8%	0
NE05L	DMW9-0708	88.4%	0
NE05M	MW13-0708	89.4%	0
NE05N	MW10-0708	90.7%	0
MB-071008	Method Blank	96.9%	0
LCS-071008	Lab Control	99.6%	0
LCSD-071008	Lab Control Dup	99.3%	0

	LCS/MB LIMITS	QC LIMITS
(PRP) = Propane	(80-120)	(77-120)

Log Number Range: 08-14634 to 08-14647

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
METHANE ETHANE ETHENE

Modified RSK 175
Page 1 of 1
Matrix: Water

QC Report No: NE05-Friedman & Bruya, Inc.
Project: H-1486
807048
Date Received: 07/03/08

Data Release Authorized:
Reported: 07/14/08

ARI ID	Analysis Date	Analyte	Spike	Result	Recovery	RPD
071008LCS	07/10/08	Methane	654	700	107.0%	0.6%
071008LCSD				704	107.6%	
071008LCS	07/10/08	Ethane	1,230	1,220	99.4%	0.0%
071008LCSD				1,220	99.4%	
071008LCS	07/10/08	Ethene	1,150	1,130	98.7%	0.0%
071008LCSD				1,130	98.7%	

Reported in ug/L (ppb)

SAMPLE RESULTS-CONVENTIONALS
NE05-Friedman & Bruya, Inc.

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 07/15/08

Project: H-1486
Event: 807048
Date Sampled: 07/02/08
Date Received: 07/03/08

Client ID: DMW8-0708
ARI ID: 08-14634 NE05A

Analyte	Date Batch	Method	Units	RL	Sample
Alkalinity	07/08/08 070808#2	SM 2320	mg/L CaCO3	1.0	109
N-Nitrate	07/03/08	Calculated	mg-N/L	0.100	< 0.100 U
N-Nitrite	07/03/08 070308#2	EPA 353.2	mg-N/L	0.100	< 0.100 U
Nitrate + Nitrite	07/03/08 070308#2	EPA 353.2	mg-N/L	0.100	< 0.100 U
Sulfate	07/10/08 071008#1	EPA 375.2	mg/L	10.0	37.0

RL Analytical reporting limit
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS
NE05-Friedman & Bruya, Inc.

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 07/15/08

Project: H-1486
Event: 807048
Date Sampled: 07/02/08
Date Received: 07/03/08

Client ID: DMW3-0708
ARI ID: 08-14635 NE05B

Analyte	Date Batch	Method	Units	RL	Sample
Alkalinity	07/08/08 070808#2	SM 2320	mg/L CaCO3	1.0	214
N-Nitrate	07/03/08	Calculated	mg-N/L	0.100	< 0.100 U
N-Nitrite	07/03/08 070308#2	EPA 353.2	mg-N/L	0.100	< 0.100 U
Nitrate + Nitrite	07/03/08 070308#2	EPA 353.2	mg-N/L	0.100	< 0.100 U
Sulfate	07/10/08 071008#1	EPA 375.2	mg/L	10.0	43.9

RL Analytical reporting limit
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS
NE05-Friedman & Bruya, Inc.

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 07/15/08

Project: H-1486
Event: 807048
Date Sampled: 07/02/08
Date Received: 07/03/08

Client ID: MW14-0708
ARI ID: 08-14636 NE05C

Analyte	Date Batch	Method	Units	RL	Sample
Alkalinity	07/08/08 070808#2	SM 2320	mg/L CaCO3	1.0	43.4
N-Nitrate	07/03/08	Calculated	mg-N/L	0.010	0.950
N-Nitrite	07/03/08 070308#2	EPA 353.2	mg-N/L	0.010	0.011
Nitrate + Nitrite	07/03/08 070308#2	EPA 353.2	mg-N/L	0.010	0.961
Sulfate	07/10/08 071008#1	EPA 375.2	mg/L	100	891

RL Analytical reporting limit
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS
NE05-Friedman & Bruya, Inc.

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 07/15/08

Project: H-1486
Event: 807048
Date Sampled: 07/02/08
Date Received: 07/03/08

Client ID: DMW10-0708
ARI ID: 08-14637 NE05D

Analyte	Date Batch	Method	Units	RL	Sample
Alkalinity	07/08/08 070808#2	SM 2320	mg/L CaCO3	1.0	266
N-Nitrate	07/03/08	Calculated	mg-N/L	0.100	< 0.100 U
N-Nitrite	07/03/08 070308#2	EPA 353.2	mg-N/L	0.100	< 0.100 U
Nitrate + Nitrite	07/03/08 070308#2	EPA 353.2	mg-N/L	0.100	< 0.100 U
Sulfate	07/10/08 071008#1	EPA 375.2	mg/L	20.0	27.9

RL Analytical reporting limit
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS
NE05-Friedman & Bruya, Inc.

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 07/15/08

Project: H-1486
Event: 807048
Date Sampled: 07/02/08
Date Received: 07/03/08

Client ID: DMW5-0708
ARI ID: 08-14638 NE05E

Analyte	Date Batch	Method	Units	RL	Sample
Alkalinity	07/08/08 070808#2	SM 2320	mg/L CaCO3	1.0	221
N-Nitrate	07/03/08	Calculated	mg-N/L	0.100	< 0.100 U
N-Nitrite	07/03/08 070308#2	EPA 353.2	mg-N/L	0.100	< 0.100 U
Nitrate + Nitrite	07/03/08 070308#2	EPA 353.2	mg-N/L	0.100	< 0.100 U
Sulfate	07/10/08 071008#1	EPA 375.2	mg/L	20.0	42.6

RL Analytical reporting limit
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS
NE05-Friedman & Bruya, Inc.

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 07/15/08

Project: H-1486
Event: 807048
Date Sampled: 07/02/08
Date Received: 07/03/08

Client ID: MW11-0708
ARI ID: 08-14639 NE05F

Analyte	Date Batch	Method	Units	RL	Sample
Alkalinity	07/08/08 070808#2	SM 2320	mg/L CaCO3	1.0	89.4
N-Nitrate	07/03/08	Calculated	mg-N/L	0.010	0.044
N-Nitrite	07/03/08 070308#2	EPA 353.2	mg-N/L	0.010	< 0.010 U
Nitrate + Nitrite	07/03/08 070308#2	EPA 353.2	mg-N/L	0.010	0.044
Sulfate	07/10/08 071008#1	EPA 375.2	mg/L	10.0	162

RL Analytical reporting limit
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS
NE05-Friedman & Bruya, Inc.

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 07/15/08

Project: H-1486
Event: 807048
Date Sampled: 07/02/08
Date Received: 07/03/08

Client ID: MW5-0708
ARI ID: 08-14640 NE05G

Analyte	Date Batch	Method	Units	RL	Sample
Alkalinity	07/08/08 070808#2	SM 2320	mg/L CaCO3	1.0	80.8
N-Nitrate	07/03/08	Calculated	mg-N/L	0.010	0.468
N-Nitrite	07/03/08 070308#2	EPA 353.2	mg-N/L	0.010	0.016
Nitrate + Nitrite	07/03/08 070308#2	EPA 353.2	mg-N/L	0.010	0.484
Sulfate	07/10/08 071008#1	EPA 375.2	mg/L	20.0	275

RL Analytical reporting limit
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS
NE05-Friedman & Bruya, Inc.

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 07/15/08

Project: H-1486
Event: 807048
Date Sampled: 07/02/08
Date Received: 07/03/08

Client ID: DMW4-0708
ARI ID: 08-14641 NE05H

Analyte	Date Batch	Method	Units	RL	Sample
Alkalinity	07/08/08 070808#2	SM 2320	mg/L CaCO3	1.0	65.8
N-Nitrate	07/03/08	Calculated	mg-N/L	0.050	3.38
N-Nitrite	07/03/08 070308#2	EPA 353.2	mg-N/L	0.010	0.024
Nitrate + Nitrite	07/03/08 070308#2	EPA 353.2	mg-N/L	0.050	3.40
Sulfate	07/10/08 071008#1	EPA 375.2	mg/L	100	1,040

RL Analytical reporting limit
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS
NE05-Friedman & Bruya, Inc.

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 07/15/08

Project: H-1486
Event: 807048
Date Sampled: 07/02/08
Date Received: 07/03/08

Client ID: MW12-0708
ARI ID: 08-14642 NE05I

Analyte	Date Batch	Method	Units	RL	Sample
Alkalinity	07/08/08 070808#2	SM 2320	mg/L CaCO3	1.0	52.3
N-Nitrate	07/03/08	Calculated	mg-N/L	0.100	< 0.100 U
N-Nitrite	07/03/08 070308#2	EPA 353.2	mg-N/L	0.100	< 0.100 U
Nitrate + Nitrite	07/03/08 070308#2	EPA 353.2	mg-N/L	0.100	< 0.100 U
Sulfate	07/10/08 071008#1	EPA 375.2	mg/L	10.0	204

RL Analytical reporting limit
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS
NE05-Friedman & Bruya, Inc.

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 07/15/08

Project: H-1486
Event: 807048
Date Sampled: 07/02/08
Date Received: 07/03/08

Client ID: MW9-0708
ARI ID: 08-14643 NE05J

Analyte	Date Batch	Method	Units	RL	Sample
Alkalinity	07/08/08 070808#2	SM 2320	mg/L CaCO3	1.0	80.2
N-Nitrate	07/03/08	Calculated	mg-N/L	0.020	1.24
N-Nitrite	07/03/08 070308#2	EPA 353.2	mg-N/L	0.010	0.014
Nitrate + Nitrite	07/03/08 070308#2	EPA 353.2	mg-N/L	0.020	1.25
Sulfate	07/10/08 071008#1	EPA 375.2	mg/L	2.0	36.4

RL Analytical reporting limit
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS
NE05-Friedman & Bruya, Inc.

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 07/15/08

Project: H-1486
Event: 807048
Date Sampled: 07/02/08
Date Received: 07/03/08

Client ID: DMW6-0708
ARI ID: 08-14644 NE05K

Analyte	Date Batch	Method	Units	RL	Sample
Alkalinity	07/08/08 070808#2	SM 2320	mg/L CaCO3	1.0	149
N-Nitrate	07/03/08	Calculated	mg-N/L	0.100	< 0.100 U
N-Nitrite	07/03/08 070308#2	EPA 353.2	mg-N/L	0.100	< 0.100 U
Nitrate + Nitrite	07/03/08 070308#2	EPA 353.2	mg-N/L	0.100	< 0.100 U
Sulfate	07/10/08 071008#1	EPA 375.2	mg/L	10.0	54.0

RL Analytical reporting limit
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS
NE05-Friedman & Bruya, Inc.

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 07/15/08

Project: H-1486
Event: 807048
Date Sampled: 07/02/08
Date Received: 07/03/08

Client ID: DMW9-0708
ARI ID: 08-14645 NE05L

Analyte	Date Batch	Method	Units	RL	Sample
Alkalinity	07/08/08 070808#1	SM 2320	mg/L CaCO3	1.0	406
N-Nitrate	07/03/08	Calculated	mg-N/L	0.100	< 0.100 U
N-Nitrite	07/03/08 070308#2	EPA 353.2	mg-N/L	0.100	< 0.100 U
Nitrate + Nitrite	07/03/08 070308#2	EPA 353.2	mg-N/L	0.100	< 0.100 U
Sulfate	07/10/08 071008#1	EPA 375.2	mg/L	20.0	38.9

RL Analytical reporting limit
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS
NE05-Friedman & Bruya, Inc.

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 07/15/08

Project: H-1486
Event: 807048
Date Sampled: 07/02/08
Date Received: 07/03/08

Client ID: MW13-0708
ARI ID: 08-14646 NE05M

Analyte	Date Batch	Method	Units	RL	Sample
Alkalinity	07/08/08 070808#2	SM 2320	mg/L CaCO3	1.0	133
N-Nitrate	07/03/08	Calculated	mg-N/L	0.100	4.49
N-Nitrite	07/03/08 070308#2	EPA 353.2	mg-N/L	0.010	0.046
Nitrate + Nitrite	07/03/08 070308#2	EPA 353.2	mg-N/L	0.100	4.54
Sulfate	07/10/08 071008#1	EPA 375.2	mg/L	100	1,420

RL Analytical reporting limit
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS
NE05-Friedman & Bruya, Inc.

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 07/15/08

Project: H-1486
Event: 807048
Date Sampled: 07/02/08
Date Received: 07/03/08

Client ID: MW10-0708
ARI ID: 08-14647 NE05N

Analyte	Date Batch	Method	Units	RL	Sample
Alkalinity	07/08/08 070808#1	SM 2320	mg/L CaCO3	1.0	232
N-Nitrate	07/03/08	Calculated	mg-N/L	0.200	< 0.200 U
N-Nitrite	07/03/08 070308#2	EPA 353.2	mg-N/L	0.200	< 0.200 U
Nitrate + Nitrite	07/03/08 070308#2	EPA 353.2	mg-N/L	0.200	< 0.200 U
Sulfate	07/10/08 071008#1	EPA 375.2	mg/L	40.0	199

RL Analytical reporting limit
U Undetected at reported detection limit

MS/MSD RESULTS-CONVENTIONALS
NE05-Friedman & Bruya, Inc.

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 07/15/08

Project: H-1486
Event: 807048
Date Sampled: 07/02/08
Date Received: 07/03/08

Analyte	Method	Date	Units	Sample	Spike	Spike Added	Recovery
ARI ID: NE05A Client ID: DMW8-0708							
N-Nitrite	EPA 353.2	07/03/08	mg-N/L	< 0.100	4.48	5.00	89.6%
Nitrate + Nitrite	EPA 353.2	07/03/08	mg-N/L	< 0.100	4.48	5.00	89.6%
Sulfate	EPA 375.2	07/10/08	mg/L	37.0	245	200	104.0%

REPLICATE RESULTS-CONVENTIONALS
NE05-Friedman & Bruya, Inc.

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 07/15/08

Project: H-1486
Event: 807048
Date Sampled: 07/02/08
Date Received: 07/03/08

Analyte	Method	Date	Units	Sample	Replicate(s)	RPD/RSD
ARI ID: NE05A Client ID: DMW8-0708						
Alkalinity	SM 2320	07/08/08	mg/L CaCO3	109	109	0.0%
N-Nitrite	EPA 353.2	07/03/08	mg-N/L	< 0.100	< 0.100	NA
Nitrate + Nitrite	EPA 353.2	07/03/08	mg-N/L	< 0.100	< 0.100	NA
Sulfate	EPA 375.2	07/10/08	mg/L	37.0	38.4	3.7%
ARI ID: NE05L Client ID: DMW9-0708						
Alkalinity	SM 2320	07/08/08	mg/L CaCO3	406	408	0.5%

METHOD BLANK RESULTS-CONVENTIONALS
NE05-Friedman & Bruya, Inc.

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 07/15/08

Project: H-1486
Event: 807048
Date Sampled: NA
Date Received: NA

Analyte	Method	Date	Units	Blank
N-Nitrite	EPA 353.2	07/03/08	mg-N/L	< 0.010 U
Nitrate + Nitrite	EPA 353.2	07/03/08	mg-N/L	< 0.010 U
Sulfate	EPA 375.2	07/10/08	mg/L	< 2.0 U

STANDARD REFERENCE RESULTS-CONVENTIONALS
NE05-Friedman & Bruya, Inc.

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 07/15/08

Project: H-1486
Event: 807048
Date Sampled: NA
Date Received: NA

Analyte/SRM ID	Method	Date	Units	SRM	True Value	Recovery
Alkalinity ERA #P114506	SM 2320	07/08/08	mg/L CaCO3	67.4	65.4	103.1%
N-Nitrite ERA #23034	EPA 353.2	07/03/08	mg-N/L	0.505	0.500	101.0%
Nitrate + Nitrite ERA #20034	EPA 353.2	07/03/08	mg-N/L	0.518	0.500	103.6%
Sulfate ERA #37065	EPA 375.2	07/10/08	mg/L	26.3	25.0	105.2%

807048

SAMPLE CHAIN OF CUSTODY ME 07/03/08 V4/AI4/A04

Send Report To MIKE STATON
Company SLR
Address 22122 20TH AVE SE #H-150
City, State, ZIP Bothell, WA 98021
Phone #425-402-8800 Fax #425-402-8788

SAMPLERS (signature)

PROJECT NAME/NO.: 001.0173.00007 Longview Arco # 0855

PO #: 001.0173.00007

REMARKS: DRO after silica gel cleanup. Some samples were ringed of HCL preservative due to acid-base rx - see "Notes"

TURNAROUND TIME
- [x] Standard (2 Weeks)
- [ ] RUSH
- Rush charges authorized by:

SAMPLE DISPOSAL
- [x] 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 by 8260	SVOCs by 8270	HFS	Sulfate + Nitrate by 300.0	Dissolved 200.8 Manganese by	Alkalinity by 310.1	Dissolved RSK Methane on 175			Notes
DMW8-0708	01 A-H	7/2/08	935	Water	8	X	X	X				X	X	X	X			
DMW3-0708	02 A-H		1040															NO HCL
MW14-0708	03 A-H		1142															
DMW10-0708	04 A-H		1220															
DMW5-0708	05 A-H		1305															
MW11-0708	06 A-H		1350															
MW5-0708	07 A-H		1440															
DMW4-0708	08 A-H		1520															
MW12-0708	09 A-H		1615															
MW9-0708	10 A-H	↓	1905	↓	↓	↓	↓	↓				↓	↓	↓	↓			↓

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:		[redacted] LEE	[redacted]	7/2/08	1400
Received by:		Nhan Phan	FEB	7/3/08	14:10
Relinquished by:					
Received by:					

807048

SAMPLE CHAIN OF CUSTODY

ME 07/03/08 14/ AI4/ A1

Page # 2 of 2

Send Report To MIKE STATON

Company SLR

Address 22122 70th Ave. SE #H150

City, State, ZIP Bothell, WA 98021

Phone #425-402-8800 Fax # 425-402-8288

SAMPLERS (signature)

PROJECT NAME/NO.
001.0173.00007
Longview Arco #0855

PO #
001.0173.00007

REMARKS
DRO after silica gel cleanup
Some samples were rinsed of HCL preservative due to acid-base rx - see "Notes"

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 by 8260	SVOCs by 8270	HFS	Sulfate + Nitrate by 300.0	Dissolved Manganese by 6010B	Alkalinity by 310.1	Dissolved Methane by RSK 175			Notes
OMW6-0708	11 A-H	7/2/08	1945	Water	8	X	X	X				X	X	X	X			NO HCL
OMW9-0708	12 A-H	7/3/08	910	↓	↓	↓	↓	↓				↓	↓	↓	↓			↓
MW13-0708	13 A-H	↓	950	↓	↓	↓	↓	↓				↓	↓	↓	↓			
MW10-0708	14 A-H	↓	1035	↓	↓	↓	↓	↓				↓	↓	↓	↓			

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:	CHRIS LEE		SLR	7/3/08	1400
Received by:		Nhan Pham	FEBI	7/3/08	1410
Relinquished by:					
Received by:			Samples received at		°C

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

July 21, 2008

Mike Staton, Project Manager
SLR International Corp.
22122 20th Ave. SE., H-150
Bothell, WA 98021

Dear Mr. Staton:

Included are the results from the testing of material submitted on July 2, 2008 from the Longview 001.0173.00007, F&BI 807022 project. There are 10 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.

Michael Erdahl
Project Manager

Enclosures
SLR0721R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on July 2, 2008 by Friedman & Bruya, Inc. from the SLR International Corp. Longview 001.0173.00007, F&BI 807022 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	SLR International Corp.
807022-01	MW8-0708
807022-02	DMW7-0708

The samples were sent to Analytical Resources, Inc. for nitrate, sulfate, alkalinity, and dissolved methane analyses. The report is enclosed.

All quality control requirements were acceptable.

Date of Report: 07/21/08
Date Received: 07/02/08
Project: Longview 001.0173.00007, F&BI 807022
Date Extracted: 07/03/08
Date Analyzed: 07/04/08

RESULTS FROM THE ANALYSIS OF THE 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 52-124)
MW8-0708 807022-01	<1	<1	<1	<3	<100	112
DMW7-0708 807022-02	<1	<1	<1	<3	<100	92
Method Blank	<1	<1	<1	<3	<100	104

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 07/21/08
Date Received: 07/02/08
Project: Longview 001.0173.00007, F&BI 807022
Date Extracted: 07/08/08
Date Analyzed: 07/10/08

RESULTS FROM THE ANALYSIS OF THE WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL RANGE USING METHOD NWTPH-Dx
Sample Extracts Passed Through a Silica Gel Column Prior to Analysis
Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Surrogate (% Recovery) (Limit 51-132)
MW8-0708 807022-01	<50	104
DMW7-0708 807022-02	<50	109
Method Blank	<50	108

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 200.8

Client ID:	MW8-0708	Client:	SLR International Corp.
Date Received:	07/02/08	Project:	Longview 001.0173.00007
Date Extracted:	07/16/08	Lab ID:	807022-01
Date Analyzed:	07/16/08	Data File:	807022-01.027
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	hr

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

Analyte:	Concentration ug/L (ppb)
Manganese	407

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 200.8

Client ID:	DMW7-0708	Client:	SLR International Corp.
Date Received:	07/02/08	Project:	Longview 001.0173.00007
Date Extracted:	07/16/08	Lab ID:	807022-02 x10
Date Analyzed:	07/21/08	Data File:	807022-02 x10.009
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	hr

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	99	60	125

Analyte:	Concentration ug/L (ppb)
Manganese	5,570

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 200.8

Client ID:	Method Blank	Client:	SLR International Corp.
Date Received:	NA	Project:	Longview 001.0173.00007
Date Extracted:	07/16/08	Lab ID:	I8-286 mb
Date Analyzed:	07/16/08	Data File:	I8-286 mb.008
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	hr

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

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

Date of Report: 07/21/08
Date Received: 07/02/08
Project: Longview 001.0173.00007, F&BI 807022

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: 807016-01 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference (Limit 20)
Benzene	ug/L (ppb)	54	55	2
Toluene	ug/L (ppb)	8	8	0
Ethylbenzene	ug/L (ppb)	5	5	0
Xylenes	ug/L (ppb)	120	120	0
Gasoline	ug/L (ppb)	700	710	1

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	ug/L (ppb)	50	92	65-118
Toluene	ug/L (ppb)	50	93	72-122
Ethylbenzene	ug/L (ppb)	50	92	73-126
Xylenes	ug/L (ppb)	150	91	74-118
Gasoline	ug/L (ppb)	1,000	71	69-134

Date of Report: 07/21/08
Date Received: 07/02/08
Project: Longview 001.0173.00007, F&BI 807022

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL USING METHOD NWTPH-Dx

Laboratory Code: Laboratory Control Sample Silica Gel

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel	ug/L (ppb)	2,500	96	89	70-130	8

Date of Report: 07/21/08
Date Received: 07/02/08
Project: Longview 001.0173.00007, F&BI 807022

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

Laboratory Code: 807048-01 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference	Acceptance Criteria
Manganese	ug/L (ppb)	1,780	1,790	0	0-20

Laboratory Code: 807048-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Manganese	ug/L (ppb)	20	1,780	558 b	50-150

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Manganese	ug/L (ppb)	20	116	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 probablility.

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 - The analyte indicated was found in the method blank. The result should be considered an estimate.

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 - The sample was extracted outside of holding time. Results should be considered estimates.

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 - The value reported exceeded the calibration range established for the analyte. The reported concentration should be considered an estimate.

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

x - The pattern of peaks present is not indicative of diesel.

y - The pattern of peaks present is not indicative of motor oil.

NW7t

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

Send Report To Michael Erdahl

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. 807022

PO # H-1461

REMARKS

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	Dissolved Methane				Notes
MW8-0708		7/1/08	1145	W	3				X	X	X	X				
DMW7-0708		"	1235	W	3				X	X	X	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	Friedman & Bruya	7/2/08	2:00PM
Received by:		Joe, Chuck Hin Lo	ARI	7/2/08	1530
Relinquished by:					
Received by:					

Analytical Resources, Incorporated
Analytical Chemists and Consultants

July 16, 2008

Mike Erdahl
Friedman & Bruya
3012 – 16th Avenue West
Seattle, WA 9819-2029

Project: 807022 PO# H-1461
ARI ID: ND77

Dear Mr. Erdahl:

Please find enclosed the original Chain of Custody record, sample receipt documentation, and analytical results for the project referenced above. Analytical Resources, Inc. accepted two water samples in good condition on July 02, 2008. Please refer to the enclosed Cooler Receipt Form for further details regarding sample receipt.

The samples were analyzed for Dissolved Methane/Ethane/Ethene, Alkalinity, Nitrate, and Sulfate, as requested on the Chain of Custody.

All analyses were completed routinely, with the exception of the irregularities below.

Nitrate

The reporting limit was elevated from 0.01 mg-N/L to 0.10 due to dilutions necessary according to the nature of the sample matrix.

Quality control analysis results are included for your review. Copies of the reports and all associated raw data will be kept on file electronically at ARI. If you have any questions or require additional information, please contact me at your convenience.

Respectfully,

Eric Branson
Client Services – Project Support
ANALYTICAL RESOURCES, INC.
(206) 695-6213
eric@arilabs.com
www.arilabs.com

• Enclosures •

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: F&B Project Name: 807022

COC No: _____ Delivered by: Hand

Assigned ARI Job No: N077 Tracking No: _____

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler?	YES	(NO)
Were custody papers included with the cooler?	(YES)	NO
Were custody papers properly filled out (ink, signed, etc.)	(YES)	NO
Record cooler temperature (recommended 2.0-6.0 °C for chemistry	0.4 °C	

Cooler Accepted by: JL Date: 7/2/08 Time: 1530

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler?	YES	(NO)
What kind of packing material was used?	Bw	
Was sufficient ice used (if appropriate)?	YES	(NO)
Were all bottles sealed in individual plastic bags?	YES	(NO)
Did all bottle arrive in good condition (unbroken)?	(YES)	NO
Were all bottle labels complete and legible?	(YES)	NO
Did all bottle labels and tags agree with custody papers?	(YES)	NO
Were all bottles used correct for the requested analyses?	(YES)	NO
Do any of the analyses (bottles) require preservation? (attach preservation checklist)	YES	(NO)
Were all VOC vials free of air bubbles? NA	(YES)	NO
Was sufficient amount of sample sent in each bottle?	(YES)	NO

Samples Logged by: JL Date: 7/2/08 Time: 1602

*** Notify Project Manager of discrepancies or concerns ***

Explain discrepancies or negative responses:

By: Date:

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
METHANE ETHANE ETHENE
Modified RSK 175
Page 1 of 1
Matrix: Water

QC Report No: ND77-Friedman & Bruya, Inc.
Project: H-1461
807022
Date Received: 07/02/08

Data Release Authorized:
Reported: 07/03/08

ARI ID	Sample ID	Analysis Date	DL	Analyte	RL	Result
ND77A	MW8-0708	07/02/08	1.0	**Methane**	**0.7**	**1,980**
08-14362				Ethane	1.2	< 1.2 U
				Ethene	1.1	< 1.1 U
ND77B	DMW7-0708	07/02/08	1.0	**Methane**	**0.7**	**5,560**
08-14363				Ethane	1.2	< 1.2 U
				Ethene	1.1	< 1.1 U
070208MB	Method Blank	07/02/08	1.0	Methane	0.7	< 0.7 U
070208MB	Method Blank	07/02/08	1.0	Ethane	1.2	< 1.2 U
070208MB	Method Blank	07/02/08	1.0	Ethene	1.1	< 1.1 U

Reported in ug/L (ppb)

ANALYTICAL RESOURCES INCORPORATED

RSK 175/METHANE-ETHANE-ETHENE WATER SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: ND77-Friedman & Bruya, Inc.
Project: H-1461
807022

ARI ID	Client ID	PRP	TOT OUT
ND77A	MW8-0708	94.8%	0
ND77B	DMW7-0708	93.8%	0
MB-070208	Method Blank	92.8%	0
LCS-070208	Lab Control	96.9%	0
LCSD-070208	Lab Control Dup	91.2%	0

	LCS/MB LIMITS	QC LIMITS
(PRP) = Propane	(80-120)	(77-120)

Log Number Range: 08-14362 to 08-14363

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
METHANE ETHANE ETHENE
Modified RSK 175
Page 1 of 1
Matrix: Water

QC Report No: ND77-Friedman & Bruya, Inc.
Project: H-1461
807022
Date Received: 07/02/08

Data Release Authorized:
Reported: 07/03/08

ARI ID	Analysis Date	Analyte	Spike	Result	Recovery	RPD
070208LCS	07/02/08	Methane	654	695	106.2%	2.0%
070208LCSD				681	104.1%	
070208LCS	07/02/08	Ethane	1,230	1,200	97.8%	4.3%
070208LCSD				1,150	93.7%	
070208LCS	07/02/08	Ethene	1,150	1,110	96.9%	3.7%
070208LCSD				1,070	93.4%	

Reported in ug/L (ppb)

SAMPLE RESULTS-CONVENTIONALS
ND77-Friedman & Bruya, Inc.

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 07/15/08

Project: H-1461
Event: 807022
Date Sampled: 07/01/08
Date Received: 07/02/08

Client ID: MW8-0708
ARI ID: 08-14362 ND77A

Analyte	Date Batch	Method	Units	RL	Sample
Alkalinity	07/08/08 070808#2	SM 2320	mg/L CaCO3	1.0	73.0
N-Nitrate	07/03/08	Calculated	mg-N/L	0.100	< 0.100 U
N-Nitrite	07/03/08 070308#1	EPA 353.2	mg-N/L	0.100	< 0.100 U
Nitrate + Nitrite	07/03/08 070308#1	EPA 353.2	mg-N/L	0.100	< 0.100 U
Sulfate	07/02/08 070208#1	EPA 375.2	mg/L	2.0	14.0

RL Analytical reporting limit
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS
ND77-Friedman & Bruya, Inc.

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 07/15/08

Project: H-1461
Event: 807022
Date Sampled: 07/01/08
Date Received: 07/02/08

Client ID: DMW7-0708
ARI ID: 08-14363 ND77B

Analyte	Date Batch	Method	Units	RL	Sample
Alkalinity	07/08/08 070808#2	SM 2320	mg/L CaCO3	1.0	195
N-Nitrate	07/03/08	Calculated	mg-N/L	0.100	< 0.100 U
N-Nitrite	07/03/08 070308#1	EPA 353.2	mg-N/L	0.100	< 0.100 U
Nitrate + Nitrite	07/03/08 070308#1	EPA 353.2	mg-N/L	0.100	< 0.100 U
Sulfate	07/10/08 071008#1	EPA 375.2	mg/L	4.0	53.3

RL Analytical reporting limit
U Undetected at reported detection limit

MS/MSD RESULTS-CONVENTIONALS
ND77-Friedman & Bruya, Inc.

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 07/15/08

Project: H-1461
Event: 807022
Date Sampled: 07/01/08
Date Received: 07/02/08

Analyte	Method	Date	Units	Sample	Spike	Spike Added	Recovery
ARI ID: ND77A Client ID: MW8-0708							
N-Nitrite	EPA 353.2	07/03/08	mg-N/L	< 0.100	4.51	5.00	90.2%
Nitrate + Nitrite	EPA 353.2	07/03/08	mg-N/L	< 0.100	4.45	5.00	89.0%
Sulfate	EPA 375.2	07/02/08	mg/L	14.0	30.4	20.0	82.0%

REPLICATE RESULTS-CONVENTIONALS
ND77-Friedman & Bruya, Inc.

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 07/15/08

Project: H-1461
Event: 807022
Date Sampled: 07/01/08
Date Received: 07/02/08

Analyte	Method	Date	Units	Sample	Replicate(s)	RPD/RSD
ARI ID: ND77A Client ID: MW8-0708						
Alkalinity	SM 2320	07/08/08	mg/L CaCO3	73.0	73.2	0.3%
N-Nitrite	EPA 353.2	07/03/08	mg-N/L	< 0.100	< 0.100	NA
Nitrate + Nitrite	EPA 353.2	07/03/08	mg-N/L	< 0.100	< 0.100	NA
Sulfate	EPA 375.2	07/02/08	mg/L	14.0	14.3	2.1%

METHOD BLANK RESULTS-CONVENTIONALS
ND77-Friedman & Bruya, Inc.

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 07/15/08

Project: H-1461
Event: 807022
Date Sampled: NA
Date Received: NA

Analyte	Method	Date	Units	Blank
N-Nitrite	EPA 353.2	07/03/08	mg-N/L	< 0.010 U
Nitrate + Nitrite	EPA 353.2	07/03/08	mg-N/L	< 0.010 U
Sulfate	EPA 375.2	07/02/08	mg/L	< 2.0 U
		07/10/08		< 2.0 U

STANDARD REFERENCE RESULTS-CONVENTIONALS
ND77-Friedman & Bruya, Inc.

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 07/15/08

Project: H-1461
Event: 807022
Date Sampled: NA
Date Received: NA

Analyte/SRM ID	Method	Date	Units	SRM	True Value	Recovery
Alkalinity ERA #P114506	SM 2320	07/08/08	mg/L CaCO3	67.4	65.4	103.1%
N-Nitrite ERA #23034	EPA 353.2	07/03/08	mg-N/L	0.505	0.500	101.0%
Nitrate + Nitrite ERA #20034	EPA 353.2	07/03/08	mg-N/L	0.519	0.500	103.8%
Sulfate ERA #37065	EPA 375.2	07/02/08 07/10/08	mg/L	26.4 26.3	25.0 25.0	105.6% 105.2%

807022

SAMPLE CHAIN OF CUSTODY

ME 07-02-08 VI/AI2/AO/BO

Page # 1 of 1

Send Report To Mike Staton
Company SLR International Corp
Address 22122 20th Ave. SE # H-150
City, State, ZIP Bothell, WA 98021
Phone #(425) 402-8800 Fax #(425) 402-8488

SAMPLERS (signature)

PROJECT NAME/NO.	PO #
Longview 001.0173.00007	001.0173.00007

REMARKS DRO after silica gel cleanup
DMW7-0708 BTEX VOAs were rinsed out because the preservative was strongly reacting w/ the sample causing lots of persistent bubbles

TURNAROUND TIME
[X] Standard (2 Weeks)
[ ] RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
[X] 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 by 8260	SVOCs by 8270	HFS	Sulfate & nitrate by 300.0	Dissolved manganese by 200.8	Alkalinity by 310.1	Dissolved Methane by RSK 175			Notes
MW8-0708	01A-H	7/1/08	1145	Water	8	X	X	X				X	X	X	X			
DMW7-0708	02A-H	↓	1235	↓	↓	X	X	X				X	X	X	X			See remarks above
																		Samples received at 2 °C

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:		CHRIS LEE	SLR	7/1/08	1335
Received by:			Fed Ex	7/1/08	1335
Relinquished by:					
Received by:					