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July 9, 2013

Mr. Mark Horne  
Chevron Environmental Management Company  
6101 Bollinger Canyon Road  
San Ramon, California 94583-5186

**Subject: First Quarter 2013 Groundwater Monitoring and Sampling Report  
Former Chevron Service Station No. 20-9335**  
1225 North 45<sup>th</sup> Street  
Seattle, Washington

Dear Mr. Horne:

SAIC Energy, Environment & Infrastructure, LLC (SAIC), on behalf of Chevron Environmental Management Company (CEMC), prepared this letter summarizing the first quarter 2013 groundwater monitoring and sampling event at former Chevron Service Station No. 20-9335 (the site) located in Seattle, Washington (Figure 1).

### FIELD ACTIVITIES

Gettler-Ryan Inc. (Gettler-Ryan) conducted the groundwater monitoring and sampling field event on March 28, 2013. Gettler-Ryan collected depth-to-groundwater measurements and checked for the presence of separate-phase hydrocarbons (SPH) in monitoring wells MW-6, MW-7, MW-8, MW-9, and MW-10. SPH were observed in monitoring well MW-7. Groundwater flow is to the south at a gradient of approximately 0.008 feet per foot. A potentiometric map is provided on Figure 2.

Groundwater samples were collected from four monitoring wells and submitted under chain of custody (COC) procedures to Eurofins Lancaster Laboratories, Inc. for the following analyses:

- Total petroleum hydrocarbons (TPH) as gasoline-range organics by Northwest Method NWTPH-Gx;
- TPH as diesel-range organics and TPH as heavy oil-range organics by Northwest Method NWTPH-Dx extended with silica-gel cleanup;
- Benzene, toluene, ethylbenzene, and total xylenes by United States Environmental Protection Agency (USEPA) Method 8021B; and
- Total Lead by USEPA Method 6020.

**SAIC Energy, Environment & Infrastructure, LLC**

18912 North Creek Parkway | Suite 101 | Bothell, WA 98011 | tel: (425) 485-5800 | fax: (425) 485-5566 | saic.com/leeandi

Field data sheets and COC documentation are provided in the Gettler-Ryan groundwater monitoring and sampling data package (Attachment A).

## RESULTS

Groundwater elevations and flow direction are consistent with historical data. Historical groundwater elevation data, SPH thickness data, and laboratory analytical results are summarized in Table 1. The laboratory analysis report is provided as Attachment B.

This quarterly monitoring and sampling event was conducted following the surfactant treatment activities conducted on March 18, 2013. SPH were detected in monitoring well MW-7 at a thickness of 0.09 feet; however, the thickness was 0.1 feet less in comparison with the fourth quarter 2012. None of the other analytes tested for were detected at concentrations exceeding their respective MTCA Method A cleanup levels or the laboratory reporting limits in the remaining monitoring wells.

The effectiveness of the surfactant treatment will continue to be evaluated by ongoing quarterly site monitoring. The treatment will be considered a success if SPH continues to decrease in monitoring well MW-7 and/or if sampling indicates that significant hydrocarbon mass was removed by the treatment.

The results of the first quarter 2013 sampling event indicate that petroleum-hydrocarbon constituent concentrations have been below the MTCA Method A cleanup levels for four consecutive quarters in monitoring wells MW-6, MW-8, MW-9, and MW-10.

Gettler-Ryan will continue to perform groundwater monitoring and sampling on a quarterly basis. If you have any questions or comments, please contact Ruth Otteman at (425) 482-3328 or via email at [ottemanr@saic.com](mailto:ottemanr@saic.com).

Sincerely,

**SAIC Energy, Environment & Infrastructure, LLC**



Ruth Otteman, LG  
Project Manager



Kinga Kozłowska  
Environmental Scientist

Enclosures:

Figure 1 – Vicinity Map

Figure 2 – Potentiometric Map

Table 1 – Groundwater Monitoring Data and Analytical Results

Attachment A – Groundwater Monitoring and Sampling Data Package

Attachment B – Laboratory Analysis Report

cc: Mr. Roger Nye – Ecology, Toxics Cleanup Program  
3190 160<sup>th</sup> Ave SE, Bellevue, WA 98008-5452

Ms. Veronica Redstone – Bellwether  
1651 Bellevue Avenue, Seattle, WA 98122-2014

Project File

## **REPORT LIMITATIONS**

This technical document was prepared on behalf of CEMC and is intended for its sole use and for use by the local, state or federal regulatory agency that the technical document was sent to by SAIC. Any other person or entity obtaining, using, or relying on this technical document hereby acknowledges that they do so at their own risk, and that SAIC shall have no responsibility or liability for the consequences thereof.

Site history and background information provided in this technical document are based on sources that may include interviews with environmental regulatory agencies and property management personnel and a review of acquired environmental regulatory agency documents and property information obtained from CEMC and others. SAIC has not made, nor has it been asked to make, any independent investigation concerning the accuracy, reliability, or completeness of such information beyond that described in this technical document.

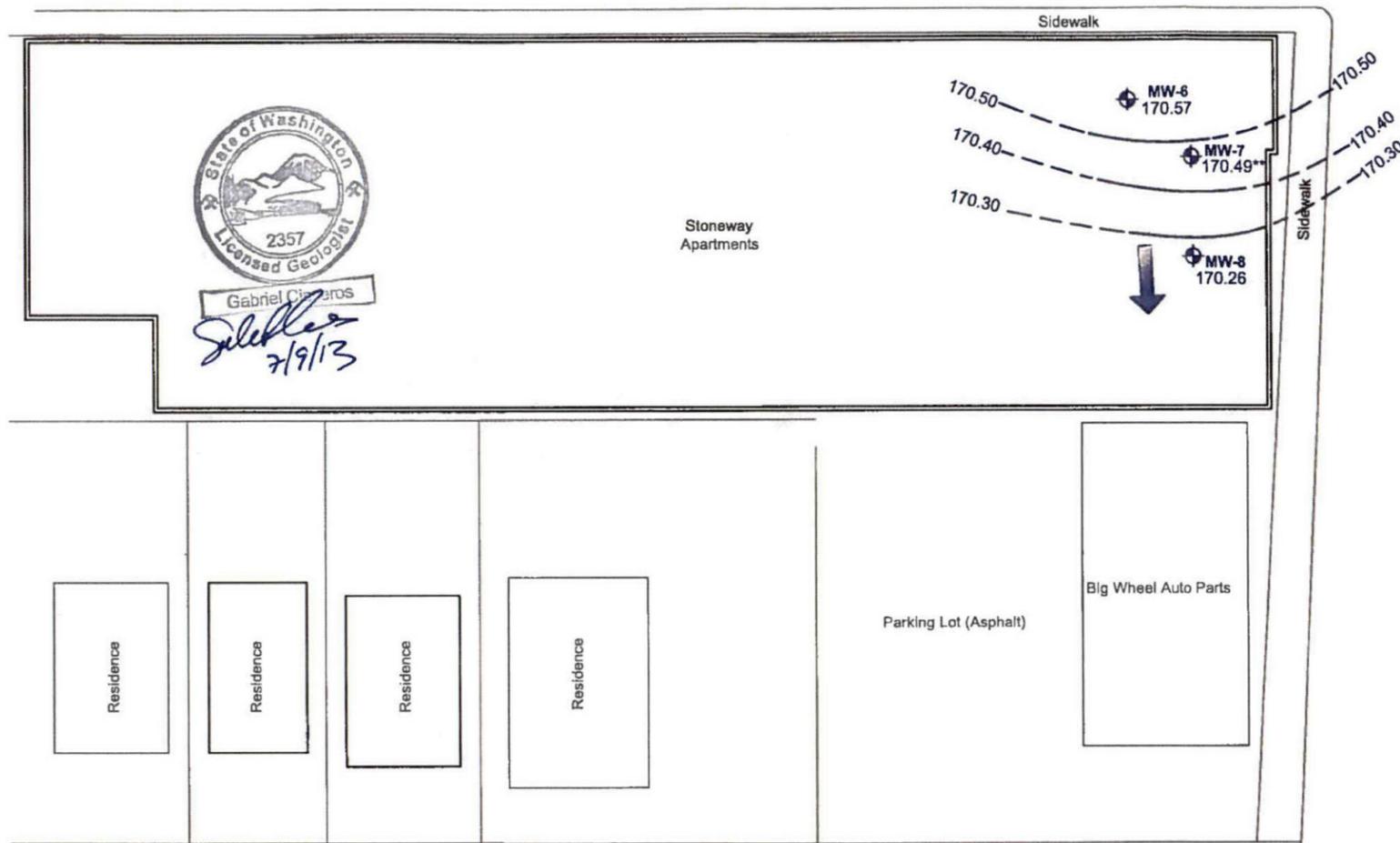
Recognizing reasonable limits of time and cost, this technical document cannot wholly eliminate uncertainty regarding the vertical and lateral extent of impacted environmental media.

Opinions and recommendations presented in this technical document apply only to site conditions and features as they existed at the time of SAIC's site visits or site work and cannot be applied to conditions and features of which SAIC is unaware and has not had the opportunity to evaluate.

All sources of information on which SAIC has relied in making its conclusions (including direct field observations) are identified by reference in this technical document or in appendices attached to this technical document. Any information not listed by reference or in appendices has not been evaluated or relied upon by SAIC in the context of this technical document. The conclusions, therefore, represent our professional opinion based on the identified sources of information.



NORTH 45TH STREET



Gabriel Cisneros  
*Selleker*  
 7/9/13

Stoney Apartments

MW-6  
170.57

MW-7  
170.49\*\*

MW-8  
170.26

170.50

170.40

170.30

Residence

Residence

Residence

Residence

Parking Lot (Asphalt)

Big Wheel Auto Parts

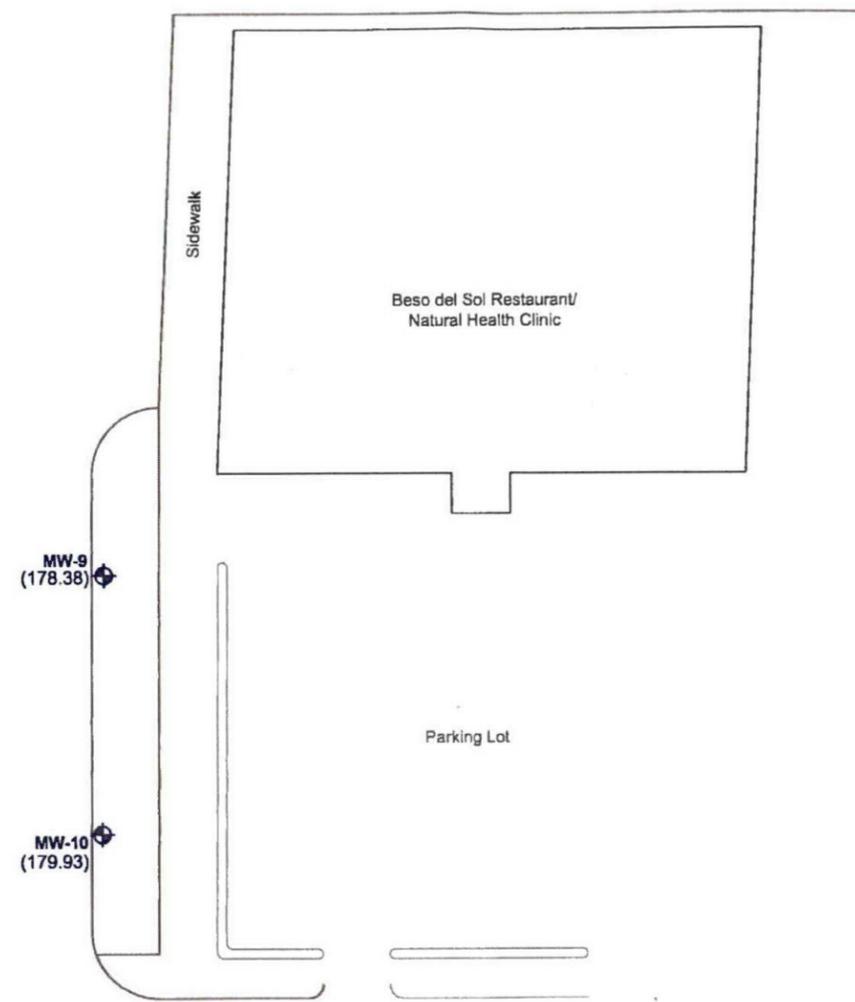
NORTH ALLEN PLACE

Legend

-  Groundwater Monitoring Well
- 170.57 Groundwater Elevation in Feet
- 170.49\*\* Groundwater Elevation Corrected for the Presence of Separate Phase Hydrocarbons (SPH)
- 170.0 — Groundwater Elevation Contour at an 0.1 Foot Interval (Dashed Where Inferred)
-  Approximate Groundwater Flow Direction at a Gradient of 0.008 feet per foot
- (178.38) Groundwater Elevation Not Used In Countours



STONE WAY NORTH



Former Chevron Service Station No. 20-9335  
 1225 North 45th Street  
 Seattle, Washington

**FIGURE 2**  
 Potentiometric Map  
 March 28, 2013



**TABLE 1**  
**GROUNDWATER MONITORING DATA AND ANALYTICAL RESULTS<sup>1</sup>**  
**FORMER CHEVRON SERVICE STATION NO. 20-9335**  
**1225 North 45th Street**  
**Seattle, Washington**  
**Concentrations reported in µg/L.**

Well ID/ Date	Purge Method	TOC <sup>2</sup> (ft.)	DTP (ft.)	DTW (ft.)	SPHT (ft.)	GWE <sup>3</sup> (ft.)	TPH-DRO	TPH-HRO	TPH-GRO	Benzene	Toluene	Ethyl- benzene	Total Xylenes	MTBE	T. Lead
<b>MW-6</b>															
02/09/06		197.18	--	36.74	0.00	160.44	<b>680</b>	98	<b>1,500</b>	<0.5	0.7	1.2	37	--	--
05/03/07		197.18	--	36.74	0.00	160.44	<b>1,000</b>	130	380	<b>29</b>	1	4	30	--	--
06/16/09		197.18	INACCESSIBLE	--	--	--	--	--	--	--	--	--	--	--	--
07/01/09	NP	197.18	--	27.46	0.00	169.72	270	<70	<50	<0.5	<0.5	<0.5	<1.5	--	<b>22.9</b>
12/11/09	NP	197.18	--	27.55	0.00	169.63	35	<69	<50	<0.5	<0.5	<0.5	<1.5	--	0.76
06/09/10	NP	197.18	--	26.84	0.00	170.34	360	<340	<b>5,900</b>	<0.5	<0.5	<0.5	350	--	13.2
11/19/10	NP	197.18	--	26.97	0.00	170.21	240	81	750	<0.5	<0.5	<0.5	11	--	3.7
06/21/11	NP	197.18	--	25.77	0.00	171.41	270	88	<b>2,400</b>	<0.5	<0.5	0.6	9.2	--	3.2
09/22/11	NP	197.18	--	25.90	0.00	171.28	<29	<69	660	<0.5	<0.5	<0.5	4.1	--	3.3
12/09/11	NP	197.18	--	27.34	0.00	169.84	<29	<69	64	<b>140</b>	0.5	<0.5	<1.5	--	0.44
03/30/12	NP	197.18	--	26.80	0.00	170.38	<30	<69	90	<0.5	<0.5	<0.5	<1.5	--	2.5
06/20/12	NP	197.18	--	26.56	0.00	170.62	<30	<70	<50	<0.5	<0.5	<0.5	<1.5	--	<0.034
10/05/12	NP	197.18	--	27.08	0.00	170.10	<32	<74	<50	<0.5	<0.5	<0.5	<1.5	--	1.2
12/27/12	NP	197.18	--	27.13	0.00	170.05	<29	<67	<50	<0.5	<0.5	<0.5	<1.5	--	2.0
03/28/13	NP	197.18	--	26.61	0.00	170.57	<29	<67	79	<0.5	<0.5	<0.5	<1.5	--	3.7
<b>MW-7</b>															
02/09/06		197.42	37.87	38.17	0.30	159.49	--	--	--	--	--	--	--	--	--
05/03/07		197.42	26.55	27.80	0.00	169.62	--	--	--	--	--	--	--	--	--
06/16/09		197.42	INACCESSIBLE	--	--	--	--	--	--	--	--	--	--	--	--
07/01/09 <sup>6</sup>		197.42	27.39	-- <sup>7</sup>	-- <sup>7</sup>	-- <sup>7</sup>	NOT SAMPLED DUE TO THE PRESENCE OF SPH					--	--	--	--
12/11/09 <sup>6</sup>		197.42	27.50	-- <sup>7</sup>	-- <sup>7</sup>	-- <sup>7</sup>	NOT SAMPLED DUE TO THE PRESENCE OF SPH					--	--	--	--
06/09/10 <sup>6</sup>		197.42	27.03	28.20	1.17	170.16	NOT SAMPLED DUE TO THE PRESENCE OF SPH					--	--	--	--
11/19/10		197.42	27.08	28.34	1.26	170.09	NOT SAMPLED DUE TO THE PRESENCE OF SPH					--	--	--	--
06/21/11		197.42	--	26.12	0.00	171.30	<b>11,000</b>	<1,800	<b>150,000</b>	<b>45</b>	<b>4,800</b>	<b>2,600</b>	<b>18,000</b>	--	<b>310</b>
09/22/11		197.42	--	26.25	0.00	171.17	<b>2,000</b>	<340	<b>100,000</b>	<b>29</b>	<b>4,300</b>	<b>1,900</b>	<b>17,000</b>	--	<b>94.4</b>
12/09/11		197.42	27.45	27.80	0.35	169.90	NOT SAMPLED DUE TO THE PRESENCE OF SPH					--	--	--	--
03/30/12		197.42	27.15	27.35	0.20	170.23	NOT SAMPLED DUE TO THE PRESENCE OF SPH					--	--	--	--
06/20/12		197.42	26.90	27.05	0.15	170.49	NOT SAMPLED DUE TO THE PRESENCE OF SPH					--	--	--	--
10/05/12		197.42	27.38	27.76	0.38	169.96	NOT SAMPLED DUE TO THE PRESENCE OF SPH					--	--	--	--
12/27/12		197.42	27.46	27.65	0.19	169.92	NOT SAMPLED DUE TO THE PRESENCE OF SPH					--	--	--	--
03/28/13		197.42	26.91	27.00	0.09	170.49	NOT SAMPLED DUE TO THE PRESENCE OF SPH					--	--	--	--

**TABLE 1**  
**GROUNDWATER MONITORING DATA AND ANALYTICAL RESULTS<sup>1</sup>**  
**FORMER CHEVRON SERVICE STATION NO. 20-9335**  
**1225 North 45th Street**  
**Seattle, Washington**  
**Concentrations reported in µg/L**

Well ID/ Date	Purge Method	TOC <sup>2</sup> (ft.)	DTP (ft.)	DTW (ft.)	SPHT (ft.)	GWE <sup>3</sup> (ft.)	TPH-DRO	TPH-HRO	TPH-GRO	Benzene	Toluene	Ethyl- benzene	Total Xylenes	MTBE	T. Lead
<b>MW-8</b>															
02/09/06		197.35	--	36.74	0.00	160.61	280	<96	440	<0.5	1.1	3.3	28	--	--
05/03/07		197.35	--	36.74	0.00	160.61	<b>940</b>	<200	<b>2,600</b>	<0.5	<0.5	<0.5	<0.5	--	--
06/16/09		197.35	INACCESSIBLE	--	--	--	--	--	--	--	--	--	--	--	--
07/01/09	NP	197.35	--	27.84	0.00	169.51	390	<700	430	<0.5	<0.5	<0.5	2.2	--	3.5
12/11/09	NP	197.35	--	27.91	0.00	169.44	300	<69	<50	<0.5	<0.5	<0.5	<1.5	--	7.3
06/09/10	NP	197.35	--	27.21	0.00	170.14	280	180	350	<0.5	<0.5	<0.5	<1.5	--	<b>16.5</b>
11/19/10	NP	197.35	--	27.34	0.00	170.01	320	120	94	<0.5	<0.5	<0.5	<1.5	--	3.4
06/21/11	NP	197.35	--	26.18	0.00	171.17	94	150	54	<0.5	<0.5	1.0	<1.5	--	3.6
09/22/11	NP	197.35	--	26.30	0.00	171.05	<29	<68	140	<0.5	<0.5	2.9	1.70	--	1.8
12/09/11	NP	197.35	--	27.70	0.00	169.65	70	<69	320	<2.0	<2.0	<0.5	3.0	--	0.30
03/30/12	NP	197.35	--	27.20	0.00	170.15	<30	<70	<b>2,000</b>	3.0	3.9	45	120	--	2.9
06/20/12	NP	197.35	--	27.00	0.00	170.35	<30	<70	170	0.7	0.7	1.3	2.2	--	1.8
10/05/12	NP	197.35	--	27.49	0.00	169.86	<31	<71	490	1.0	1.7	19	32	--	1.3
12/27/12	NP	197.35	--	27.49	0.00	169.86	<29	<68	280	0.6	0.7	4.7	6.8	--	1.1
03/28/13	NP	197.35	--	27.09	0.00	170.26	<29	<67	80	<0.5	<0.5	<0.5	<1.5	--	1.9
<b>MW-9</b>															
05/03/07		208.11	--	36.74	0.00	171.37	<400	<500	<50	<0.5	<0.5	4	18	--	--
06/16/09		208.11	--	38.72	0.00	169.39	--	--	<50	<0.5	<0.5	<0.5	<1.5	--	<b>19.3</b>
07/01/09	NP	208.11	--	38.03	0.00	170.08	<31	<71	--	--	--	--	--	--	--
12/11/09	NP	208.11	--	38.86	0.00	169.25	76	<69	<50	<0.5	<0.5	<0.5	<1.5	--	14.5
06/09/10	NP	208.11	--	38.17	0.00	169.94	42	110	<50	<0.5	<0.5	<0.5	<1.5	--	<b>21.2</b>
11/19/10	NP	208.11	--	38.23	0.00	169.88	<29	130	<50	<0.5	<0.5	<0.5	<1.5	--	<b>18.7</b>
06/21/11	NP	208.11	--	37.15	0.00	170.96	<30	<70	<50	<0.5	<0.5	<0.5	<1.5	--	4.7
09/22/11	NP	208.11	--	37.25	0.00	170.86	<300	<700	<50	<0.5	<0.5	<0.5	<1.5	--	12.4
12/09/11	NP	208.11	--	38.66	0.00	169.45	<29	<68	<50	<0.5	<0.5	<0.5	<1.5	--	2.8
03/30/12	NP	208.11	--	29.60	0.00	178.51	<29	<68	<50	<0.5	<0.5	<0.5	<1.5	--	<b>114</b>
06/20/12	NP	208.11	--	38.00	0.00	170.11	<30	<70	<50	<0.5	<0.5	<0.5	<1.5	--	3.8
10/05/12	NP	208.11	--	38.44	0.00	169.67	<30	<70	<50	<0.5	<0.5	<0.5	<1.5	--	10.6
12/27/12	NP	208.11	--	38.50	0.00	169.61	<31	<73	<50	<0.5	<0.5	<0.5	<1.5	--	5.3
03/28/13	NP	208.11	--	29.73	0.00	178.38	<28	<66	<50	<0.5	<0.5	<0.5	<1.5	--	<0.073

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**FORMER CHEVRON SERVICE STATION NO. 20-9335**  
**1225 North 45th Street**  
**Seattle, Washington**  
**Concentrations reported in µg/L**

Well ID/ Date	Purge Method	TOC <sup>2</sup> (ft.)	DTP (ft.)	DTW (ft.)	SPHT (ft.)	GWE <sup>3</sup> (ft.)	TPH-DRO	TPH-HRO	TPH-GRO	Benzene	Toluene	Ethyl- benzene	Total Xylenes	MTBE	T. Lead		
<b>MW-10</b>																	
05/03/07		207.29	--	36.74	0.00	170.55	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	--		
06/16/09		207.29	INACCESSIBLE		--	--	--	--	--	--	--	--	--	--	--		
07/01/09	NP	207.29	--	38.72	0.00	168.57	<30	<69	<50	<0.5	<0.5	<0.5	<1.5	--	10.9		
12/11/09	NP	207.29	--	35.91	0.00	171.38	49	<69	<50	<0.5	<0.5	<0.5	<1.5	--	13.4		
06/09/10	NP	207.29	--	37.48	0.00	169.81	50	88	<50	<0.5	<0.5	<0.5	<1.5	--	7.2		
11/19/10	NP	207.29	--	37.53	0.00	169.76	<29	74	<50	<0.5	<0.5	<0.5	<1.5	--	<b>18.8</b>		
06/21/11	NP	207.29	--	36.46	0.00	170.83	<31	180	<50	<0.5	<0.5	<0.5	<1.5	--	5.7		
09/22/11	NP	207.29	--	36.60	0.00	170.69	<300	<700	<50	<0.5	<0.5	<0.5	<1.5	--	6.6		
12/09/11	NP	207.29	--	35.71	0.00	171.58	<29	<69	<50	<0.5	<0.5	<0.5	<1.5	--	2.1		
03/30/12	NP	207.29	--	29.80	0.00	177.49	<30	<69	<50	<0.5	<0.5	<0.5	<1.5	--	<b>110</b>		
06/20/12	NP	207.29	--	37.35	0.00	169.94	<31	<71	<50	<0.5	<0.5	<0.5	<1.5	--	0.23		
10/05/12	NP	207.29	--	37.79	0.00	169.50	45	<70	<50	<0.5	<0.5	<0.5	<1.5	--	3.7		
12/27/12	NP	207.29	--	37.84	0.00	169.45	<29	<67	<50	<0.5	<0.5	<0.5	<1.5	--	2.2		
03/28/13	NP	207.29	--	27.36	0.00	179.93	<29	<67	<50	<0.5	<0.5	<0.5	<1.5	--	<0.073		
<b>MW-1</b>																	
10/11/00		97.95	--	34.50	--	63.45	--	--	--	--	--	--	--	--	--		
12/16/00		97.95	--	35.91	0.00	62.04	ND	ND	74.4	ND	ND	ND	ND	ND	ND		
03/26/01		97.95	--	36.54	0.00	61.41	ND	ND	ND	ND	ND	ND	ND	ND	--		
06/25/01		97.95	--	36.78	0.00	61.17	<281	<842	<50.0	<0.500	<0.500	<0.500	<1.00	--	--		
09/24/01		97.95	--	37.14	0.00	60.81	<250	<500	<50.0	<0.500	<0.500	<0.500	<1.00	--	--		
12/13/01		97.95	--	37.25	0.00	60.70	<250	<500	<80.0	<0.500	<0.500	<0.500	<1.00	--	--		
03/08/02	NP	97.95	--	36.79	0.00	61.16	<250	<750	<50	<0.50	<0.50	<0.50	<1.5	--	--		
05/29/02		97.95	--	36.44	0.00	61.51	SAMPLED SEMIANNUALLY			--	--	--	--	--	--		
09/16/02	NP	97.95	--	36.71	0.00	61.24	<250	<250	<50	<0.50	<0.50	<0.50	<1.5	--	--		
12/05/02		97.95	--	37.09	0.00	60.86	SAMPLED SEMIANNUALLY			--	--	--	--	--	--		
03/04/03	NP	97.95	--	37.26	0.00	60.69	<250	<250	100	<0.50	<0.50	<0.50	<3.0	--	--		
06/03/03		97.95	--	37.09	0.00	60.86	SAMPLED SEMI-ANNUALLY			--	--	--	--	--	--		
10/27/03		97.95	--	37.42	0.00	60.53	NOT SAMPLED DUE TO INSUFFICIENT WATER									--	--
03/31/04	NP	97.95	--	37.12	0.00	60.83	<800	<1,000	<50	<0.5	<0.5	<0.5	<1.5	--	--		
06/28/04		97.95	--	37.14	0.00	60.81	SAMPLED SEMIANNUALLY			--	--	--	--	--	--		
09/29/04		97.95	--	37.50	0.00	60.45	NOT SAMPLED DUE TO INSUFFICIENT WATER									--	--
01/04/05		97.95	--	37.61	0.00	60.34	SAMPLED SEMIANNUALLY			--	--	--	--	--	--		
ABANDONED																	

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<b>MW-2</b>																
10/11/00		98.70	--	34.50	--	64.20	--	--	--	--	--	--	--	--	--	
12/16/00		98.70	--	36.46	0.00	62.24	<b>1,000</b>	ND	<b>28,100</b>	<b>283</b>	<b>2,560</b>	693	<b>4,020</b>	ND	0.00194	
03/26/01		98.70	--	37.12	0.00	61.58	<b>1,180</b>	ND	<b>17,000</b>	<b>143</b>	<b>1,450</b>	378	<b>2,180</b>	ND	--	
06/25/01		98.70	--	37.37	0.00	61.33	418	<750	<b>11,700</b>	<b>92.3</b>	547	181	<b>1,010</b>	--	--	
09/24/01		98.70	--	37.72	0.00	60.98	<b>4,840</b>	<557	<b>22,100</b>	<b>120</b>	<b>1,380</b>	658	<b>4,100</b>	--	--	
12/13/01		98.70	--	37.89	0.00	60.81	<b>5,540</b>	<500	<b>84,000</b>	<b>185</b>	<b>3,960</b>	<b>1,590</b>	<b>9,950</b>	--	--	
03/08/02		98.70	37.24	38.00	0.76	61.31	NOT SAMPLED DUE TO THE PRESENCE OF SPH					--	--	--	--	
05/29/02		98.70	36.81	37.54	0.73	61.74	NOT SAMPLED DUE TO THE PRESENCE OF SPH					--	--	--	--	
09/16/02		98.70	37.19	37.61	0.42	61.43	NOT SAMPLED DUE TO THE PRESENCE OF SPH					--	--	--	--	
10/15/02		98.70	37.24	37.68	0.44	61.37	--	--	--	--	--	--	--	--	--	
11/22/02		98.70	37.12	37.63	0.51	61.48	--	--	--	--	--	--	--	--	--	
12/05/02		98.70	37.51	38.10	0.59	61.07	NOT SAMPLED DUE TO THE PRESENCE OF SPH					--	--	--	--	
01/28/03		98.70	36.77	37.33	0.56	61.82	--	--	--	--	--	--	--	--	--	
02/13/03		98.70	37.44	38.02	0.58	61.14	--	--	--	--	--	--	--	--	--	
03/04/03		98.70	INACCESSIBLE - VEHICLE PARKED OVER WELL				--	--	--	--	--	--	--	--	--	--
04/21/03		98.70	37.21	37.78	0.57	61.38	--	--	--	--	--	--	--	--	--	
05/08/03		98.70	37.43	37.94	0.51	61.17	--	--	--	--	--	--	--	--	--	
06/03/03		98.70	37.37	37.91	0.54	61.22	NOT SAMPLED DUE TO THE PRESENCE OF SPH					--	--	--	--	
07/06/03		98.70	36.96	37.51	0.55	61.63	--	--	--	--	--	--	--	--	--	
08/18/03		98.70	37.49	38.02	0.53	61.10	--	--	--	--	--	--	--	--	--	
10/27/03		98.70	37.54	39.98	2.44	60.67	NOT SAMPLED DUE TO THE PRESENCE OF SPH					--	--	--	--	
11/17/03		98.70	37.10	37.58	0.48	61.50	--	--	--	--	--	--	--	--	--	
12/31/03		98.70	36.18	38.19	2.01	62.12	--	--	--	--	--	--	--	--	--	
02/09/04		98.70	37.00	37.49	0.49	61.60	--	--	--	--	--	--	--	--	--	
03/04/04		98.70	35.85	37.06	1.21	62.61	--	--	--	--	--	--	--	--	--	
03/31/04		98.70	37.32	39.05	1.73	61.03	NOT SAMPLED DUE TO THE PRESENCE OF SPH					--	--	--	--	
06/28/04		98.70	37.32	39.05	1.73	61.03	NOT SAMPLED DUE TO THE PRESENCE OF SPH					--	--	--	--	
09/11/04		98.70	37.65	39.10	1.45	60.76	--	--	--	--	--	--	--	--	--	
09/29/04		98.70	37.71	39.39	1.68	60.65	NOT SAMPLED DUE TO THE PRESENCE OF SPH					--	--	--	--	
11/22/04		98.70	36.89	38.16	1.27	61.56	--	--	--	--	--	--	--	--	--	
01/04/05		98.70	37.88	39.80	1.92	60.44	NOT SAMPLED DUE TO THE PRESENCE OF SPH					--	--	--	--	
01/14/05		98.70	37.49	39.02	1.53	60.90	--	--	--	--	--	--	--	--	--	
ABANDONED																

**TABLE 1**  
**GROUNDWATER MONITORING DATA AND ANALYTICAL RESULTS<sup>1</sup>**  
**FORMER CHEVRON SERVICE STATION NO. 20-9335**  
**1225 North 45th Street**  
**Seattle, Washington**  
**Concentrations reported in µg/L**

Well ID/ Date	Purge Method	TOC <sup>2</sup> (ft.)	DTP (ft.)	DTW (ft.)	SPHT (ft.)	GWE <sup>3</sup> (ft.)	TPH-DRO	TPH-HRO	TPH-GRO	Benzene	Toluene	Ethyl- benzene	Total Xylenes	MTBE	T. Lead
<b>MW-3</b>															
10/11/00		98.76	--	34.00	--	64.76	--	--	--	--	--	--	--	--	--
12/16/00		98.76	--	36.39	0.00	62.37	ND	ND	ND	ND	0.612	ND	1.95	ND	ND
03/26/01		98.76	--	37.05	0.00	61.71	ND	ND	ND	ND	ND	ND	ND	ND	--
06/25/01		98.76	--	37.29	0.00	61.47	<250	<750	<50.0	<0.500	<0.500	<0.500	<1.00	--	--
09/24/01		98.76	--	37.64	0.00	61.12	<250	<500	<50.0	<0.500	<0.500	<0.500	<1.00	--	--
12/13/01		98.76	--	37.78	0.00	60.98	<250	<500	<80.0	<0.500	<0.500	<0.500	<1.00	--	--
03/08/02	NP	98.76	--	37.28	0.00	61.48	<250	<750	320	<0.50	0.64	2.1	15	--	--
05/29/02		98.76	--	36.92	0.00	61.84	SAMPLED SEMIANNUALLY			--	--	--	--	--	--
09/16/02	NP	98.76	--	37.21	0.00	61.55	<250	<250	<50	<0.50	<0.50	<0.50	<1.5	--	--
12/05/02		98.76	--	37.58	0.00	61.18	SAMPLED SEMIANNUALLY			--	--	--	--	--	--
03/04/03	NP	98.76	--	37.79	0.00	60.97	<250	<250	<50	<0.50	<0.50	<0.50	<1.5	--	--
06/03/03		98.76	--	37.68	0.00	61.08	SAMPLED SEMIANNUALLY			--	--	--	--	--	--
10/27/03	NP	98.76	--	38.00	0.00	60.76	<250	<250	<50	<0.5	<0.5	<0.5	<1.5	--	--
03/31/04	NP	98.76	--	37.65	0.00	61.11	<800	<1,000	<50	<0.5	<0.5	<0.5	<1.5	--	--
06/28/04		98.76	--	37.68	0.00	61.08	SAMPLED SEMIANNUALLY			--	--	--	--	--	--
09/29/04	NP	98.76	--	38.01	0.00	60.75	<250	<250	<50	<0.5	<0.5	<0.5	<1.5	--	--
01/04/05		98.76	--	38.19	0.00	60.57	SAMPLED SEMIANNUALLY			--	--	--	--	--	--
ABANDONED															
<b>MW-4</b>															
10/11/00		98.52	--	35.00	--	63.52	--	--	--	--	--	--	--	--	--
12/16/00		98.52	--	36.35	0.00	62.17	ND	ND	<b>58,200</b>	<b>326</b>	<b>5,520</b>	<b>1,430</b>	<b>8,520</b>	ND	0.0123
03/26/01		98.52	--	37.00	0.00	61.52	266	ND	<b>27,200</b>	<b>178</b>	<b>2,160</b>	<b>785</b>	<b>4,160</b>	ND	--
06/25/01		98.52	--	37.25	0.00	61.27	<250	<750	<b>12,300</b>	<b>69.0</b>	654	416	<b>1,910</b>	--	--
09/24/01		98.52	--	37.60	0.00	60.92	<250	<500	<b>4,130</b>	<b>30.1</b>	154	197	684	--	--
12/13/01		98.52	--	37.72	0.00	60.80	<250	<500	<b>5,490</b>	<b>30.3</b>	175	177	679	--	--
03/08/02	NP	98.52	--	38.36	0.00	60.16	<250	<750	<b>9,000</b>	<50	150	170	710	--	--
05/29/02	NP	98.52	--	36.86	0.00	61.66	<250	<750	<b>6,700</b>	<b>22</b>	150	190	780	--	--
08/07/02		98.52	--	36.92	0.00	61.60	--	--	--	--	--	--	--	--	--
09/16/02	NP	98.52	--	37.16	0.00	61.36	<250	<250	<b>7,500</b>	<b>46</b>	230	240	630	--	--
12/05/02	NP	98.52	--	37.53	0.00	60.99	<250	<250	<b>14,000</b>	<b>73</b>	400	540	<b>1,500</b>	--	--
03/04/03		98.52	36.68	36.71	0.03	61.83	NOT SAMPLED DUE TO THE PRESENCE OF SPH			--	--	--	--	--	--
06/03/03		98.52	36.59	36.63	0.04	61.92	NOT SAMPLED DUE TO THE PRESENCE OF SPH			--	--	--	--	--	--
07/06/03		98.52	36.90	36.93	0.03	61.61	--	--	--	--	--	--	--	--	--
08/18/03		98.52	36.76	36.80	0.04	61.75	--	--	--	--	--	--	--	--	--
10/27/03	NP	98.52	--	37.96	0.00	60.56	<400	<500	<b>2,200</b>	<b>16</b>	55	76	170	--	--

**TABLE 1**  
**GROUNDWATER MONITORING DATA AND ANALYTICAL RESULTS<sup>1</sup>**  
**FORMER CHEVRON SERVICE STATION NO. 20-9335**  
**1225 North 45th Street**  
**Seattle, Washington**  
**Concentrations reported in µg/L**

Well ID/ Date	Purge Method	TOC <sup>2</sup> (ft.)	DTP (ft.)	DTW (ft.)	SPHT (ft.)	GWE <sup>3</sup> (ft.)	TPH-DRO	TPH-HRO	TPH-GRO	Benzene	Toluene	Ethyl- benzene	Total Xylenes	MTBE	T. Lead
<b>MW-4 (cont.)</b>															
11/17/03		98.52	36.34	36.37	0.03	62.17	--	--	--	--	--	--	--	--	--
12/31/03		98.52	--	36.88	0.00	61.64	--	--	--	--	--	--	--	--	--
02/09/04		98.52	36.14	36.17	0.03	62.37	--	--	--	--	--	--	--	--	--
03/04/04		98.52	--	36.74	0.00	61.78	--	--	--	--	--	--	--	--	--
03/31/04	NP	98.52	--	37.59	0.00	60.93	<250	<250	<b>3,900</b>	<b>14</b>	96	110	340	--	--
06/28/04	NP	98.52	--	37.54	0.00	60.98	<250	<250	<b>1,600</b>	<b>8.5</b>	15	59	110	--	--
09/11/04		98.52	37.78	37.81	0.03	60.73	--	--	--	--	--	--	--	--	--
09/29/04	NP	98.52	--	37.86	0.00	60.66	<250	<250	<b>1,500</b>	<b>18</b>	40	76	170	--	--
11/22/04		98.52	--	36.81	0.00	61.71	--	--	--	--	--	--	--	--	--
01/04/05	NP	98.52	--	38.11	0.00	60.41	<b>1,600</b>	<250	<b>1,600</b>	<b>10</b>	13	60	110	--	--
01/14/05		98.52	--	37.58	0.00	60.94	--	--	--	--	--	--	--	--	--
ABANDONED															
<b>MW-5</b>															
10/11/00		99.42	--	34.50	--	64.92	--	--	--	--	--	--	--	--	--
12/16/00		99.42	--	37.18	0.00	62.24	<b>5,080</b>	ND	<b>146,000</b>	ND	<b>15,100</b>	<b>4,160</b>	<b>24,100</b>	ND	0.0200
03/26/01		99.42	--	37.91	0.00	61.51	<b>77,900</b>	ND	<b>149,000</b>	<b>256</b>	<b>10,600</b>	<b>4,000</b>	<b>24,200</b>	ND	--
06/25/01		99.42	--	38.14	0.00	61.28	<b>109,000</b>	<18,100	<b>127,000</b>	<b>210</b>	<b>9,580</b>	<b>3,730</b>	<b>21,500</b>	--	--
09/24/01		99.42	38.40	38.44	0.04	61.01	NOT SAMPLED DUE TO THE PRESENCE OF SPH					--	--	--	--
12/13/01		99.42	38.55	38.59	0.04	60.86	NOT SAMPLED DUE TO THE PRESENCE OF SPH					--	--	--	--
03/08/02		99.42	37.96	38.46	0.50	61.36	NOT SAMPLED DUE TO THE PRESENCE OF SPH					--	--	--	--
05/29/02		99.42	37.60	38.05	0.45	61.73	NOT SAMPLED DUE TO THE PRESENCE OF SPH					--	--	--	--
08/07/02		99.42	37.73	38.12	0.39	61.61	--	--	--	--	--	--	--	--	--
09/16/02		99.42	38.00	38.39	0.39	61.34	NOT SAMPLED DUE TO THE PRESENCE OF SPH					--	--	--	--
10/15/02		99.42	38.09	38.47	0.38	61.25	--	--	--	--	--	--	--	--	--
11/22/02		99.42	37.84	38.26	0.42	61.50	--	--	--	--	--	--	--	--	--
12/05/02		99.42	38.42	38.78	0.36	60.93	NOT SAMPLED DUE TO THE PRESENCE OF SPH					--	--	--	--
01/28/03		99.42	37.88	38.24	0.36	61.47	--	--	--	--	--	--	--	--	--
02/13/03		99.42	38.33	38.68	0.35	61.02	--	--	--	--	--	--	--	--	--
03/04/03		99.42	37.54	37.89	0.35	61.81	NOT SAMPLED DUE TO THE PRESENCE OF SPH					--	--	--	--
04/21/03		99.42	37.96	38.29	0.33	61.39	--	--	--	--	--	--	--	--	--
05/08/03		99.42	38.50	38.82	0.32	60.86	--	--	--	--	--	--	--	--	--
06/03/03		99.42	37.42	37.76	0.34	61.93	NOT SAMPLED DUE TO THE PRESENCE OF SPH					--	--	--	--
07/06/03		99.42	37.77	38.11	0.34	61.58	--	--	--	--	--	--	--	--	--
08/18/03		99.42	38.54	38.86	0.32	60.82	--	--	--	--	--	--	--	--	--
10/27/03		99.42	WELL DRY/OBSTRUCTED			--	--	--	--	--	--	--	--	--	--

**TABLE 1**  
**GROUNDWATER MONITORING DATA AND ANALYTICAL RESULTS<sup>1</sup>**  
**FORMER CHEVRON SERVICE STATION NO. 20-9335**  
**1225 North 45th Street**  
**Seattle, Washington**  
**Concentrations reported in µg/L**

Well ID/ Date	Purge Method	TOC <sup>2</sup> (ft.)	DTP (ft.)	DTW (ft.)	SPHT (ft.)	GWE <sup>3</sup> (ft.)	TPH-DRO	TPH-HRO	TPH-GRO	Benzene	Toluene	Ethyl- benzene	Total Xylenes	MTBE	T. Lead
<b>MW-5 (cont.)</b>															
11/17/03		99.42	37.87	38.17	0.30	61.49	--	--	--	--	--	--	--	--	--
12/31/03		99.42	WELL DRY/OBSTRUCTED			--	--	--	--	--	--	--	--	--	--
02/09/04		99.42	WELL DRY/OBSTRUCTED			--	--	--	--	--	--	--	--	--	--
03/04/04		99.42	WELL DRY/OBSTRUCTED			--	--	--	--	--	--	--	--	--	--
03/31/04		99.42	WELL DRY/OBSTRUCTED			--	--	--	--	--	--	--	--	--	--
06/28/04		99.42	WELL DRY/OBSTRUCTED			--	--	--	--	--	--	--	--	--	--
09/11/04		99.42	WELL DRY/OBSTRUCTED			--	--	--	--	--	--	--	--	--	--
09/29/04		99.42	WELL DRY/OBSTRUCTED			--	--	--	--	--	--	--	--	--	--
11/22/04		99.42	WELL DRY/OBSTRUCTED			--	--	--	--	--	--	--	--	--	--
01/04/05		99.42	WELL DRY/OBSTRUCTED			--	--	--	--	--	--	--	--	--	--
01/14/05		99.42	WELL DRY/OBSTRUCTED			--	--	--	--	--	--	--	--	--	--
<b>ABANDONED</b>															
<b>TRIP BLANK</b>															
12/16/00		--	--	--	--	--	--	--	ND	ND	ND	ND	ND	ND	--
03/26/01		--	--	--	--	--	--	--	ND	ND	ND	ND	ND	ND	--
06/25/01		--	--	--	--	--	--	--	<50.0	<0.500	<0.500	<0.500	<1.00	--	--
09/24/01		--	--	--	--	--	--	--	<50.0	<0.500	<0.500	<0.500	<1.00	--	--
12/13/01		--	--	--	--	--	--	--	<80.0	<0.500	<0.500	<0.500	<1.00	--	--
03/08/02		--	--	--	--	--	--	--	<50	<0.50	<0.50	<0.50	<1.5	--	--
05/29/02		--	--	--	--	--	--	--	<50	<0.50	<0.50	<0.50	<1.5	--	--
09/16/02		--	--	--	--	--	--	--	<50	<0.50	<0.50	<0.50	<1.5	--	--
12/05/02		--	--	--	--	--	--	--	<50	<0.50	<0.50	<0.50	<1.5	--	--
03/04/03		--	--	--	--	--	--	--	<50	<0.50	<0.50	<0.50	<1.5	--	--
10/27/03		--	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--	--
<b>QA</b>															
03/31/04		--	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--	--
06/28/04		--	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--	--
09/29/04		--	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--	--
01/04/05		--	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--	--
06/16/09		--	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--	--
07/01/09		--	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--	--
12/11/09		--	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--	--
06/09/10		--	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--	--
11/19/10		--	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--	--
06/21/11		--	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--	--

**TABLE 1**  
**GROUNDWATER MONITORING DATA AND ANALYTICAL RESULTS<sup>1</sup>**  
**FORMER CHEVRON SERVICE STATION NO. 20-9335**  
**1225 North 45th Street**  
**Seattle, Washington**  
**Concentrations reported in µg/L**

Well ID/ Date	Purge Method	TOC <sup>2</sup> (ft.)	DTP (ft.)	DTW (ft.)	SPHT (ft.)	GWE <sup>3</sup> (ft.)	TPH-DRO	TPH-HRO	TPH-GRO	Benzene	Toluene	Ethyl- benzene	Total Xylenes	MTBE	T. Lead
<b>QA (cont.)</b>															
09/22/11		--	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--	--
12/09/11		--	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--	--
03/30/12		--	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--	--
06/20/12		QA Vials Not Received by the Laboratory													
10/05/12		--	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--	--
12/27/12		--	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--	--
03/28/13		--	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--	--
Standard Laboratory Reporting Limits:							--	--	50	0.5	0.5	0.5	1.5	--	0.00100
MTCA Method A Cleanup Levels:							500	500	800/1,000	5	1,000	700	1,000	20	15
Current Method <sup>5</sup> :							NWTPH-Dx + Extended <sup>4</sup>		NWTPH-Gx	USEPA 8021B					USEPA 6020

**Abbreviations:**

DTP = Depth to Product

DTW = Depth to Water

(ft.) = Feet

GWE = Groundwater Elevation

SPH = Separate Phase Hydrocarbons

MTBE = Methyl Tertiary Butyl Ether

MTCA = Model Toxics Control Act Cleanup Regulations

ND = Not Detected

NP = No Purge

QA = Quality Assurance/Trip Blank

SPH = Separate Phase Hydrocarbon

SPHT = Separate Phase Hydrocarbon Thickness

T. Lead = Total Lead

TOC = Top of Casing

TPH = Total Petroleum Hydrocarbons

TPH-DRO = TPH as Diesel-Range Organics

TPH-GRO = TPH as Gasoline-Range Organics

TPH-HRO = TPH as Heavy Oil-Range Organics

USEPA = United States Environmental Protection Agency

µg/L = Micrograms per liter

-- = Not Measured/Not Analyzed

**Notes:**

1 Analytical results in bold font indicate concentrations exceed MTCA Method A Cleanup Levels.

2 TOC elevations have been surveyed in feet relative to the 1988 North American Vertical Datum. MW-1 through MW-5 TOC Elevation are reference to an arbitrary benchmark of 100 feet.

3 When SPH is present, GWE has been corrected using the following formula:  $GWE = [(TOC - DTW) + (SPHT \times 0.80)]$ .

4 Analyzed with silica-gel cleanup.

5 Laboratory analytical methods for historical data may not be consistent with list of current analytical methods. When necessary, consult original laboratory reports to verify methods used.

6 Skimmer in well.

7 Interface probe could not detect LNAPL/Groundwater Interface, unable to gauge hydrocarbon thickness and calculate corrected GWE.

**Attachment A:**  
**Groundwater Monitoring and Sampling Data Package**

---



# GETTLER-RYAN INC.



## TRANSMITTAL

April 8, 2013  
G-R #386750

TO: Ms. Ruth A. Otteman  
SAIC  
18912 North Creek Parkway, Suite 101  
Bothell, WA 98011

FROM: Deanna L. Harding  
Project Coordinator  
Gettler-Ryan Inc.  
6747 Sierra Court, Suite J  
Dublin, California 94568

RE: **Former Chevron Service Station  
#209335  
1225 North 45<sup>th</sup> Street  
Seattle, Washington**

WE HAVE ENCLOSED THE FOLLOWING:

COPIES	DESCRIPTION
VIA PDF	Groundwater Monitoring and Sampling Data Package First Quarter Event of March 28, 2013

### COMMENTS:

Pursuant to your request, we are providing you with copies of the above referenced data for your use.

Please provide us the updated historical data prior to the next monitoring and sampling event for our field use.

Please feel free to contact me if you have any comments/questions.

trans/209335



## STANDARD OPERATING PROCEDURE - GROUNDWATER SAMPLING

Gettler-Ryan Inc. (GR) field personnel adhere to the following procedures for the collection and handling of groundwater samples prior to analysis by the analytical laboratory. All work is performed in accordance with the GR Health & Safety Plan and all client-specific programs. The scope of work and type of analysis to be performed is determined prior to commencing field work.

Prior to sampling, the presence or absence of free-phase hydrocarbons is determined using an interface probe. Product thickness, if present, is measured to the nearest 0.01 foot and is noted in the field notes. In addition, all depth to water level measurements are collected with a static water level indicator and are also recorded in the field notes, prior to purging and sampling any wells.

After water levels are collected and prior to sampling, if purging is to occur, each well is purged a minimum of three well casing volumes of water using pre-cleaned pumps (stack, peristaltic or Grundfos), or disposable bailers. Temperature, pH and electrical conductivity are measured a minimum of three times during the purging (additional parameters such as dissolved oxygen, oxidation reduction potential, turbidity may also be measured, depending on specific scope of work.). Purging continues until these parameters stabilize. Purge water is treated by filtering the water through granular activated carbon and is subsequently discharged to the ground surface at the site.

Groundwater samples are collected using disposable bailers. The water samples are transferred from the bailer into appropriate containers. Pre-preserved containers, supplied by analytical laboratories, are used. When pre-preserved containers are not available, the laboratory is instructed to preserve the sample as appropriate. Duplicate samples are collected for the laboratory to use in maintaining quality assurance/quality control standards, as directed by the scope of work. The samples are labeled to include the job number, sample identification, collection date and time, analysis, preservation (if any), and the sample collector's initials. The water samples are placed in a cooler, maintained at 4°C for transport to the laboratory. Once collected in the field, all samples are maintained under chain of custody until delivered to the laboratory.

The chain of custody document includes the job number, type of preservation, if any, analysis requested, sample identification, date and time collected, and the sample collector's name. The chain of custody is signed and dated (including time of transfer) by each person who receives or surrenders the samples, beginning with the field personnel and ending with the laboratory personnel.

A laboratory supplied trip blank accompanies each sampling set. The trip blank is analyzed for some or all of the same compounds as the groundwater samples.



# GETTLER - RYAN INC.

## WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility#: Chevron #209335 Job Number: 386750  
 Site Address: 1225 N. 45Th Street Event Date: 3.28.13 (inclusive)  
 City: Seattle, WA Sampler: J.P

Well ID: MW-10 Date Monitored: 3.28.13

Well Diameter: 2

Total Depth: 24.17 ft.

Depth to Water: 16.61 ft.

Volume Factor (VF)	3/4"= 0.02	1"= 0.04	<u>2"= 0.17</u>	3"= 0.38
	4"= 0.66	5"= 1.02	6"= 1.50	12"= 5.80

Check if water column is less than 0.50 ft.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]:             
 xVF            =            x3 case volume = Estimated Purge Volume:            gal.

### Purge Equipment:

Disposable Bailer \_\_\_\_\_  
 Stainless Steel Bailer \_\_\_\_\_  
 Stack Pump \_\_\_\_\_  
 Suction Pump \_\_\_\_\_  
 Grundfos \_\_\_\_\_  
 Peristaltic Pump \_\_\_\_\_  
 QED Bladder Pump \_\_\_\_\_  
 Other: \_\_\_\_\_

### Sampling Equipment:

Disposable Bailer \_\_\_\_\_  
 Pressure Bailer \_\_\_\_\_  
 Metal Filters \_\_\_\_\_  
 Peristaltic Pump \_\_\_\_\_  
 QED Bladder Pump \_\_\_\_\_  
 Other: \_\_\_\_\_

Time Started: \_\_\_\_\_ (2400 hrs)  
 Time Completed: \_\_\_\_\_ (2400 hrs)  
 Depth to Product: \_\_\_\_\_ ft  
 Depth to Water: \_\_\_\_\_ ft  
 Hydrocarbon Thickness: \_\_\_\_\_ ft  
 Visual Confirmation/Description: \_\_\_\_\_  
 Skimmer / Absorbant Sock (circle one)  
 Amt Removed from Skimmer: \_\_\_\_\_ gal  
 Amt Removed from Well: \_\_\_\_\_ gal  
 Water Removed: \_\_\_\_\_ gal  
 Product Transferred to: \_\_\_\_\_

Start Time (purge): 11:30 Weather Conditions: Rain  
 Sample Time/Date: 11:30 / 3.28.13 Water Color: cloudy Odor: Y/N  
 Approx. Flow Rate: \_\_\_\_\_ gpm. Sediment Description: grey  
 Did well de-water? No If yes, Time: \_\_\_\_\_ Volume: \_\_\_\_\_ gal. DTW @ Sampling: 16.61

Time (2400 hr)	Volume (gal.)	pH	Conductivity (µmhos/cm - µS)	Temperature (C / F)	D.O. (mg/L)	ORP (mV)
<u>No Purge</u>						

### LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW-10</u>	<u>3</u> x voa vial	YES	HCL	LANCASTER	NWTPH-Gx/BTEX(8021)
	<u>2</u> x 1 liter ambers	YES	HCL	LANCASTER	NWTPH-Dx w/sgc
	<u>1</u> x 250ml poly	YES	HNO3	LANCASTER	TOTAL LEAD (6020)

COMMENTS: No Purge Sample

Add/Replaced Lock: \_\_\_\_\_ Add/Replaced Plug: \_\_\_\_\_ Add/Replaced Bolt: \_\_\_\_\_



# GETTLER - RYAN INC.

## WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility#: Chevron #209335  
 Site Address: 1225 N. 45Th Street  
 City: Seattle, WA

Job Number: 386750  
 Event Date: 3-28-13 (inclusive)  
 Sampler: J.P.

Well ID: MW-7  
 Well Diameter: 2  
 Total Depth: 33.50 ft.  
 Depth to Water: 27.00 ft.  
6.50 xVF = - = -

Date Monitored: 2-28-13

Volume Factor (VF)	3/4" = 0.02	1" = 0.04	<u>2" = 0.1</u>	3" = 0.38
	4" = 0.66	5" = 1.02	6" = 1.50	12" = 5.80

Check if water column is less than 0.50 ft.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: -

Time Started: 1600 (2400 hrs)  
 Time Completed: 1600 (2400 hrs)  
 Depth to Product: 26.91 ft  
 Depth to Water: 27.00 ft  
 Hydrocarbon Thickness: .09 ft  
 Visual Confirmation/Description: YELLOWISH-BROWN  
 Skimmer / Absorbent sock (circle one)  
 Amt Removed from Skimmer: 0 gal  
 Amt Removed from Well: 0 gal  
 Water Removed: 0 gal  
 Product Transferred to: 0

**Purge Equipment:**  
 Disposable Bailer \_\_\_\_\_  
 Stainless Steel Bailer \_\_\_\_\_  
 Stack Pump \_\_\_\_\_  
 Suction Pump \_\_\_\_\_  
 Grundfos \_\_\_\_\_  
 Peristaltic Pump \_\_\_\_\_  
 QED Bladder Pump \_\_\_\_\_  
 Other: \_\_\_\_\_

**Sampling Equipment:**  
 Disposable Bailer \_\_\_\_\_  
 Pressure Bailer \_\_\_\_\_  
 Metal Filters \_\_\_\_\_  
 Peristaltic Pump \_\_\_\_\_  
 QED Bladder Pump \_\_\_\_\_  
 Other: \_\_\_\_\_

Start Time (purge): \_\_\_\_\_ Weather Conditions: \_\_\_\_\_  
 Sample Time/Date: / Water Color: \_\_\_\_\_ Odor: Y / N  
 Approx. Flow Rate: \_\_\_\_\_ gpm. Sediment Description: \_\_\_\_\_  
 Did well de-water? \_\_\_\_\_ If yes, Time: \_\_\_\_\_ Volume: \_\_\_\_\_ gal. DTW @ Sampling: \_\_\_\_\_

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µmhos/cm - µS)	Temperature (C / F)	D.O. (mg/L)	ORP (mV)

### LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-	x voa vial	YES	HCL	LANCASTER	NWTPH-Gx/BTEX(8021)
	x 1 liter ambers	YES	HCL	LANCASTER	NWTPH-Dx w/sgc
	x 250ml poly	YES	HNO3	LANCASTER	TOTAL LEAD (6020)

COMMENTS: SPH

Add/Replaced Lock: \_\_\_\_\_ Add/Replaced Plug: \_\_\_\_\_ Add/Replaced Bolt: \_\_\_\_\_



# GETTLER - RYAN INC.

## WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility#: Chevron #209335 Job Number: 386750  
 Site Address: 1225 N. 45Th Street Event Date: 3.28.13 (inclusive)  
 City: Seattle, WA Sampler: J.P.

Well ID: MW-0 Date Monitored: 3.28.13  
 Well Diameter: 2  
 Total Depth: 36.03 ft.  
 Depth to Water: 17.09 ft.  Check if water column is less than 0.50 ft.  
7.94 xVF - = - x3 case volume = Estimated Purge Volume: - gal.

Volume Factor (VF)	3/4"= 0.02	1"= 0.04	2"= 0.17	3"= 0.38
	4"= 0.66	5"= 1.02	6"= 1.50	12"= 5.80

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: -

**Purge Equipment:**  
 Disposable Bailer \_\_\_\_\_  
 Stainless Steel Bailer \_\_\_\_\_  
 Stack Pump \_\_\_\_\_  
 Suction Pump \_\_\_\_\_  
 Grundfos \_\_\_\_\_  
 Peristaltic Pump \_\_\_\_\_  
 QED Bladder Pump \_\_\_\_\_  
 Other: \_\_\_\_\_

**Sampling Equipment:**  
 Disposable Bailer /  
 Pressure Bailer \_\_\_\_\_  
 Metal Filters \_\_\_\_\_  
 Peristaltic Pump \_\_\_\_\_  
 QED Bladder Pump \_\_\_\_\_  
 Other: \_\_\_\_\_

Time Started: \_\_\_\_\_ (2400 hrs)  
 Time Completed: \_\_\_\_\_ (2400 hrs)  
 Depth to Product: \_\_\_\_\_ ft  
 Depth to Water: \_\_\_\_\_ ft  
 Hydrocarbon Thickness: \_\_\_\_\_ ft  
 Visual Confirmation/Description: \_\_\_\_\_  
 Skimmer / Absorbant Sock (circle one)  
 Amt Removed from Skimmer: \_\_\_\_\_ gal  
 Amt Removed from Well: \_\_\_\_\_ gal  
 Water Removed: \_\_\_\_\_ gal  
 Product Transferred to: \_\_\_\_\_

Start Time (purge): 1440 Weather Conditions: RAIN  
 Sample Time/Date: 1460 / 3.28.13 Water Color: cloudy Odor: (Y) N WILD  
 Approx. Flow Rate: \_\_\_\_\_ gpm. Sediment Description: GREY  
 Did well de-water? NO If yes, Time: \_\_\_\_\_ Volume: \_\_\_\_\_ gal. DTW @ Sampling: 27.09

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µmhos/cm - µS)	Temperature (C / F)	D.O. (mg/L)	ORP (mV)
<u>NO PURGE SAMPLE</u>						

### LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-0	3 x voa vial	YES	HCL	LANCASTER	NWTPH-Gx/BTEX(8021)
	2 x 1 liter ambers	YES	HCL	LANCASTER	NWTPH-Dx w/sgc
	1 x 250ml poly	YES	HNO3	LANCASTER	TOTAL LEAD (6020)

COMMENTS: \_\_\_\_\_

Add/Replaced Lock: \_\_\_\_\_ Add/Replaced Plug: \_\_\_\_\_ Add/Replaced Bolt: \_\_\_\_\_



# GETTLER - RYAN INC.

## WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility#: Chevron #209335 Job Number: 386750  
 Site Address: 1225 N. 45Th Street Event Date: 3.28.13 (inclusive)  
 City: Seattle, WA Sampler: V.P.

Well ID: MW-9 Date Monitored: 3.28.13

Well Diameter: 2  
 Total Depth: 44.12 ft.  
 Depth to Water: 29.73 ft.

Volume Factor (VF)	3/4"= 0.02	1"= 0.04	<u>2"= 0.17</u>	3"= 0.38
	4"= 0.66	5"= 1.02	6"= 1.50	12"= 5.80

Check if water column is less than 0.50 ft.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]:           
 xVF          =          x3 case volume = Estimated Purge Volume:          gal.

Time Started:          (2400 hrs)  
 Time Completed:          (2400 hrs)  
 Depth to Product:          ft  
 Depth to Water:          ft  
 Hydrocarbon Thickness:          ft  
 Visual Confirmation/Description:           
 Skimmer / Absorbant Sock (circle one)  
 Amt Removed from Skimmer:          gal  
 Amt Removed from Well:          gal  
 Water Removed:          gal  
 Product Transferred to:         

**Purge Equipment:**  
 Disposable Bailer \_\_\_\_\_  
 Stainless Steel Bailer \_\_\_\_\_  
 Stack Pump \_\_\_\_\_  
 Suction Pump \_\_\_\_\_  
 Grundfos \_\_\_\_\_  
 Peristaltic Pump \_\_\_\_\_  
 QED Bladder Pump \_\_\_\_\_  
 Other: \_\_\_\_\_

**Sampling Equipment:**  
 Disposable Bailer  \_\_\_\_\_  
 Pressure Bailer \_\_\_\_\_  
 Metal Filters \_\_\_\_\_  
 Peristaltic Pump \_\_\_\_\_  
 QED Bladder Pump \_\_\_\_\_  
 Other: \_\_\_\_\_

Start Time (purge): 13:20 Weather Conditions: Rain  
 Sample Time/Date: 14:00 / 3.28.13 Water Color: CLEAR Odor: Y / N  
 Approx. Flow Rate:          gpm. Sediment Description: NONE  
 Did well de-water? No If yes, Time:          Volume:          gal. DTW @ Sampling: 29.73

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µmhos/cm - µS)	Temperature ( C / F )	D.O. (mg/L)	ORP (mV)
<u>No Purge Sample</u>	<u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>
<u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>
<u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>

### LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW-9</u>	<u>3</u> x voa vial	<u>YES</u>	<u>HCL</u>	<u>LANCASTER</u>	<u>NWTPH-Gx/BTEX(8021)</u>
	<u>2</u> x 1 liter ambers	<u>YES</u>	<u>HCL</u>	<u>LANCASTER</u>	<u>NWTPH-Dx w/sgc</u>
	<u>1</u> x 250ml poly	<u>YES</u>	<u>HNO3</u>	<u>LANCASTER</u>	<u>TOTAL LEAD (6020)</u>

COMMENTS: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Add/Replaced Lock: \_\_\_\_\_ Add/Replaced Plug: \_\_\_\_\_ Add/Replaced Bolt: \_\_\_\_\_



# GETTLER - RYAN INC.

## WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility#: Chevron #209335 Job Number: 386750  
 Site Address: 1225 N. 45Th Street Event Date: 3.28.13 (inclusive)  
 City: Seattle, WA Sampler: J.P.

Well ID MW-10  
 Well Diameter 2  
 Total Depth 44.49 ft.  
 Depth to Water 27.36 ft.  
17.13 xVF =          =          x3 case volume = Estimated Purge Volume:          gal.

Date Monitored: 3.28.13

Volume Factor (VF)	3/4"= 0.02	1"= 0.04	<u>2"= 0.17</u>	3"= 0.38
	4"= 0.66	5"= 1.02	6"= 1.50	12"= 5.80

Check if water column is less then 0.50 ft.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]:         

### Purge Equipment:

Disposable Bailer \_\_\_\_\_  
 Stainless Steel Bailer \_\_\_\_\_  
 Stack Pump \_\_\_\_\_  
 Suction Pump \_\_\_\_\_  
 Grundfos \_\_\_\_\_  
 Peristaltic Pump \_\_\_\_\_  
 QED Bladder Pump \_\_\_\_\_  
 Other: \_\_\_\_\_

### Sampling Equipment:

Disposable Bailer   
 Pressure Bailer \_\_\_\_\_  
 Metal Filters \_\_\_\_\_  
 Peristaltic Pump \_\_\_\_\_  
 QED Bladder Pump \_\_\_\_\_  
 Other: \_\_\_\_\_

Time Started: \_\_\_\_\_ (2400 hrs)  
 Time Completed: \_\_\_\_\_ (2400 hrs)  
 Depth to Product: \_\_\_\_\_ ft  
 Depth to Water: \_\_\_\_\_ ft  
 Hydrocarbon Thickness: \_\_\_\_\_ ft  
 Visual Confirmation/Description: \_\_\_\_\_  
 Skimmer / Absorbant Sock (circle one)  
 Amt Removed from Skimmer: \_\_\_\_\_ gal  
 Amt Removed from Well: \_\_\_\_\_ gal  
 Water Removed: \_\_\_\_\_ gal  
 Product Transferred to: \_\_\_\_\_

Start Time (purge): 1230 Weather Conditions: Rain  
 Sample Time/Date: 1340 3.28.13 Water Color: Clear Odor: Y/N  
 Approx. Flow Rate: \_\_\_\_\_ gpm. Sediment Description: None  
 Did well de-water? No If yes, Time: \_\_\_\_\_ Volume: \_\_\_\_\_ gal. DTW @ Sampling: 27.36

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µmhos/cm - µS)	Temperature (C/ F)	D.O. (mg/L)	ORP (mV)
<u>No Purge Sample</u>						

### LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-10	3 x voa vial	YES	HCL	LANCASTER	NWTPH-Gx/BTEX(8021)
	2 x 1 liter ambers	YES	HCL	LANCASTER	NWTPH-Dx w/sgc
	1 x 250ml poly	YES	HNO3	LANCASTER	TOTAL LEAD (8020)

### COMMENTS:

Add/Replaced Lock: \_\_\_\_\_ Add/Replaced Plug: \_\_\_\_\_ Add/Replaced Bolt: \_\_\_\_\_



For Lancaster Laboratories use only

Acct. #: \_\_\_\_\_ Group # \_\_\_\_\_ Sample #: \_\_\_\_\_

SS#209335 OML G-R#386750

Facility #: \_\_\_\_\_ WBS: \_\_\_\_\_  
 1225 N. 45th Street, SEATTLE WA  
 Site Address: MHO SAICRO Otteman  
 Chevron PM: \_\_\_\_\_ Lead Consultant:  
 G-R, Inc., 6747 Sierra Court, Suite J, Dublin, CA 94568  
 Consultant/Office: Deanna L. Harding (deanna@grinc.com)  
 Consultant Prj. Mgr.: 925-551-7555 925-551-7899  
 Consultant Phone #: \_\_\_\_\_ Fax #: \_\_\_\_\_  
 Sampler: J. Payne

**Analyses Requested**

SCR #: \_\_\_\_\_

**Matrix**

**Preservation Codes**

Soil  Potable  NPDES   
 Water  NPDES   
 Oil  Air

Total Number of Containers

BTEX + MPBE - 8021 <input checked="" type="checkbox"/>	8260 <input type="checkbox"/> Naphth <input type="checkbox"/>																			
8260 full scan	Oxygenates	NWTPH GX	NWTPH DX <input checked="" type="checkbox"/> Silica Gel Cleanup	Lead Total <input checked="" type="checkbox"/> Diss. <input checked="" type="checkbox"/> Method <u>6020</u>	<input type="checkbox"/> WAWPH <input type="checkbox"/> WAEPH	NWTPH H CID <input type="checkbox"/> quantification														

- Results in Dry Weight
- J value reporting needed
- Must meet lowest detection limits possible for 8260 compounds
- 8021 MTBE Confirmation
- Confirm MTBE + Naphthalene
- Confirm highest hit by 8260
- Confirm all hits by 8260
- Run \_\_\_ oxy's on highest hit
- Run \_\_\_ oxy's on all hits

Sample Identification	Date Collected	Time Collected	Grab	Composite	Soil	Water	Oil	Air	Total Number of Containers	BTEX + MPBE - 8021 <input checked="" type="checkbox"/>	8260 full scan	Oxygenates	NWTPH GX	NWTPH DX <input checked="" type="checkbox"/> Silica Gel Cleanup	Lead Total <input checked="" type="checkbox"/> Diss. <input checked="" type="checkbox"/> Method <u>6020</u>	<input type="checkbox"/> WAWPH <input type="checkbox"/> WAEPH	NWTPH H CID <input type="checkbox"/> quantification																								
RA	3-18-13		X			X			2	X			X																												
MW-6		16:30	X			X			6	X			X	X	X																										
MW-8		16:40	X			X			6	X			X	X	X																										
MW-9		14:00	X			X			6	X			X	X	X																										
MW-10		13:40	X			X			6	X			X	X	X																										

**Comments /Remarks**

Please forward the lab results directly to the Lead Consultant and cc: G-R.

**Turnaround Time Requested (TAT) (please circle)**

STD. TAT 72 hour 48 hour  
 24 hour 4 day 5 day

EDF/EDD

Relinquished by: [Signature] Date: 3-18-13 Time: 16:00 Received by: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

Relinquished by: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_ Received by: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

**Data Package Options (please circle if required)**

QC Summary Type I - Full  
 Type VI (Raw Data)

Relinquished by: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_ Received by: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

Relinquished by Commercial Carrier: UPS FedEx Other \_\_\_\_\_ Received by: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

Temperature Upon Receipt \_\_\_\_\_ C° Custody Seals Intact? Yes No

**Attachment B:**  
**Laboratory Analysis Report**

---

## ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories  
2425 New Holland Pike  
Lancaster, PA 17601

Prepared for:

Chevron  
6001 Bollinger Canyon Road  
L4310  
San Ramon CA 94583

April 10, 2013

Project: 209335

Submittal Date: 03/29/2013  
Group Number: 1379097  
PO Number: 0015119898  
Release Number: HORNE  
State of Sample Origin: WAClient Sample DescriptionQA Water  
MW-6 Grab Water  
MW-8 Grab Water  
MW-9 Grab Water  
MW-10 Grab WaterLancaster Labs (LLI) #7002279  
7002280  
7002281  
7002282  
7002283

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

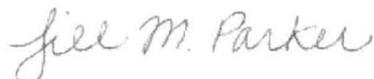
ELECTRONIC COPY TO SAIC c/o Gettler-Ryan  
ELECTRONIC COPY TO SAIC  
ELECTRONIC COPY TO SAIC

Attn: Rachelle Munoz

Attn: Jamalyn Green

Attn: Ruth Otteman

Respectfully Submitted,



Jill M. Parker  
Senior Specialist

(717) 556-7262

**Sample Description:** QA Water  
 Facility# 209335 Job# 386750  
 1225 N. 45th Street - Seattle, WA

LLI Sample # WW 7002279  
 LLI Group # 1379097  
 Account # 11260

**Project Name:** 209335

Collected: 03/28/2013

Chevron

Submitted: 03/29/2013 09:45

6001 Bollinger Canyon Road

Reported: 04/10/2013 10:46

L4310

San Ramon CA 94583

45SQA

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
<b>GC Volatiles</b>					
08274	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx n.a.	ug/l N.D.	ug/l 50	1
<b>GC Volatiles</b>					
02102	Benzene	SW-846 8021B 71-43-2	ug/l N.D.	ug/l 0.5	1
02102	Ethylbenzene	100-41-4	N.D.	0.5	1
02102	Toluene	108-88-3	N.D.	0.5	1
02102	Total Xylenes	1330-20-7	N.D.	1.5	1

### General Sample Comments

State of Washington Lab Certification No. C259

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

### Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
08274	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	13091B53A	04/03/2013 13:57	Catherine J Schwarz	1
02102	Method 8021 Water Master	SW-846 8021B	1	13091B53A	04/03/2013 13:57	Catherine J Schwarz	1
01146	GC VOA Water Prep	SW-846 5030B	1	13091B53A	04/03/2013 13:57	Catherine J Schwarz	1

**Sample Description:** MW-6 Grab Water  
**Facility#** 209335 **Job#** 386750  
 1225 N. 45th Street - Seattle, WA

**LLI Sample #** WW 7002280  
**LLI Group #** 1379097  
**Account #** 11260

**Project Name:** 209335

Collected: 03/28/2013 14:30 by JP

Chevron

6001 Bollinger Canyon Road

Submitted: 03/29/2013 09:45

L4310

Reported: 04/10/2013 10:46

San Ramon CA 94583

45S-6

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
<b>GC Volatiles</b>					
08274	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx n.a.	ug/l 79	ug/l 50	1
<b>GC Volatiles</b>					
02102	Benzene	SW-846 8021B 71-43-2	ug/l N.D.	ug/l 0.5	1
02102	Ethylbenzene	100-41-4	N.D.	0.5	1
02102	Toluene	108-88-3	N.D.	0.5	1
02102	Total Xylenes	1330-20-7	N.D.	1.5	1
<b>GC Petroleum Hydrocarbons w/Si</b>					
ECY 97-602 NWTPH-Dx modified					
12005	DRO C12-C24 w/Si Gel	n.a.	N.D.	29	1
12005	HRO C24-C40 w/Si Gel	n.a.	N.D.	67	1
The reverse surrogate, capric acid, is present at <1%.					
<b>Metals</b>					
06035	Lead	SW-846 6020 7439-92-1	ug/l 3.7	ug/l 0.073	1

### General Sample Comments

State of Washington Lab Certification No. C259

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

### Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
08274	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	13091B53A	04/03/2013 15:18	Catherine J Schwarz	1
02102	Method 8021 Water Master	SW-846 8021B	1	13091B53A	04/03/2013 15:18	Catherine J Schwarz	1
01146	GC VOA Water Prep	SW-846 5030B	1	13091B53A	04/03/2013 15:18	Catherine J Schwarz	1
12005	NWTPH-Dx water w/ 10g Si Gel	ECY 97-602 NWTPH-Dx modified	1	130940003A	04/09/2013 21:07	Christine E Dolman	1
12007	NW Dx water w/ 10g column	ECY 97-602 NWTPH-Dx 06/97	1	130940003A	04/04/2013 16:25	JoElla L Rice	1
06035	Lead	SW-846 6020	1	130946050004A	04/08/2013 11:22	Choon Y Tian	1
06050	ICP/MS SW-846 Water Digest	SW-846 3010A modified	1	130946050004	04/05/2013 06:57	James L Mertz	1

**Sample Description:** MW-8 Grab Water  
 Facility# 209335 Job# 386750  
 1225 N. 45th Street - Seattle, WA

LLI Sample # WW 7002281  
 LLI Group # 1379097  
 Account # 11260

**Project Name:** 209335

Collected: 03/28/2013 14:50 by JP

Chevron

6001 Bollinger Canyon Road

Submitted: 03/29/2013 09:45

L4310

Reported: 04/10/2013 10:46

San Ramon CA 94583

45S-8

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
<b>GC Volatiles</b>					
	<b>ECY 97-602 NWTPH-Gx</b>		<b>ug/l</b>	<b>ug/l</b>	
08274	NWTPH-Gx water C7-C12	n.a.	80	50	1
<b>GC Volatiles</b>					
	<b>SW-846 8021B</b>		<b>ug/l</b>	<b>ug/l</b>	
02102	Benzene	71-43-2	N.D.	0.5	1
02102	Ethylbenzene	100-41-4	N.D.	0.5	1
02102	Toluene	108-88-3	N.D.	0.5	1
02102	Total Xylenes	1330-20-7	N.D.	1.5	1
<b>GC Petroleum</b>					
	<b>ECY 97-602 NWTPH-Dx</b>		<b>ug/l</b>	<b>ug/l</b>	
<b>Hydrocarbons w/Si modified</b>					
12005	DRO C12-C24 w/Si Gel	n.a.	N.D.	29	1
12005	HRO C24-C40 w/Si Gel	n.a.	N.D.	67	1
The reverse surrogate, capric acid, is present at <1%.					
<b>Metals</b>					
	<b>SW-846 6020</b>		<b>ug/l</b>	<b>ug/l</b>	
06035	Lead	7439-92-1	1.9	0.073	1

### General Sample Comments

State of Washington Lab Certification No. C259

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

### Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
08274	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	13091B53A	04/03/2013 15:44	Catherine J Schwarz	1
02102	Method 8021 Water Master	SW-846 8021B	1	13091B53A	04/03/2013 15:44	Catherine J Schwarz	1
01146	GC VOA Water Prep	SW-846 5030B	1	13091B53A	04/03/2013 15:44	Catherine J Schwarz	1
12005	NWTPH-Dx water w/ 10g Si Gel	ECY 97-602 NWTPH-Dx modified	1	130940003A	04/09/2013 21:30	Christine E Dolman	1
12007	NW Dx water w/ 10g column	ECY 97-602 NWTPH-Dx 06/97	1	130940003A	04/04/2013 16:25	JoElla L Rice	1
06035	Lead	SW-846 6020	1	130946050004A	04/08/2013 11:24	Choon Y Tian	1
06050	ICP/MS SW-846 Water Digest	SW-846 3010A modified	1	130946050004	04/05/2013 06:57	James L Mertz	1

**Sample Description:** MW-9 Grab Water  
 Facility# 209335 Job# 386750  
 1225 N. 45th Street - Seattle, WA

LLI Sample # WW 7002282  
 LLI Group # 1379097  
 Account # 11260

**Project Name:** 209335

Collected: 03/28/2013 14:00 by JP

Chevron

6001 Bollinger Canyon Road

L4310

San Ramon CA 94583

Submitted: 03/29/2013 09:45

Reported: 04/10/2013 10:46

45S-9

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
<b>GC Volatiles</b>					
08274	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx n.a.	ug/l N.D.	ug/l 50	1
<b>GC Volatiles</b>					
02102	Benzene	SW-846 8021B 71-43-2	ug/l N.D.	ug/l 0.5	1
02102	Ethylbenzene	100-41-4	N.D.	0.5	1
02102	Toluene	108-88-3	N.D.	0.5	1
02102	Total Xylenes	1330-20-7	N.D.	1.5	1
<b>GC Petroleum Hydrocarbons w/Si modified</b>					
12005	DRO C12-C24 w/Si Gel	ECY 97-602 NWTPH-Dx n.a.	ug/l N.D.	ug/l 28	1
12005	HRO C24-C40 w/Si Gel	n.a.	N.D.	66	1
The reverse surrogate, capric acid, is present at <1%.					
<b>Metals</b>					
06035	Lead	SW-846 6020 7439-92-1	ug/l N.D.	ug/l 0.073	1

### General Sample Comments

State of Washington Lab Certification No. C259

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

### Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
08274	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	13091B53A	04/03/2013 16:11	Catherine J Schwarz	1
02102	Method 8021 Water Master	SW-846 8021B	1	13091B53A	04/03/2013 16:11	Catherine J Schwarz	1
01146	GC VOA Water Prep	SW-846 5030B	1	13091B53A	04/03/2013 16:11	Catherine J Schwarz	1
12005	NWTPH-Dx water w/ 10g Si Gel	ECY 97-602 NWTPH-Dx modified	1	130940003A	04/09/2013 21:53	Christine E Dolman	1
12007	NW Dx water w/ 10g column	ECY 97-602 NWTPH-Dx 06/97	1	130940003A	04/04/2013 16:25	JoElla L Rice	1
06035	Lead	SW-846 6020	1	130946050004A	04/08/2013 11:29	Choon Y Tian	1
06050	ICP/MS SW-846 Water Digest	SW-846 3010A modified	1	130946050004	04/05/2013 06:57	James L Mertz	1

**Sample Description:** MW-10 Grab Water  
 Facility# 209335 Job# 386750  
 1225 N. 45th Street - Seattle, WA

LLI Sample # WW 7002283  
 LLI Group # 1379097  
 Account # 11260

**Project Name:** 209335

Collected: 03/28/2013 13:40 by JP

Chevron

6001 Bollinger Canyon Road

Submitted: 03/29/2013 09:45

L4310

Reported: 04/10/2013 10:46

San Ramon CA 94583

45S10

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
<b>GC Volatiles</b>					
08274	NWTPH-Gx water C7-C12	ECY 97-602 NWT n.a.	ug/l N.D.	ug/l 50	1
<b>GC Volatiles</b>					
02102	Benzene	SW-846 8021B 71-43-2	ug/l N.D.	ug/l 0.5	1
02102	Ethylbenzene	100-41-4	N.D.	0.5	1
02102	Toluene	108-88-3	N.D.	0.5	1
02102	Total Xylenes	1330-20-7	N.D.	1.5	1
<b>GC Petroleum Hydrocarbons w/Si</b>					
ECY 97-602 NWT modified					
12005	DRO C12-C24 w/Si Gel	n.a.	N.D.	29	1
12005	HRO C24-C40 w/Si Gel	n.a.	N.D.	67	1
The reverse surrogate, capric acid, is present at <1%.					
<b>Metals</b>					
06035	Lead	SW-846 6020 7439-92-1	ug/l N.D.	ug/l 0.073	1

### General Sample Comments

State of Washington Lab Certification No. C259

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

### Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
08274	NWTPH-Gx water C7-C12	ECY 97-602 NWT Gx	1	13091B53A	04/03/2013 16:38	Catherine J Schwarz	1
02102	Method 8021 Water Master	SW-846 8021B	1	13091B53A	04/03/2013 16:38	Catherine J Schwarz	1
01146	GC VOA Water Prep	SW-846 5030B	1	13091B53A	04/03/2013 16:38	Catherine J Schwarz	1
12005	NWTPH-Dx water w/ 10g Si Gel	ECY 97-602 NWT Dx modified	1	130940003A	04/09/2013 22:16	Christine E Dolman	1
12007	NW Dx water w/ 10g column	ECY 97-602 NWT Dx 06/97	1	130940003A	04/04/2013 16:25	JoElla L Rice	1
06035	Lead	SW-846 6020	1	130946050004A	04/08/2013 11:31	Choon Y Tian	1
06050	ICP/MS SW-846 Water Digest	SW-846 3010A modified	1	130946050004	04/05/2013 06:57	James L Mertz	1

## Quality Control Summary

 Client Name: Chevron  
 Reported: 04/10/13 at 10:46 AM

Group Number: 1379097

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

### Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 13091B53A	Sample number(s): 7002279-7002283							
Benzene	N.D.	0.5	ug/l	102	101	80-120	1	30
Ethylbenzene	N.D.	0.5	ug/l	105	103	80-120	1	30
NWTPH-Gx water C7-C12	N.D.	50.	ug/l	92	94	75-135	2	30
Toluene	N.D.	0.5	ug/l	102	100	80-120	1	30
Total Xylenes	N.D.	1.5	ug/l	107	106	80-120	2	30
Batch number: 130940003A	Sample number(s): 7002280-7002283							
DRO C12-C24 w/Si Gel	N.D.	30.	ug/l	49	64	32-117	26*	20
HRO C24-C40 w/Si Gel	N.D.	70.	ug/l					
Batch number: 130946050004A	Sample number(s): 7002280-7002283							
Lead	N.D.	0.073	ug/l	103		90-115		

### Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike  
 Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: 130946050004A	Sample number(s): 7002280-7002283 UNSPK: P005185 BKG: P005185								
Lead	102	102	83-120	0	20	0.076	N.D.	200* (1)	20

### Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: Method 8021 Water Master

Batch number: 13091B53A

	Trifluorotoluene-P	Trifluorotoluene-F
7002279	79	78
7002280	81	76
7002281	80	76
7002282	81	77
7002283	81	80

\*- Outside of specification

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The unspiked result was more than four times the spike added.

**Quality Control Summary**Client Name: Chevron  
Reported: 04/10/13 at 10:46 AM

Group Number: 1379097

**Surrogate Quality Control**

Blank	80	77
LCS	80	92
LCSD	81	93

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Limits: 51-120                      63-135

Analysis Name: NWTPh-Dx water w/ 10g Si Gel  
Batch number: 130940003A  
Orthoterphenyl

---

7002280	80
7002281	64
7002282	80
7002283	86
Blank	83
LCS	69
LCSD	86

---

Limits: 50-150

\*- Outside of specification

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The unspiked result was more than four times the spike added.

# Chevron Northwest Region Analysis Request/Chain of Custody



For Lancaster Laboratories use only  
 Acct. #: 11260 Group # 1379097 Sample #: 7002279-83

Facility #: <u>SS#209335-OML G-R#386750</u> Site Address: <u>1225 N. 45th Street, SEATTLE, WA</u> WBS: _____ Chevron PM: <u>MHO</u> Lead Consultant: <u>SAICRO Otteman</u> Consultant/Office: <u>G-R, Inc., 6747 Sierra Court, Suite J, Dublin, CA 94568</u> Consultant Prj. Mgr.: <u>Deanna L. Harding (deanna@grinc.com)</u> Consultant Phone #: <u>925-551-7555</u> Fax #: <u>925-551-7899</u> Sampler: _____ <i>J.P. [Signature]</i>				Matrix <input type="checkbox"/> Potable <input type="checkbox"/> NPDES <input type="checkbox"/> Air		Analyses Requested # <input checked="" type="checkbox"/> Preservation Codes <input type="checkbox"/> BTEX + MPBE-8021 <input type="checkbox"/> 8260 full scan <input type="checkbox"/> 8260 <input type="checkbox"/> Naphth <input type="checkbox"/> Oxygenates <input type="checkbox"/> NWTPH GX <input checked="" type="checkbox"/> NWTPH DX Silica Gel Cleanup <input checked="" type="checkbox"/> Lead Total <input checked="" type="checkbox"/> Method <u>6020</u> <input type="checkbox"/> WAPPH <input type="checkbox"/> WAEPPH <input type="checkbox"/> NWTPH HClID <input type="checkbox"/> quantification										SCR #: <input type="checkbox"/> Results in Dry Weight <input type="checkbox"/> J value reporting needed <input type="checkbox"/> Must meet lowest detection limits possible for 8260 compounds <input type="checkbox"/> 8021 MTBE Confirmation <input type="checkbox"/> Confirm MTBE + Naphthalene <input type="checkbox"/> Confirm highest hit by 8260 <input type="checkbox"/> Confirm all hits by 8260 <input type="checkbox"/> Run ___ oxy's on highest hit <input type="checkbox"/> Run ___ oxy's on all hits					
Sample Identification	Date Collected	Time Collected	Grab	Composite	Soil	Water	Oil	Air	Total Number of Containers	BTEX + MPBE-8021	8260 full scan	Oxygenates	NWTPH GX	NWTPH DX Silica Gel Cleanup	Lead Total	Method	WAPPH	WAEPPH	NWTPH HClID	quantification	Comments /Remarks
<i>RA</i>	<i>3-18-13</i>		<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>			<i>2</i>	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>								Please forward the lab results directly to the Lead Consultant and cc: G-R.
<i>MW-6</i>	<i>↓</i>	<i>1430p</i>	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>			<i>6</i>	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>						
<i>MW-8</i>	<i>↓</i>	<i>1460p</i>	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>			<i>6</i>	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>						
<i>MW-9</i>	<i>↓</i>	<i>1400p</i>	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>			<i>6</i>	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>						
<i>MW-10</i>	<i>↓</i>	<i>1340p</i>	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>			<i>6</i>	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>						
Turnaround Time Requested (TAT) (please circle) <u>STD. TAT</u> 72 hour 48 hour 24 hour 4 day 5 day				Relinquished by: <i>[Signature]</i>		Date: <i>3-18-13</i> Time: <i>1600p</i>		Received by: _____		Date: _____ Time: _____		Received by: _____		Date: _____ Time: _____							
Data Package Options (please circle if required) QC Summary Type I - Full Type VI (Raw Data)				Relinquished by: _____		Date: _____ Time: _____		Received by: _____		Date: _____ Time: _____		Received by: _____		Date: _____ Time: _____							
Relinquished by Commercial Carrier: UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> Other _____				Temperature Upon Receipt: <i>6-19</i>		Received by: <i>[Signature]</i>		Date: <i>3/18/13</i> Time: <i>945</i>		Custody Seals Intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Date: _____ Time: _____									

# Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

<b>RL</b>	Reporting Limit	<b>BMQL</b>	Below Minimum Quantitation Level
<b>N.D.</b>	none detected	<b>MPN</b>	Most Probable Number
<b>TNTC</b>	Too Numerous To Count	<b>CP Units</b>	cobalt-chloroplatinate units
<b>IU</b>	International Units	<b>NTU</b>	nephelometric turbidity units
<b>umhos/cm</b>	micromhos/cm	<b>ng</b>	nanogram(s)
<b>C</b>	degrees Celsius	<b>F</b>	degrees Fahrenheit
<b>meq</b>	milliequivalents	<b>lb.</b>	pound(s)
<b>g</b>	gram(s)	<b>kg</b>	kilogram(s)
<b>µg</b>	microgram(s)	<b>mg</b>	milligram(s)
<b>mL</b>	milliliter(s)	<b>L</b>	liter(s)
<b>m<sup>3</sup></b>	cubic meter(s)	<b>µL</b>	microliter(s)
		<b>pg/L</b>	picogram/liter

**<** less than - The number following the sign is the limit of quantitation, the smallest amount of analyte which can be reliably determined using this specific test.

**>** greater than

**J** estimated value – The result is ≥ the Method Detection Limit (MDL) and < the Limit of Quantitation (LOQ).

**ppm** parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter of gas per liter of gas.

**ppb** parts per billion

**Dry weight basis** Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

## U.S. EPA CLP Data Qualifiers:

Organic Qualifiers		Inorganic Qualifiers	
<b>A</b>	TIC is a possible aldol-condensation product	<b>B</b>	Value is <CRDL, but ≥IDL
<b>B</b>	Analyte was also detected in the blank	<b>E</b>	Estimated due to interference
<b>C</b>	Pesticide result confirmed by GC/MS	<b>M</b>	Duplicate injection precision not met
<b>D</b>	Compound quantitated on a diluted sample	<b>N</b>	Spike sample not within control limits
<b>E</b>	Concentration exceeds the calibration range of the instrument	<b>S</b>	Method of standard additions (MSA) used for calculation
<b>N</b>	Presumptive evidence of a compound (TICs only)	<b>U</b>	Compound was not detected
<b>P</b>	Concentration difference between primary and confirmation columns >25%	<b>W</b>	Post digestion spike out of control limits
<b>U</b>	Compound was not detected	<b>*</b>	Duplicate analysis not within control limits
<b>X,Y,Z</b>	Defined in case narrative	<b>+</b>	Correlation coefficient for MSA <0.995

Analytical test results meet all requirements of NELAC unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR part 136 Table II as "analyze immediately" are not performed within 15 minutes.

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