

August 13, 2014



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DEPT OF ECOLOGY
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Mr. Roger Nye
Washington Department of Ecology
3190 160th Ave SE
Bellevue, Washington 98008-5452

Subject: **First Quarter 2014 Groundwater Monitoring and Sampling Report
Former Standard Oil Service Station, Chevron Site No. 209335**
1225 North 45th Street
Seattle, Washington

Dear Mr. Nye:

Leidos Engineering, LLC (Leidos; formerly SAIC Energy, Environment & Infrastructure, LLC), on behalf of Chevron Environmental Management Company (CEMC), prepared this letter summarizing the first quarter 2014 groundwater monitoring and sampling event at former Standard Oil Service Station, Chevron Site No. 209335 (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 20, 2014. 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 southeast at a gradient of approximately 0.003 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. in Lancaster, Pennsylvania 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.

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 and hydrographs are included in Attachment C.

The results of the first quarter 2014 sampling event indicate that petroleum-hydrocarbon constituent concentrations have been below the MTCA Method A cleanup levels for at least four consecutive quarters in monitoring wells MW-6, MW-8, MW-9, and MW-10.

This event was the fourth quarterly monitoring and sampling event conducted following the surfactant treatment activities conducted on March 18, 2013. SPH were detected in monitoring well MW-7 at a thickness of 0.12 feet which was consistent with the fourth quarter 2013 results.

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 will decrease in monitoring well MW-7 and/or if sampling indicates that significant hydrocarbon mass was removed by the treatment.

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@leidos.com.

Sincerely,

Leidos Engineering, LLC



Ruth Otteman, LG
Project Manager



Kinga Kozlowska
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

Attachment C – Hydrographs

cc: Mr. Brian Waite – CEMC (electronic copy)
6101 Bollinger Canyon Road, San Ramon, CA 94583-5186

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

Project File

REPORT LIMITATIONS

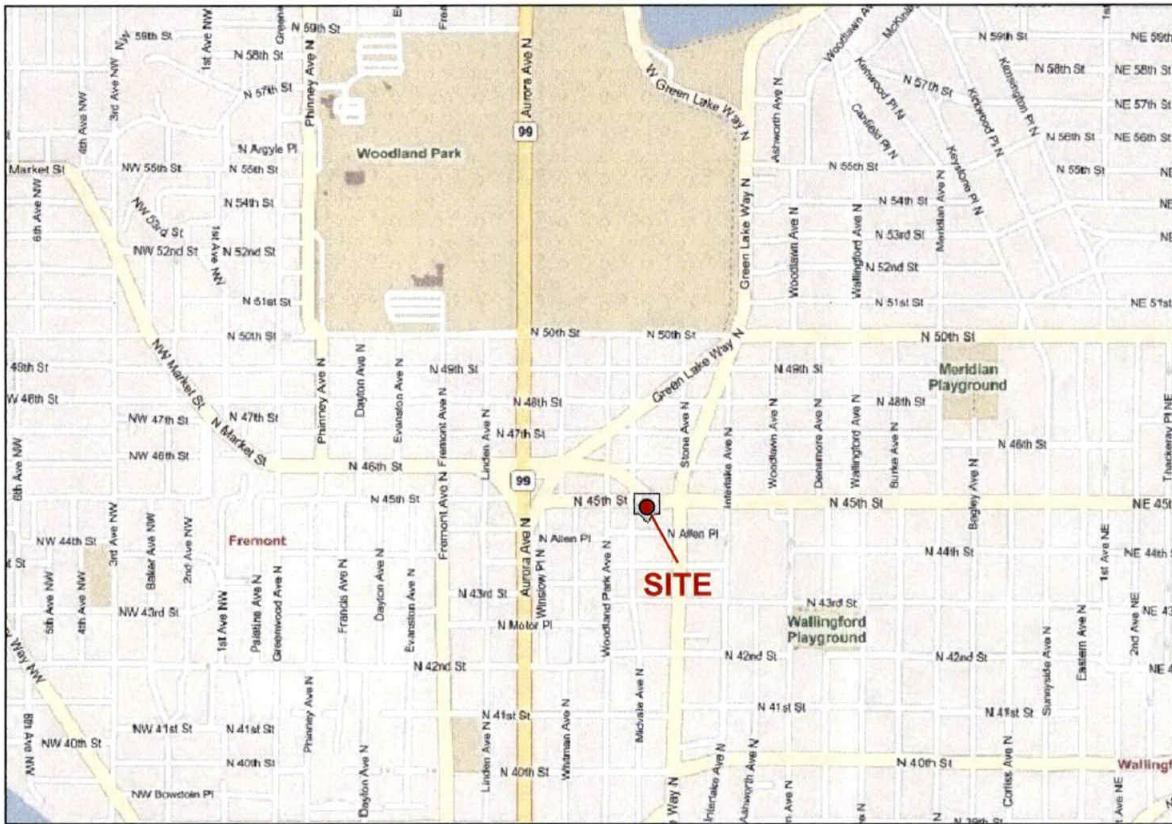
This technical document was prepared on behalf of CEMC and is intended for its sole use and for use by the local, state or federal regulatory agency that the technical document was sent to by Leidos. Any other person or entity obtaining, using, or relying on this technical document hereby acknowledges that they do so at their own risk, and that Leidos 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. Leidos 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 Leidos site visits or site work and cannot be applied to conditions and features of which Leidos is unaware and has not had the opportunity to evaluate.

All sources of information on which Leidos 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 Leidos in the context of this technical document. The conclusions, therefore, represent our professional opinion based on the identified sources of information.



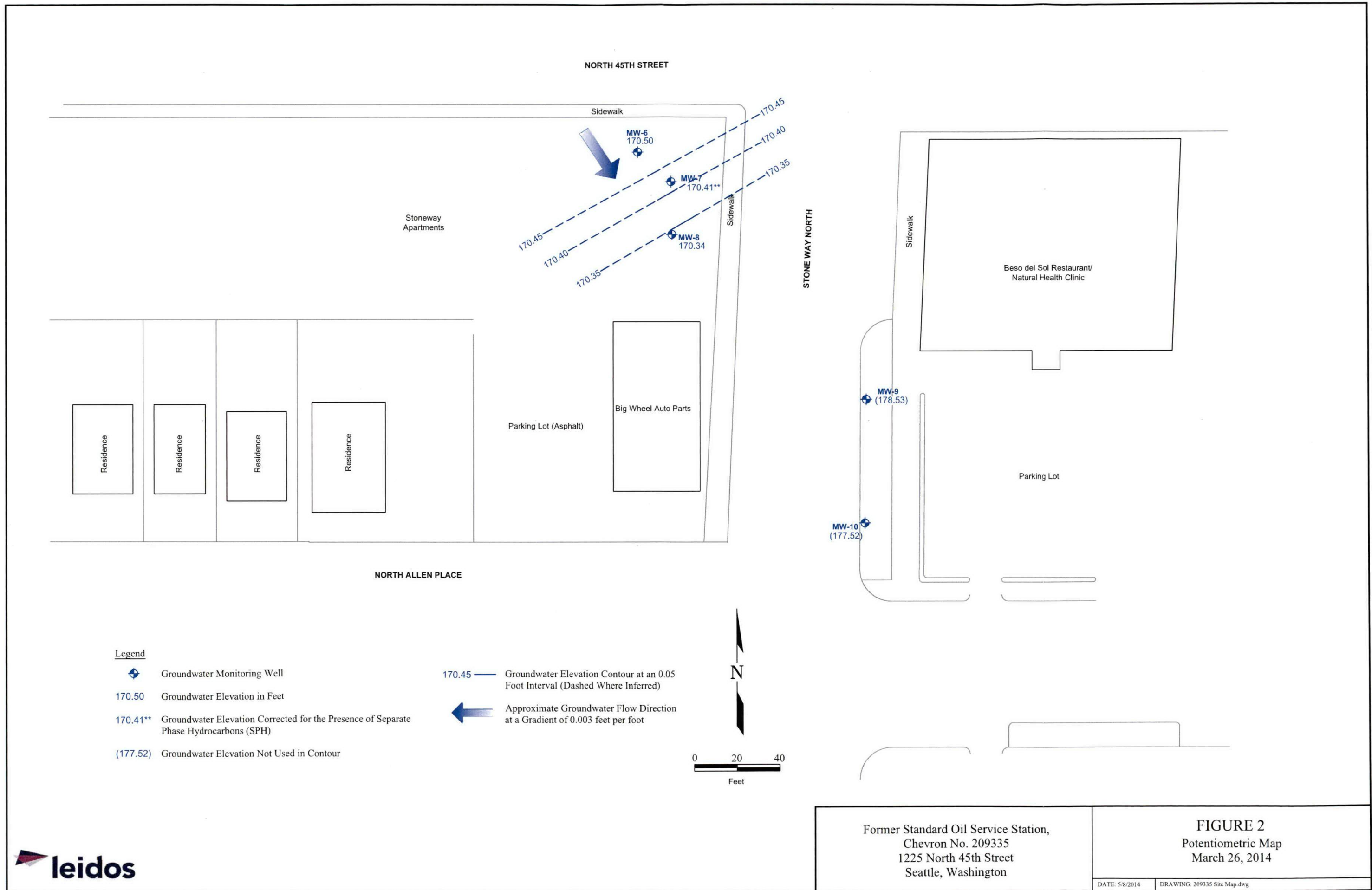
Maps Provided by Seattle.gov



Former Standard Oil Service Station,
Chevron No. 209335
1225 North 45th Street
Seattle, Washington

FIGURE 1
Vicinity Map

FILE NAME: 209335 Vicinity Map.dwg	DATE: 2/24/2014
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Former Standard Oil Service Station,
Chevron No. 209335
1225 North 45th Street
Seattle, Washington

FIGURE 2
Potentiometric Map
March 26, 2014

TABLE 1
GROUNDWATER MONITORING DATA AND ANALYTICAL RESULTS¹
FORMER STANDARD OIL SERVICE STATION, CHEVRON SITE NO. 209335
1225 North 45th Street
Seattle, Washington
Concentrations reported in µg/L

Well ID/ Date	Purge Method	TOC ² (ft.)	DTP (ft.)	DTW (ft.)	SPHT (ft.)	GWE ³ (ft.)	TPH-DRO	TPH-HRO	TPH-GRO	Benzene	Toluene	Ethyl- benzene	Total Xylenes	MTBE	T. Lead
MW-1															
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															
MW-2															
10/11/00		98.70	--	34.50	--	64.20	--	--	--	--	--	--	--	--	--
12/16/00		98.70	--	36.46	0.00	62.24	1,000	ND	28,100	283	2,560	693	4,020	ND	0.00194
03/26/01		98.70	--	37.12	0.00	61.58	1,180	ND	17,000	143	1,450	378	2,180	ND	--
06/25/01		98.70	--	37.37	0.00	61.33	418	<750	11,700	92.3	547	181	1,010	--	--
09/24/01		98.70	--	37.72	0.00	60.98	4,840	<557	22,100	120	1,380	658	4,100	--	--
12/13/01		98.70	--	37.89	0.00	60.81	5,540	<500	84,000	185	3,960	1,590	9,950	--	--
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				--	--	--	--	--	--	--	--	--

TABLE 1
GROUNDWATER MONITORING DATA AND ANALYTICAL RESULTS¹
FORMER STANDARD OIL SERVICE STATION, CHEVRON SITE NO. 209335
1225 North 45th Street
Seattle, Washington
Concentrations reported in µg/L

Well ID/ Date	Purge Method	TOC ² (ft.)	DTP (ft.)	DTW (ft.)	SPHT (ft.)	GWE ³ (ft.)	TPH-DRO	TPH-HRO	TPH-GRO	Benzene	Toluene	Ethyl- benzene	Total Xylenes	MTBE	T. Lead
MW-2 (cont.)															
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															
MW-3															
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					--	--	--	

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Well ID/ Date	Purge Method	TOC ² (ft.)	DTP (ft.)	DTW (ft.)	SPHT (ft.)	GWE ³ (ft.)	TPH-DRO	TPH-HRO	TPH-GRO	Benzene	Toluene	Ethyl- benzene	Total Xylenes	MTBE	T. Lead
MW-3 (cont.)															
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															
MW-4															
10/11/00		98.52	--	35.00	--	63.52	--	--	--	--	--	--	--	--	--
12/16/00		98.52	--	36.35	0.00	62.17	ND	ND	58,200	326	5,520	1,430	8,520	ND	0.0123
03/26/01		98.52	--	37.00	0.00	61.52	266	ND	27,200	178	2,160	785	4,160	ND	--
06/25/01		98.52	--	37.25	0.00	61.27	<250	<750	12,300	69.0	654	416	1,910	--	--
09/24/01		98.52	--	37.60	0.00	60.92	<250	<500	4,130	30.1	154	197	684	--	--
12/13/01		98.52	--	37.72	0.00	60.80	<250	<500	5,490	30.3	175	177	679	--	--
03/08/02	NP	98.52	--	38.36	0.00	60.16	<250	<750	9,000	<50	150	170	710	--	--
05/29/02	NP	98.52	--	36.86	0.00	61.66	<250	<750	6,700	22	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	7,500	46	230	240	630	--	--
12/05/02	NP	98.52	--	37.53	0.00	60.99	<250	<250	14,000	73	400	540	1,500	--	--
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	2,200	16	55	76	170	--	--
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	3,900	14	96	110	340	--	--
06/28/04	NP	98.52	--	37.54	0.00	60.98	<250	<250	1,600	8.5	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	1,500	18	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	1,600	<250	1,600	10	13	60	110	--	--
01/14/05		98.52	--	37.58	0.00	60.94	--	--	--	--	--	--	--	--	--
ABANDONED															

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1225 North 45th Street
Seattle, Washington
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Well ID/ Date	Purge Method	TOC ² (ft.)	DTP (ft.)	DTW (ft.)	SPHT (ft.)	GWE ³ (ft.)	TPH-DRO	TPH-HRO	TPH-GRO	Benzene	Toluene	Ethyl- benzene	Total Xylenes	MTBE	T. Lead
MW-5															
10/11/00		99.42	--	34.50	--	64.92	--	--	--	--	--	--	--	--	--
12/16/00		99.42	--	37.18	0.00	62.24	5,080	ND	146,000	ND	15,100	4,160	24,100	ND	0.0200
03/26/01		99.42	--	37.91	0.00	61.51	77,900	ND	149,000	256	10,600	4,000	24,200	ND	--
06/25/01		99.42	--	38.14	0.00	61.28	109,000	<18,100	127,000	210	9,580	3,730	21,500	--	--
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			--	--	--	--	--	--	--	--	--	--
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			--	--	--	--	--	--	--	--	--	--

TABLE 1
GROUNDWATER MONITORING DATA AND ANALYTICAL RESULTS¹
FORMER STANDARD OIL SERVICE STATION, CHEVRON SITE NO. 209335
1225 North 45th Street
Seattle, Washington
Concentrations reported in µg/L

Well ID/ Date	Purge Method	TOC ² (ft.)	DTP (ft.)	DTW (ft.)	SPHT (ft.)	GWE ³ (ft.)	TPH-DRO	TPH-HRO	TPH-GRO	Benzene	Toluene	Ethyl- benzene	Total Xylenes	MTBE	T. Lead
MW-5 (cont.)															
01/14/05		99.42	WELL DRY/OBSTRUCTED			--	--	--	--	--	--	--	--	--	--
ABANDONED															
MW-6															
02/09/06		197.18	--	36.74	0.00	160.44	680	98	1,500	<0.5	0.7	1.2	37	--	--
05/03/07		197.18	--	36.74	0.00	160.44	1,000	130	380	29	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	--	22.9
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	5,900	<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	2,400	<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	140	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
03/18/13 ⁸		197.18	--	26.63	0.00	170.55	<30	<71	120	<0.5	<0.5	<0.5	<1.5	--	--
03/22/13 ⁹		197.18	--	26.71	0.00	170.47	<31	<72	100	<0.5	<0.5	<0.5	<1.5	--	--
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
06/27/13	NP	197.18	--	26.42	0.00	170.76	<29	<68	120	<0.5	<0.5	<0.5	<1.5	--	1.3
10/17/13	NP	197.18	--	26.64	0.00	170.54	<29	<68	<50	<0.5	<0.5	<0.5	<1.5	--	0.3
03/20/14	NP	197.18	--	26.68	0.00	170.50	<30	<70	<50	<0.5	<0.5	<0.5	<1.5	--	4.0
MW-7															
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 ⁵		197.42	27.39	-- ⁷	-- ⁷	-- ⁷	NOT SAMPLED DUE TO THE PRESENCE OF SPH					--	--	--	
12/11/09 ⁶		197.42	27.50	-- ⁷	-- ⁷	-- ⁷	NOT SAMPLED DUE TO THE PRESENCE OF SPH					--	--	--	
06/09/10 ⁶		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					--	--	--	

TABLE 1
GROUNDWATER MONITORING DATA AND ANALYTICAL RESULTS¹
FORMER STANDARD OIL SERVICE STATION, CHEVRON SITE NO. 209335
1225 North 45th Street
Seattle, Washington
Concentrations reported in µg/L.

Well ID/ Date	Purge Method	TOC ² (ft.)	DTP (ft.)	DTW (ft.)	SPHT (ft.)	GWE ³ (ft.)	TPH-DRO	TPH-HRO	TPH-GRO	Benzene	Toluene	Ethyl- benzene	Total Xylenes	MTBE	T. Lead		
MW-7 (cont.)																	
06/21/11		197.42	--	26.12	0.00	171.30	11,000	<1,800	150,000	45	4,800	2,600	18,000	--	310		
09/22/11		197.42	--	26.25	0.00	171.17	2,000	<340	100,000	29	4,300	1,900	17,000	--	94.4		
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									--	--
03/18/13 ⁸		197.42	27.01	27.18	0.17	170.38	NOT SAMPLED DUE TO THE PRESENCE OF SPH									--	--
03/22/13 ⁹		197.42	--	27.03	0.00	170.39	5,200	<69	99,000	12	1,600	1,700	17,000	--	--		
03/28/13		197.42	26.91	27.00	0.09	170.49	NOT SAMPLED DUE TO THE PRESENCE OF SPH									--	--
06/27/13		197.42	26.77	26.79	0.02	170.65	NOT SAMPLED DUE TO THE PRESENCE OF SPH									--	--
10/17/13		197.42	27.03	27.05	0.02	170.39	NOT SAMPLED DUE TO THE PRESENCE OF SPH									--	--
03/20/14		197.42	26.99	27.11	0.12	170.41	NOT SAMPLED DUE TO THE PRESENCE OF SPH									--	--
MW-8																	
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	940	<200	2,600	<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	--	16.5		
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	2,000	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		
03/18/13 ⁸		197.35	--	27.06	0.00	170.29	<30	<70	320	<0.5	<0.5	29	22	--	--		
03/22/13 ⁹		197.35	--	27.13	0.00	170.22	<29	<68	360	<0.5	<0.5	29	22	--	--		

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1225 North 45th Street
Seattle, Washington
Concentrations reported in µg/L

Well ID/ Date	Purge Method	TOC ² (ft.)	DTP (ft.)	DTW (ft.)	SPHT (ft.)	GWE ³ (ft.)	TPH-DRO	TPH-HRO	TPH-GRO	Benzene	Toluene	Ethyl- benzene	Total Xylenes	MTBE	T. Lead
MW-8 (cont.)															
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
06/27/13	NP	197.35	--	26.86	0.00	170.49	<30	<69	<50	<0.5	<0.5	<0.5	<1.5	--	2.0
10/17/13	NP	197.35	--	27.05	0.00	170.30	<29	<68	<50	<0.5	<0.5	<0.5	<1.5	--	0.4
03/20/14	NP	197.35	--	27.01	0.00	170.34	<29	<67	<50	<0.5	<0.5	<0.5	<1.5	--	1.4
MW-9															
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	--	19.3
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	--	21.2
11/19/10	NP	208.11	--	38.23	0.00	169.88	<29	130	<50	<0.5	<0.5	<0.5	<1.5	--	18.7
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	--	114
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
06/27/13	NP	208.11	--	37.81	0.00	170.30	<29	<67	<50	<0.5	<0.5	<0.5	<1.5	--	5.4
10/17/13	NP	208.11	--	37.77	0.00	170.34	<29	<67	<50	<0.5	<0.5	<0.5	<1.5	--	0.34
03/20/14	NP	208.11	--	29.58	0.00	178.53	<29	<68	<50	<0.5	<0.5	<0.5	<1.5	--	4.1
MW-10															
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	--	18.8
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

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1225 North 45th Street
Seattle, Washington
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Well ID/ Date	Purge Method	TOC ² (ft.)	DTP (ft.)	DTW (ft.)	SPHT (ft.)	GWE ³ (ft.)	TPH-DRO	TPH-HRO	TPH-GRO	Benzene	Toluene	Ethyl- benzene	Total Xylenes	MTBE	T. Lead
MW-10 (cont.)															
03/30/12	NP	207.29	--	29.80	0.00	177.49	<30	<69	<50	<0.5	<0.5	<0.5	<1.5	--	110
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
06/27/13	NP	207.29	--	37.16	0.00	170.13	<29	<67	<50	<0.5	<0.5	<0.5	<1.5	--	1.8
10/17/13	NP	207.29	--	37.78	0.00	169.51	<28	<66	<50	<0.5	<0.5	<0.5	<1.5	--	0.34
03/20/14	NP	207.29	--	29.77	0.00	177.52	<30	<69	<50	<0.5	<0.5	<0.5	<1.5	--	<0.085
TRIP BLANK															
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	--	--
QA															
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	--	--

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1225 North 45th Street
Seattle, Washington
Concentrations reported in µg/L

Well ID/ Date	Purge Method	TOC ² (ft.)	DTP (ft.)	DTW (ft.)	SPHT (ft.)	GWE ³ (ft.)	TPH-DRO	TPH-HRO	TPH-GRO	Benzene	Toluene	Ethyl- benzene	Total Xylenes	MTBE	T. Lead
QA (cont.)															
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	--	--
06/27/13		--	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--	--
10/17/13		--	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--	--
03/20/14		--	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--	--
MTCA Method A Cleanup Levels:							500	500	800/1,000	5	1,000	700	1,000	20	15
Current Method ⁵ :							NWTPH-Dx + Extended ⁴		NWTPH-Gx	USEPA 8021B				USEPA 6020	

Abbreviations:

DTP = Depth to Product

DTW = Depth to Water

(ft.) = Feet

GWE = Groundwater Elevation

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.

8 Pre-surfactant injection groundwater sample.

9 Post-surfactant extraction groundwater sample.

Attachment A:
Groundwater Monitoring and Sampling Data Package



GETTLER-RYAN INC.

015
015

TRANSMITTAL

March 28, 2014
G-R #386750

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

FROM: Deanna L. Harding
Project Coordinator
Gettler-Ryan Inc.
6805 Sierra Court, Suite G
Dublin, California 94568

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

WE HAVE ENCLOSED THE FOLLOWING:

COPIES	DESCRIPTION
VIA PDF	Groundwater Monitoring and Sampling Data Package First Quarter Event of March 20, 2014

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



GETTLER-RYAN INC.

CHEVRON - SITE CHECK LIST

Facility#: **Chevron #209335** Date: **3-24-14**
 Address: **1225 N. 45Th Street**
 City/St.: **Seattle, WA**
 Status of Site: **STONE WAY APARTMENT PARKING & SIDEWALK**

DRUMS:

Please list below ALL DRUMS @ site: i.e., drum description, condition, labeling, contents, location of drum:



#	Description	Condition	Labeling	Contents/Capacity	Location
	NO DRUMS				

WELLS:

Please check the condition of ALL WELLS @ site: i.e., well box condition, gaskets, bolts, well plug, well lock, etc.:

Well ID	Gaskets (M) Missing (R) Replaced	Bolts (M) Missing (R) Replaced	Replaced Plug Y/N	Replaced Lock Y/N	Well Box Manufacturer/Size/# of Bolts	Other
MW-6	6000	————	————	————	8" WELLS x 3 ↓	
MW-7	6000	————	————	————		
MW-8	6000	————	————	————		
MW-9	6000	————	————	————		
MW-10	6000	————	————	————		

Additional Comments/Observations: _____

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
 Site Address: 1225 N. 45Th Street
 City: Seattle, WA

Job Number: 386750
 Event Date: 3.20.14 (inclusive)
 Sampler: J.P.

Well ID: MW-10
 Well Diameter: 2
 Total Depth: 34.13 ft.
 Depth to Water: 16.690 ft.
7.45 xVF = - = -

Date Monitored: 3.20.14

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]: _____ gal.

Purge Equipment:

Disposable Bailer _____
 Stainless Steel Bailer _____
 Stack Pump _____
 Suction Pump _____
 Grundfos _____
 Peristaltic Pump _____
 QED Bladder Pump _____
 Other: No Purge

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 / Absorbent Sock (circle one)
 Amt Removed from Skimmer: _____ gal
 Amt Removed from Well: _____ gal
 Water Removed: _____ gal
 Product Transferred to: _____

Start Time (purge): 10:13
 Sample Time/Date: 10:30 / 3.20.14
 Approx. Flow Rate: _____ gpm.
 Did well de-water? NO If yes, Time: _____ Volume: _____ gal. DTW @ Sampling: 16.69

Weather Conditions: Sun
 Water Color: CLEAR Odor: Y (N)
 Sediment Description: NONE

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:

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: 3-16-17 (inclusive)
 Sampler: J.P.

Well ID: MW-7
 Well Diameter: 2
 Total Depth: 33.62 ft.
 Depth to Water: 27.11 ft.
6.41 xVF = _____ x3 case volume = Estimated Purge Volume: _____ gal.

Date Monitored: 8-20-17

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]: _____

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: 1133 (2400 hrs)
 Time Completed: 1145 (2400 hrs)
 Depth to Product: 26.99 ft
 Depth to Water: 27.11 ft
 Hydrocarbon Thickness: .12 ft
 Visual Confirmation/Description: YELLOWISH TO CLEAR
 Skimmer/Absorbent Cock (circle one) _____
 Amt Removed from Skimmer: _____ gal
 Amt Removed from Well: _____ gal
 Water Removed: _____ gal
 Product Transferred to: _____

Start Time (purge): _____
 Sample Time/Date: 1
 Approx. Flow Rate: _____ gpm.
 Did well de-water? _____ If yes, Time: _____ Volume: _____ gal.

Weather Conditions: _____
 Water Color: _____ Odor: (Y) N 2-3 ppm
 Sediment Description: _____
 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:

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: 5.26.14 (inclusive)
 Sampler: JP

Well ID: MW-0
 Well Diameter: 2
 Total Depth: 34.99 ft.
 Depth to Water: 27.01 ft.
7.98 xVF

Date Monitored: 5.26.14

Volume	3/4"= 0.02	1"= 0.04	2"= 0.17	3"= 0.38
Factor (VF)	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]: - 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: No Purge

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 / Absorbent Sock (circle one)	
Amt Removed from Skimmer:	gal
Amt Removed from Well:	gal
Water Removed:	gal
Product Transferred to:	

Start Time (purge): 1051 Weather Conditions: sun
 Sample Time/Date: 1110 / 5.26.14 Water Color: clear Odor: (Y) N mild
 Approx. Flow Rate: _____ gpm. Sediment Description: none
 Did well de-water? No If yes, Time: _____ Volume: _____ gal. DTW @ Sampling: 27.01

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:

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: 3.20.14 (inclusive)
 Sampler: JR

Well ID: MW-9
 Well Diameter: 2
 Total Depth: 44.00 ft.
 Depth to Water: 29.50 ft.
14.50 xVF = _____

Date Monitored: 3.20.14

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

Check if water column is less than 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: No Purge

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 / Absorbent Sock (circle one)
 Amt Removed from Skimmer: _____ gal
 Amt Removed from Well: _____ gal
 Water Removed: _____ gal
 Product Transferred to: _____

Start Time (purge): 6:00
 Sample Time/Date: perch 3.20.14
 Approx. Flow Rate: _____ gpm.
 Did well de-water? No If yes, Time: _____ Volume: _____ gal.

Weather Conditions: Sun
 Water Color: CLEAR Odor: Y 1(N)
 Sediment Description: None
 DTW @ Sampling: 29.50

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-9	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
 Site Address: 1225 N. 45Th Street
 City: Seattle, WA

Job Number: 386750
 Event Date: 3.24.14 (inclusive)
 Sampler: J.P.

Well ID: MW-1φ
 Well Diameter: 2
 Total Depth: 44.4φ ft.
 Depth to Water: 29.77 ft.
14.63 xVF

Date Monitored: 3.24.14

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

Check if water column is less than 0.50 ft.

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

Purge Equipment:
 Disposable Bailer _____
 Stainless Steel Bailer _____
 Stack Pump _____
 Suction Pump _____
 Grundfos _____
 Peristaltic Pump _____
 QED Bladder Pump _____
 Other: NO PURGE

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 / Absorbent Sock (circle one)
 Amt Removed from Skimmer: _____ gal
 Amt Removed from Well: _____ gal
 Water Removed: _____ gal
 Product Transferred to: _____

Start Time (purge): 6:00 PM
 Sample Time/Date: 6:00 PM 3.24.14
 Approx. Flow Rate: _____ gpm.
 Did well de-water? NO If yes, Time: _____ Volume: _____ gal. DTW @ Sampling: 29.77

Weather Conditions: SUN
 Water Color: CLEAR Odor: Y/N
 Sediment Description: NONE

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-1φ	3 x vva 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: _____

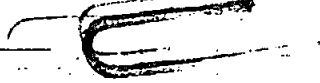
Chevron Northwest Region Analysis Request/Chain of Custody



Lancaster Laboratories

Acct. # _____

For Eurofins Lancaster Laboratories use only
 Group # _____ Sample # _____
 Instructions on reverse side correspond with circled numbers.



1 Client Information				4 Matrix				5 Analyses Requested										6 Remarks						
Facility # SS#209335-OML G-R#386750 · WBS Site Address 1225 N. 45th Street, SEATTLE, WA Chevron PM MHO LEIDOSRO Lead Consultant Ruth Otteman Consultant/Office Gottler-Ryan, Inc., 6805 Sierra Court, Suite G, Dublin, CA 94568 Consultant Project Mgr. Deanna L. Harding, (deanna@grinc.com) Consultant Phone # (925) 551-7444 x180 Sampler _____				<input type="checkbox"/> Sediment <input checked="" type="checkbox"/> Ground <input type="checkbox"/> Surface <input type="checkbox"/> Potable <input type="checkbox"/> NPDES <input type="checkbox"/> Air				Total Number of Containers _____ <input type="checkbox"/> BTEX + MTBE 8021 <input checked="" type="checkbox"/> 8260 <input type="checkbox"/> Naphth <input type="checkbox"/> 8260 full scan Oxygenates _____ NWTPH-Gx _____ <input checked="" type="checkbox"/> NWTPH-Dx with Silica Gel Cleanup <input type="checkbox"/> NWTPH-Dx without Silica Gel Cleanup WA VPH <input type="checkbox"/> WA EPH <input type="checkbox"/> Lead <input checked="" type="checkbox"/> Total <input type="checkbox"/> Diss. <input type="checkbox"/> Method 6230										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						
2 Sample Identification		3 Collected		Grab	Composite	Soil	Water	Oil	Total Number of Containers	BTEX + MTBE	8021	8260	Naphth	Oxygenates	NWTPH-Gx	NWTPH-Dx with Silica Gel Cleanup	NWTPH-Dx without Silica Gel Cleanup	WA VPH	WA EPH	Lead	Total	Diss.	Method	
Date	Time																							
<i>Q.A.</i>	<i>3-28-14</i>	<i>X</i>		<i>X</i>			<i>X</i>		<i>7</i>	<i>X</i>				<i>X</i>										
<i>WW-12</i>	<i>1030</i>	<i>X</i>					<i>X</i>		<i>6</i>	<i>X</i>				<i>X</i>	<i>X</i>						<i>X</i>			
<i>WW-92</i>	<i>1110</i>	<i>X</i>					<i>X</i>		<i>6</i>	<i>X</i>				<i>X</i>	<i>X</i>						<i>X</i>			
<i>WW-91</i>	<i>0812</i>	<i>X</i>					<i>X</i>		<i>6</i>	<i>X</i>				<i>X</i>	<i>X</i>						<i>X</i>			
<i>WW-10</i>	<i>0900</i>	<i>X</i>					<i>X</i>		<i>6</i>	<i>X</i>				<i>X</i>	<i>X</i>						<i>X</i>			
7 Turnaround Time Requested (TAT) (please circle) Standard <u>5 day</u> 4 day 72 hour 48 hour 24 hour EDF/EDD				Relinquished by <i>[Signature]</i> Date <i>3-28-14</i> Time <i>1700</i>				Received by _____ Date _____ Time _____		Relinquished by _____ Date _____ Time _____		Received by _____ Date _____ Time _____												
8 Data Package (circle if required) Type I - Full Type VI (Raw Data)				EDD (circle if required) CVX-RTBU-FL_05 (default) Other: _____				Relinquished by Commercial Carrier: UPS <input checked="" type="checkbox"/> FedEx _____ Other _____ Temperature Upon Receipt _____ °C				Received by _____ Date _____ Time _____ Custody Seals Intact? Yes No												

Attachment B:
Laboratory Analysis Report

ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Chevron
6001 Bollinger Canyon Road
L4310
San Ramon CA 94583

April 02, 2014

Project: 209335

Submittal Date: 03/21/2014
Group Number: 1461236
PO Number: 0015145797
Release Number: HOPKINS/WAITE
State of Sample Origin: WA

Client Sample Description

QA Water
MW-6 Grab Groundwater
MW-8 Grab Groundwater
MW-9 Grab Groundwater
MW-10 Grab Groundwater

Lancaster Labs (LL) #

7402579
7402580
7402581
7402582
7402583

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

ELECTRONIC COPY TO
ELECTRONIC COPY TO
ELECTRONIC COPY TO

Gettler-Ryan Inc.
SAIC
SAIC

Attn: Gettler Ryan
Attn: Jamalyn Green
Attn: Ruth Otteman

Respectfully Submitted,



Amek Carter
Specialist

(717) 556-7252

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

LL Sample # WW 7402579
LL Group # 1461236
Account # 11260

Project Name: 209335

Collected: 03/20/2014

Chevron
6001 Bollinger Canyon Road
L4310
San Ramon CA 94583

Submitted: 03/21/2014 09:35

Reported: 04/02/2014 12:18

45SQA

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC Volatiles					
08274	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx n.a.	ug/l N.D.	ug/l 50	1
GC Volatiles					
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. C457

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	14086A53A	03/28/2014 14:11	Marie D Beamenderfer	1
02102	Method 8021 Water Master	SW-846 8021B	1	14086A53A	03/28/2014 14:11	Marie D Beamenderfer	1
01146	GC VOA Water Prep	SW-846 5030B	1	14086A53A	03/28/2014 14:11	Marie D Beamenderfer	1

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

LL Sample # WW 7402580
LL Group # 1461236
Account # 11260

Project Name: 209335

Collected: 03/20/2014 10:30 by JP

Chevron

6001 Bollinger Canyon Road

Submitted: 03/21/2014 09:35

L4310

Reported: 04/02/2014 12:18

San Ramon CA 94583

45S06

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC Volatiles					
08274	NWTPH-Gx water C7-C12	ECY 97-602 NWT n.a.	ug/l N.D.	ug/l 50	1
GC Volatiles					
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
GC Petroleum Hydrocarbons w/Si					
ECY 97-602 NWT modified					
12005	DRO C12-C24 w/Si Gel	n.a.	N.D.	30	1
12005	HRO C24-C40 w/Si Gel	n.a.	N.D.	70	1
The reverse surrogate, capric acid, is present at <1%.					
Metals					
06035	Lead	SW-846 6020 7439-92-1	ug/l 4.0	ug/l 0.085	1

General Sample Comments

State of Washington Lab Certification No. C457

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	14086A53A	03/28/2014 17:48	Marie D Beamenderfer	1
02102	Method 8021 Water Master	SW-846 8021B	1	14086A53A	03/28/2014 17:48	Marie D Beamenderfer	1
01146	GC VOA Water Prep	SW-846 5030B	1	14086A53A	03/28/2014 17:48	Marie D Beamenderfer	1
12005	NWTPH-Dx water w/ 10g Si Gel	ECY 97-602 NWT Dx modified	1	140850028A	04/01/2014 02:06	Glorines Suarez- Rivera	1
12007	NW Dx water w/ 10g column	ECY 97-602 NWT Dx 06/97	1	140850028A	03/27/2014 09:30	Anna E Stager	1
06035	Lead	SW-846 6020	1	140866050007A	04/01/2014 21:18	John P Hook	1
06050	ICP/MS SW-846 Water Digest	SW-846 3010A modified	1	140866050007	03/28/2014 11:27	Micaela L Dishong	1

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

LL Sample # WW 7402581
LL Group # 1461236
Account # 11260

Project Name: 209335

Collected: 03/20/2014 11:10 by JP

Chevron

6001 Bollinger Canyon Road
L4310

Submitted: 03/21/2014 09:35

San Ramon CA 94583

Reported: 04/02/2014 12:18

45S08

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC Volatiles					
08274	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx n.a.	ug/l N.D.	ug/l 50	1
GC Volatiles					
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
GC Petroleum Hydrocarbons w/Si					
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%.					
Metals					
06035	Lead	SW-846 6020 7439-92-1	ug/l 1.4	ug/l 0.085	1

General Sample Comments

State of Washington Lab Certification No. C457

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	14086A53A	03/28/2014 19:10	Marie D Beamenderfer	1
02102	Method 8021 Water Master	SW-846 8021B	1	14086A53A	03/28/2014 19:10	Marie D Beamenderfer	1
01146	GC VOA Water Prep	SW-846 5030B	1	14086A53A	03/28/2014 19:10	Marie D Beamenderfer	1
12005	NWTPH-Dx water w/ 10g Si Gel	ECY 97-602 NWTPH-Dx modified	1	140850028A	04/01/2014 02:28	Glorines Suarez-Rivera	1
12007	NW Dx water w/ 10g column	ECY 97-602 NWTPH-Dx 06/97	1	140850028A	03/27/2014 09:30	Anna E Stager	1
06035	Lead	SW-846 6020	1	140866050007A	04/01/2014 21:23	John P Hook	1
06050	ICP/MS SW-846 Water Digest	SW-846 3010A modified	1	140866050007	03/28/2014 11:27	Micaela L Dishong	1

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

LL Sample # WW 7402582
LL Group # 1461236
Account # 11260

Project Name: 209335

Collected: 03/20/2014 08:22 by JP

Chevron

6001 Bollinger Canyon Road

Submitted: 03/21/2014 09:35

L4310

Reported: 04/02/2014 12:18

San Ramon CA 94583

45S09

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC Volatiles					
08274	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx n.a.	ug/l N.D.	ug/l 50	1
GC Volatiles					
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
GC Petroleum Hydrocarbons w/Si					
ECY 97-602 NWTPH-Dx modified ug/l ug/l					
12005	DRO C12-C24 w/Si Gel	n.a.	N.D.	29	1
12005	HRO C24-C40 w/Si Gel	n.a.	N.D.	68	1
The reverse surrogate, capric acid, is present at <1%.					
Metals					
06035	Lead	SW-846 6020 7439-92-1	ug/l 4.1	ug/l 0.085	1

General Sample Comments

State of Washington Lab Certification No. C457

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	14086A53A	03/28/2014 19:37	Marie D Beamenderfer	1
02102	Method 8021 Water Master	SW-846 8021B	1	14086A53A	03/28/2014 19:37	Marie D Beamenderfer	1
01146	GC VOA Water Prep	SW-846 5030B	1	14086A53A	03/28/2014 19:37	Marie D Beamenderfer	1
12005	NWTPH-Dx water w/ 10g Si Gel	ECY 97-602 NWTPH-Dx modified	1	140850028A	04/01/2014 02:49	Glorines Suarez-Rivera	1
12007	NW Dx water w/ 10g column	ECY 97-602 NWTPH-Dx 06/97	1	140850028A	03/27/2014 09:30	Anna E Stager	1
06035	Lead	SW-846 6020	1	140866050007A	04/01/2014 21:25	John P Hook	1
06050	ICP/MS SW-846 Water Digest	SW-846 3010A modified	1	140866050007	03/28/2014 11:27	Micaela L Dishong	1



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

LL Sample # WW 7402583
LL Group # 1461236
Account # 11260

Project Name: 209335

Collected: 03/20/2014 09:00 by JP

Chevron
6001 Bollinger Canyon Road
L4310
San Ramon CA 94583

Submitted: 03/21/2014 09:35

Reported: 04/02/2014 12:18

45S10

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC Volatiles					
08274	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx n.a.	ug/l N.D.	ug/l 50	1
GC Volatiles					
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
GC Petroleum Hydrocarbons w/Si					
ECY 97-602 NWTPH-Dx modified					
12005	DRO C12-C24 w/Si Gel	n.a.	N.D.	30	1
12005	HRO C24-C40 w/Si Gel	n.a.	N.D.	69	1
The reverse surrogate, capric acid, is present at <1%.					
Metals					
06035	Lead	SW-846 6020 7439-92-1	ug/l N.D.	ug/l 0.085	1

General Sample Comments

State of Washington Lab Certification No. C457

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	14086A53A	03/28/2014 20:04	Marie D Beamenderfer	1
02102	Method 8021 Water Master	SW-846 8021B	1	14086A53A	03/28/2014 20:04	Marie D Beamenderfer	1
01146	GC VOA Water Prep	SW-846 5030B	1	14086A53A	03/28/2014 20:04	Marie D Beamenderfer	1
12005	NWTPH-Dx water w/ 10g Si Gel	ECY 97-602 NWTPH-Dx modified	1	140850028A	04/01/2014 03:11	Glorines Suarez-Rivera	1
12007	NW Dx water w/ 10g column	ECY 97-602 NWTPH-Dx 06/97	1	140850028A	03/27/2014 09:30	Anna E Stager	1
06035	Lead	SW-846 6020	1	140866050007A	04/01/2014 21:26	John P Hook	1
06050	ICP/MS SW-846 Water Digest	SW-846 3010A modified	1	140866050007	03/28/2014 11:27	Micaela L Dishong	1

Quality Control Summary

Client Name: Chevron
Reported: 04/02/14 at 12:18 PM

Group Number: 1461236

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: 14086A53A	Sample number(s): 7402579-7402583							
Benzene	N.D.	0.2	ug/l	93	94	80-120	1	30
Ethylbenzene	N.D.	0.2	ug/l	97	99	80-120	3	30
NWTPH-Gx water C7-C12	N.D.	50.	ug/l	104	105	75-135	1	30
Toluene	N.D.	0.2	ug/l	98	99	80-120	1	30
Total Xylenes	N.D.	0.2	ug/l	100	102	80-120	2	30
Batch number: 140850028A	Sample number(s): 7402580-7402583							
DRO C12-C24 w/Si Gel	N.D.	30.	ug/l	72	85	32-117	16	20
HRO C24-C40 w/Si Gel	N.D.	70.	ug/l					
Batch number: 140866050007A	Sample number(s): 7402580-7402583							
Lead	N.D.	0.085	ug/l	103		90-110		

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: 140866050007A	Sample number(s): 7402580-7402583 UNSPK: P402401 BKG: P402401								
Lead	103	108	89-120	5	20	0.20	0.21	6 (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: 14086A53A

	Trifluorotoluene-P	Trifluorotoluene-F
7402579	74	69
7402580	75	69
7402581	74	69
7402582	74	69
7402583	74	69

*- 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: 04/02/14 at 12:18 PM

Group Number: 1461236

Surrogate Quality Control

Blank	74	69
LCS	73	75
LCSD	73	75

Limits: 51-120 63-135

Analysis Name: NWTPH-Dx water w/ 10g Si Gel
Batch number: 140850028A
Orthoterphenyl

7402580	99
7402581	93
7402582	97
7402583	91
Blank	98
LCS	92
LCSD	105

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



Lancaster Laboratories

Acct. # 11260

For Eurofins Lancaster Laboratories use only.
 Group # 1461236 Sample # 1402579-83
 Instructions on reverse side correspond with circled numbers.

1 Client Information				4 Matrix				5 Analyses Requested										SCR #: _____	
Facility # SS#209335-OML G-R#386750 WBS Site Address 1225 N. 45th Street, SEATTLE, WA Chevron PM MHO LEIDOSRO Lead Consultant Ruth Otteman Consultant/Office Gettler-Ryan, Inc., 6805 Sierra Court, Suite G, Dublin, CA 94568 Consultant Project Mgr. Deanna L. Harding, (deanna@grinc.com) Consultant Phone # (925) 551-7444 x180 Sampler _____				Sediment <input type="checkbox"/> Potable <input type="checkbox"/> NPDES <input type="checkbox"/> Air <input type="checkbox"/> Ground <input checked="" type="checkbox"/> Surface <input type="checkbox"/> Oil <input type="checkbox"/>				Total Number of Containers _____ BTEX + MTBE <input type="checkbox"/> 8021 <input checked="" type="checkbox"/> 8260 <input type="checkbox"/> Naphth <input type="checkbox"/> 8260 full scan _____ Oxygenates _____ NWTPH-Gx _____ NWTPH-Dx with Silica Gel Cleanup <input checked="" type="checkbox"/> NWTPH-Dx without Silica Gel Cleanup <input type="checkbox"/> WA VPH <input type="checkbox"/> WA EPH <input type="checkbox"/> Lead <input checked="" type="checkbox"/> Total <input type="checkbox"/> Diss. <input type="checkbox"/> Method <u>6020</u>										<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	
2 Sample Identification				3 Collected				6 Remarks											
				Date Time Grab Composite _____ _____ _____ _____				Please forward the lab results directly to the Lead Consultant and cc: G-R.											
RA 3/20/14 MW 10 1030 X MW 11 1110 X MW 12 0212 X MW 13 0900 X				Soil <input type="checkbox"/> Water <input checked="" type="checkbox"/> Oil <input type="checkbox"/>															
7 Turnaround Time Requested (TAT) (please circle)				Relinquished by _____				Date <u>3-20-14</u> Time <u>1700</u>		Received by _____		Date _____ Time _____							
Standard 5 day 4 day 72 hour 48 hour 24 hour				EDF/EDC				Date _____ Time _____		Received by _____		Date _____ Time _____							
8 Data Package (circle if required)				Relinquished by Commercial Carrier:				Date _____ Time _____		Received by _____		Date _____ Time _____							
Type I - Full Type VI (Raw Data)				UPS <input checked="" type="checkbox"/> FedEx _____ Other _____ Temperature Upon Receipt <u>0.7-1.1</u> °C				Date <u>3/21/14</u> Time <u>935</u>		Custody Seals Intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No									

Explanation of Symbols and Abbreviations

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

RL	Reporting Limit	BMQL	Below Minimum Quantitation Level
N.D.	none detected	MPN	Most Probable Number
TNTC	Too Numerous To Count	CP Units	cobalt-chloroplatinate units
IU	International Units	NTU	nephelometric turbidity units
umhos/cm	micromhos/cm	ng	nanogram(s)
C	degrees Celsius	F	degrees Fahrenheit
meq	milliequivalents	lb.	pound(s)
g	gram(s)	kg	kilogram(s)
µg	microgram(s)	mg	milligram(s)
mL	milliliter(s)	L	liter(s)
m3	cubic meter(s)	µL	microliter(s)
		pg/L	picogram/liter
<	less than - The number following the sign is the <u>limit of quantitation</u> , the smallest amount of analyte which can be reliably determined using this specific test.		
>	greater than		
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 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.		

Data Qualifiers:

C - result confirmed by reanalysis.

J - estimated value - The result is \geq the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ).

U.S. EPA CLP Data Qualifiers:

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

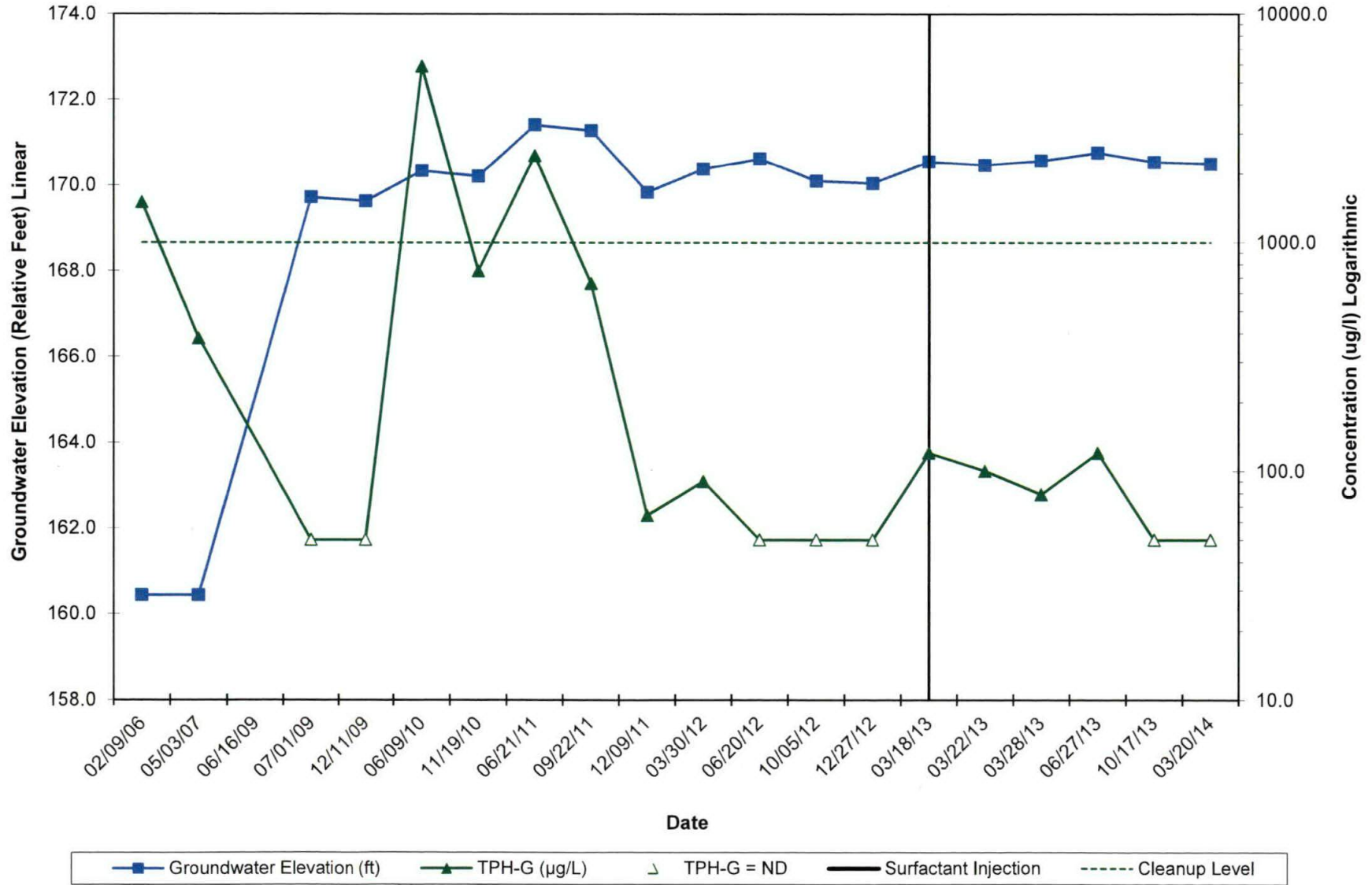
Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have 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.

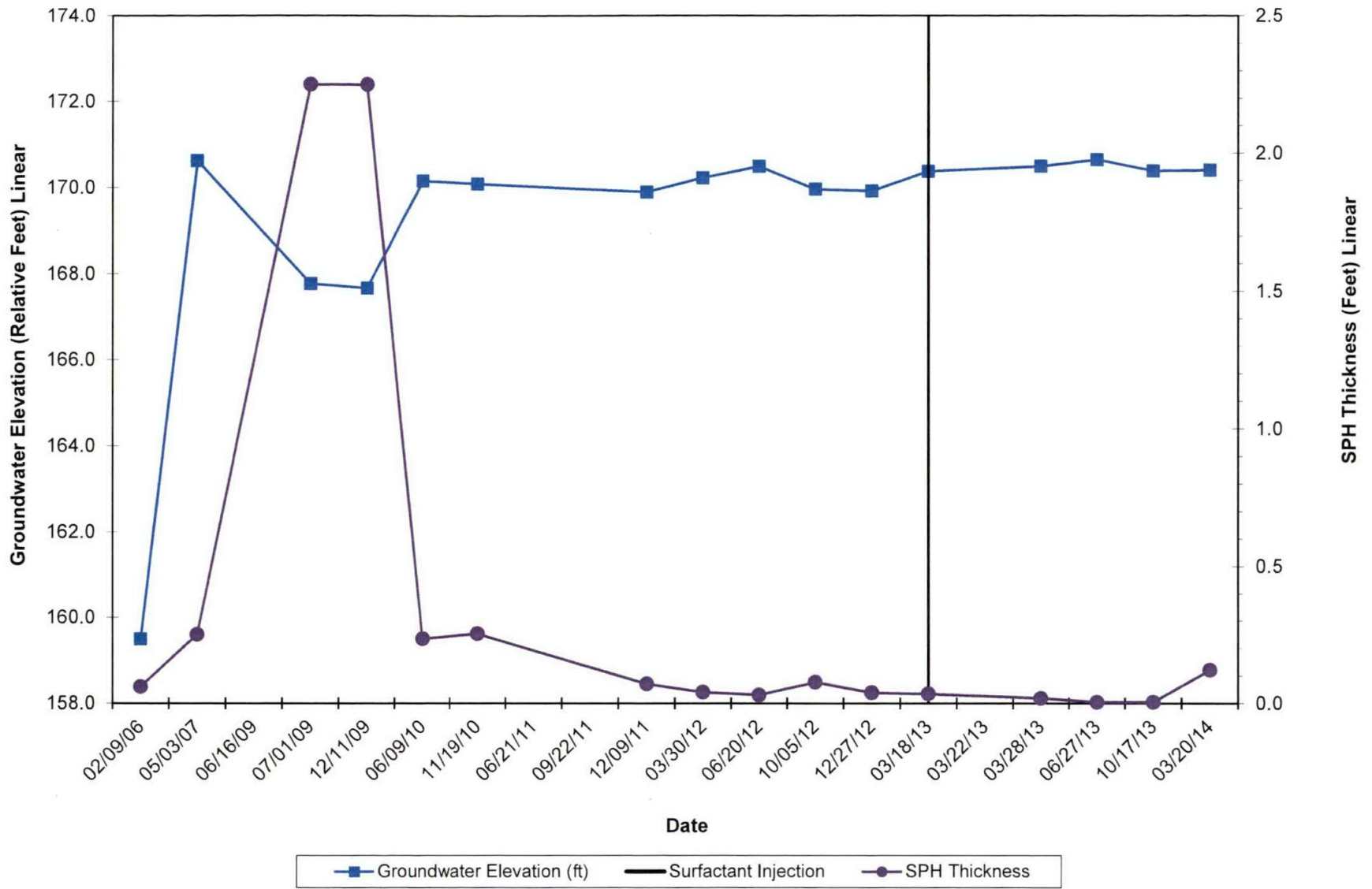
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Attachment C:
Hydrographs

**Monitoring Well MW-6
Hydrograph - Gasoline-Range Hydrocarbons
Former Standard Oil Service Station, Chevron Site No. 209335
1225 North 45th Street, Seattle, Washington**



**Monitoring Well MW-7
Hydrograph - SPH Thickness
Former Standard Oil Service Station, Chevron Site No. 209335
1225 North 45th Street, Seattle, Washington**



**Monitoring Well MW-8
Hydrograph - Gasoline-Range Hydrocarbons
Former Standard Oil Service Station, Chevron Site No. 209335
1225 North 45th Street, Seattle, Washington**

