



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

Subject: **Second Semi-annual 2015 Groundwater Monitoring and Sampling Report**
Former Standard Oil Service Station, Chevron Site No. 209335
1225 North 45th Street
Seattle, Washington

Dear Mr. Nye:

Leidos Inc. (Leidos), on behalf of Chevron Environmental Management Company (CEMC), prepared this letter summarizing the second semi-annual 2015 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 October 21, 2015. 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 direction was toward the south at a gradient of approximately 0.002 to 0.009 feet per foot. A potentiometric map is provided as Figure 2.

Groundwater samples were collected from all 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 during this event 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 second semi-annual 2015 sampling event indicate that petroleum-hydrocarbon constituent concentrations have been below Model Toxics Control Act (MTCA) Method A cleanup levels for at least four consecutive quarters in monitoring wells MW-6, MW-8, and MW-9. Total lead concentration in monitoring well MW-10 was above the MTCA Method A cleanup level during this sampling event.

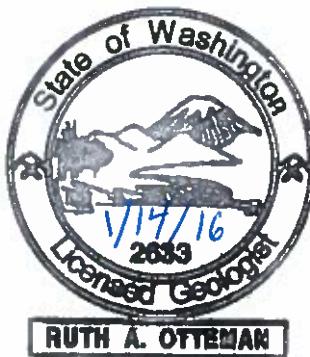
This event was the ninth monitoring and sampling event completed following the surfactant treatment activities conducted on March 18, 2013. SPH were detected in monitoring well MW-7 at a thickness of 0.40 feet, the highest observed since the post-surfactant extraction groundwater sample was collected on March 22, 2013.

If you have any questions or comments, please contact Ruth Otteman at (425) 482-3328 or via email at ottemanr@leidos.com.

Sincerely,

Leidos Inc.


Ruth Otteman, LG
Project Manager



RUTH A. OTTEMAN


Stuart Brown
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. Mark Horne – Chevron Environmental Management Company
6101 Bollinger Canyon Road, San Ramon, CA 94583
Ms. Veronica Redstone – Bellwether
1651 Bellevue Avenue, Seattle, WA 98122-2014
Project File

REPORT LIMITATIONS

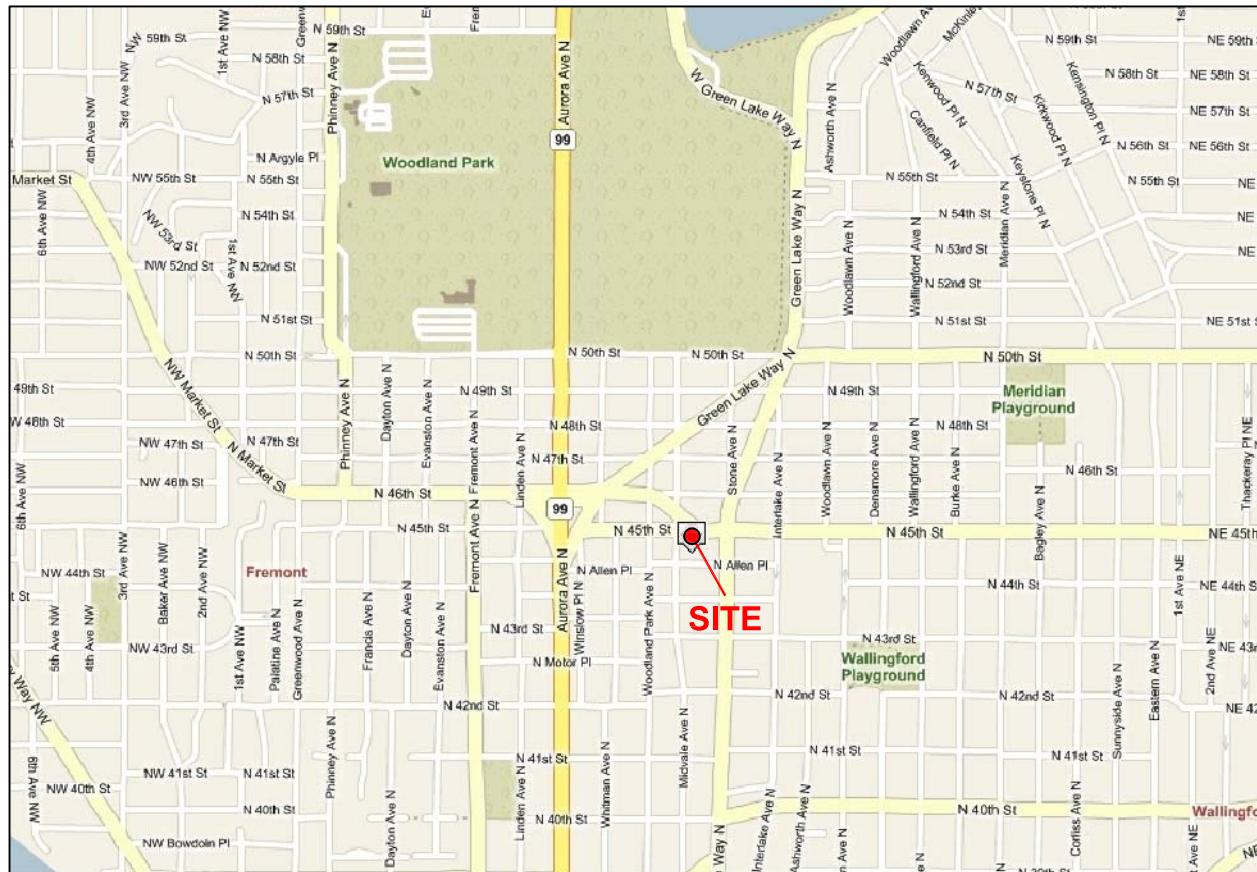
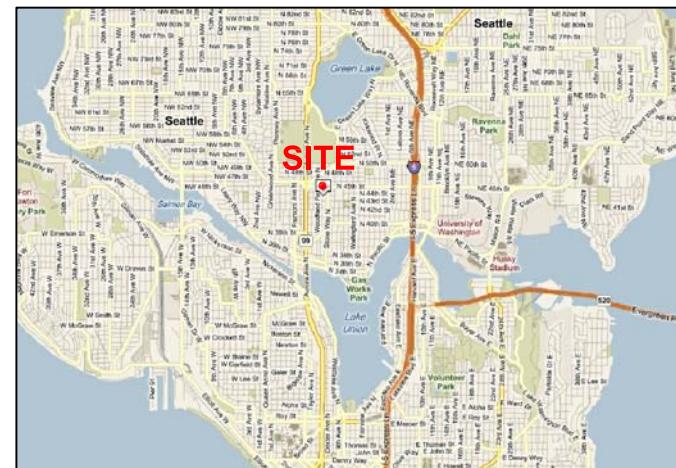
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Site history and background information provided in this technical document are based on sources that may include interviews with environmental regulatory agencies and property management personnel and a review of acquired environmental regulatory 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:

8/7/2014

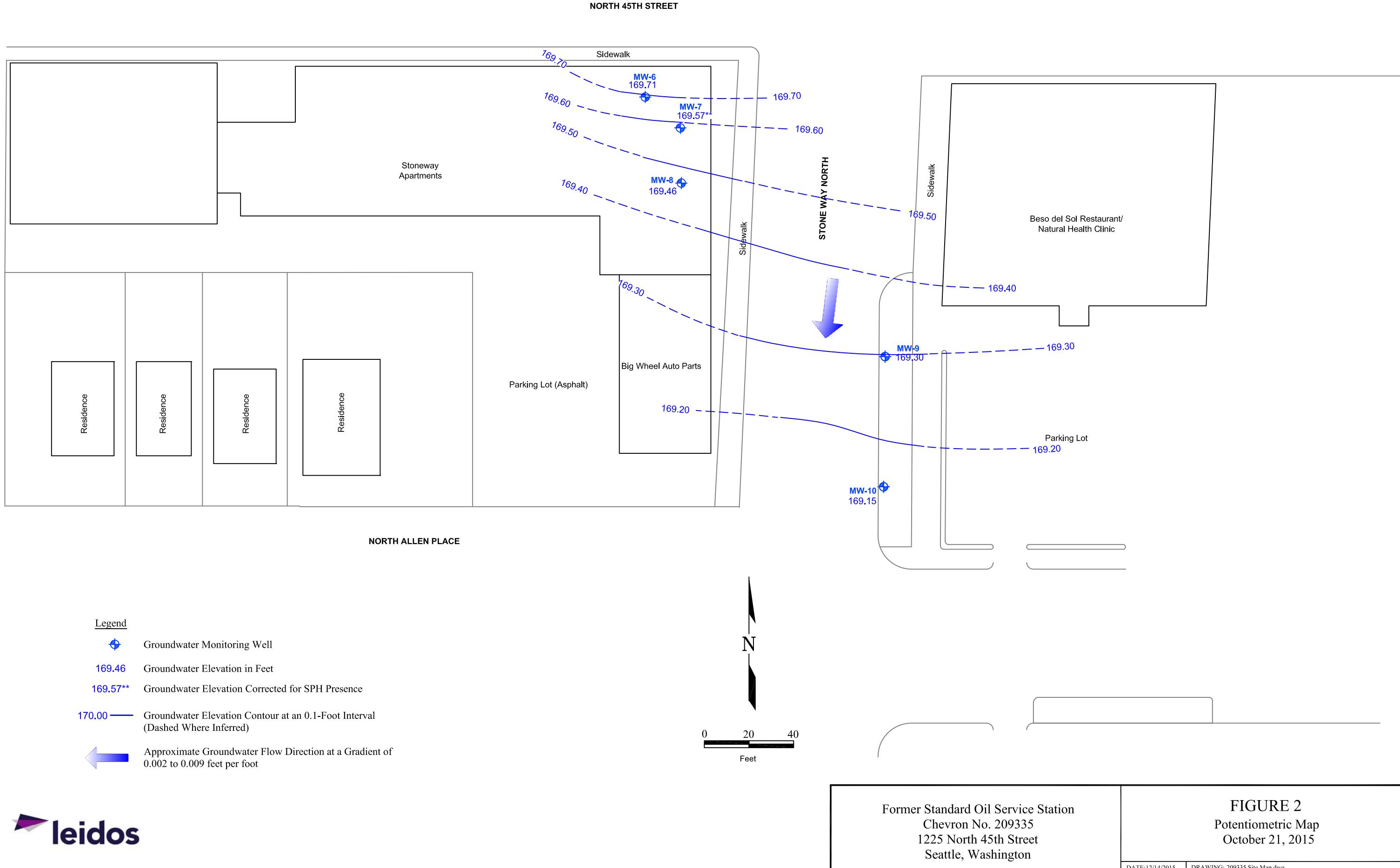


TABLE 1
GROUNDWATER MONITORING DATA AND ANALYTICAL RESULTS¹
FORMER STANDARD OIL SERVICE STATION, CHEVRON SITE NO. 209335
1225 North 45th Street
Seattle, Washington
Concentrations reported in µg/L

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	Total 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	Total 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															
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	<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	<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	<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	--	--

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MW-3 (cont.)															
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															
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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FORMER STANDARD OIL SERVICE STATION, CHEVRON SITE NO. 209335
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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	Total 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			--	--	--	--	--	--	--	--	--	--			
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	--	--			

TABLE 1
GROUNDWATER MONITORING DATA AND ANALYTICAL RESULTS⁴
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	Total Lead
MW-6 (cont.)															
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
06/25/14	NP	197.18	--	26.85	0.00	170.33	<29	<67	<50	<0.5	<0.5	<0.5	<1.5	--	2.1
09/24/14	NP	197.18	--	27.19	0.00	169.99	<28	<66	<50	<0.2	<0.2	<0.2	<0.2	--	0.00048
12/11/14	NP	197.18	--	27.16	0.00	170.02	<28	<66	<50	<0.5	<0.5	<0.5	<1.5	--	1.5
03/11/15	NP	197.18	--	26.66	0.00	170.52	<30	<71	<50	<0.5	0.5	<0.5	<1.5	--	0.0063
10/21/15	NP	197.18	--	27.47	0.00	169.71	<28	<66	<50	<0.5	<0.5	<0.5	<1.5	--	10.9
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 ⁶		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						--	--	--
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

TABLE 1
GROUNDWATER MONITORING DATA AND ANALYTICAL RESULTS⁴
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	Total Lead
MW-7 (cont.)															
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			--	--	--	--	--	--
06/25/14		197.42	27.26	27.28	0.02	170.16	NOT SAMPLED DUE TO THE PRESENCE OF SPH			--	--	--	--	--	--
09/24/14		197.42	27.56	27.61	0.05	169.85	NOT SAMPLED DUE TO THE PRESENCE OF SPH			--	--	--	--	--	--
12/11/14	NP	197.42	--	27.50	0.00	169.92	55,000	<6,900	96,000	<13	600	660	14,000	--	168
03/11/15	NP	197.42	--	26.96	0.00	170.46	200,000	<17,000	65,000	<5.0	470	570	6,700	--	0.0717
10/21/15		197.42	27.77	28.17	0.40	169.57	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	--	--
03/28/13	NP	197.35	--	27.09	0.00	170.26	<29	<67	80	<0.5	<0.5	<1.5	--	--	1.9

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	Total Lead
MW-8 (cont.)															
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
06/25/14	NP	197.35	--	27.31	0.00	170.04	<30	<69	<50	<0.5	<0.5	<0.5	<1.5	--	0.24
09/24/14	NP	197.35	--	27.63	0.00	169.72	<29	<67	93	<0.2	<0.2	2.9	1	--	0.00013
12/11/14	NP	197.35	--	27.46	0.00	169.89	<30	<70	59	<0.5	0.5	0.6	<1.5	--	0.12
03/11/15	NP	197.35	--	27.18	0.00	170.17	<29	<68	<50	<0.5	<0.5	<0.5	<1.5	--	0.00032
10/21/15	NP	197.35	--	27.89	0.00	169.46	<28	<66	110	<0.5	<0.5	1.1	3.9	--	0.63
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
06/25/14	NP	208.11	--	34.92	0.00	173.19	<30	<69	<50	<0.5	<0.5	<0.5	<1.5	--	2.5
09/24/14	NP	208.11	--	38.56	0.00	169.55	<29	<67	<50	<0.2	<0.2	<0.2	<0.2	--	0.0015
12/11/14	NP	208.11	--	38.53	0.00	169.58	<28	<66	<50	<0.5	<0.5	<0.5	<1.5	--	<0.082
03/11/15	NP	208.11	--	29.63	0.00	178.48	<28	<66	<50	<0.5	0.5	<0.5	<1.5	--	0.00020
10/21/15	NP	208.11	--	38.81	0.00	169.30	<28	<66	<50	<0.5	0.5	<0.5	<1.5	--	12.4
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

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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	Total Lead
MW-10 (cont.)															
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
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
06/25/14	NP	207.29	--	35.03	0.00	172.26	<30	<71	<50	<0.5	<0.5	<0.5	<1.5	--	2.5
09/24/14	NP	207.29	--	37.88	0.00	169.41	<30	<70	<50	<0.2	<0.2	<0.2	<0.2	--	0.00095
12/11/14	NP	207.29	--	37.88	0.00	169.41	<29	<67	<50	<0.5	<0.5	<0.5	<1.5	--	<0.082
03/11/15	NP	207.29	--	29.71	0.00	177.58	<29	<69	<50	<0.5	<0.5	<0.5	<1.5	--	0.00020
10/21/15	NP	207.29	--	38.14	0.00	169.15	<28	<66	<50	<0.5	<0.5	<0.5	<1.5	--	20.1
QA															
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	--	--
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	--	--

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	Total Lead
QA (cont.)															
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	--	--
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	--	--
06/25/14	--	--	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--	--
09/24/14	--	--	--	--	--	--	--	--	<50	<0.2	<0.2	<0.2	<0.2	--	--
12/11/14	--	--	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--	--
03/11/15	--	--	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--	--
10/23/15	--	--	--	--	--	--	--	--	<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

ND = Not Detected

NP = No Purge

QA = Quality Assurance/Trip Blank

SPH = Separate Phase Hydrocarbon

SPHT = Separate Phase Hydrocarbon Thickness

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 elevations 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 x 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 SPH/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.



TRANSMITTAL

October 30, 2015
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 Second Semi-Annual Event of October 21, 2015

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: 10/21/15

Address: 1225 N. 45th Street

City/St.: Seattle, WA

Status of Site: APARTMENT PARKING GARAGE / SIDE WALLS

DRUMS:

Please list below ALL DRUMS on site:

(i.e., drum description, condition, labeling, contents and location of drums)

#	Description	Condition	Labeling	Contents/Capacity	Location
	NO DRUMS				

WELLS:

Please check the condition of ALL WELLS on site:

(i.e., gaskets, bolts, replaced well plug and/or well lock, well box condition and etc.)

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: **10/21/15** (inclusive)
 Sampler: **GM**

Well ID: **MW-6**
 Well Diameter: **2** in.
 Total Depth: **34.11** ft.
 Depth to Water: **27.47** ft.

Date Monitored: **10/21/15**

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

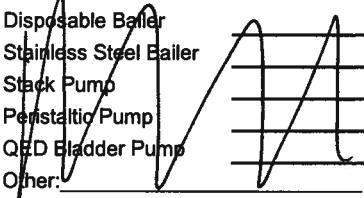
Check if water column is less than 0.50 ft.

6.64 xVF _____ = _____ x3 case volume = Estimated Purge Volume: _____ gal.

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

Purge Equipment:

Disposable Bailer
 Stainless Steel Bailer
 Stack Pump
 Peristaltic Pump
 QED Bladder Pump
 Other: _____



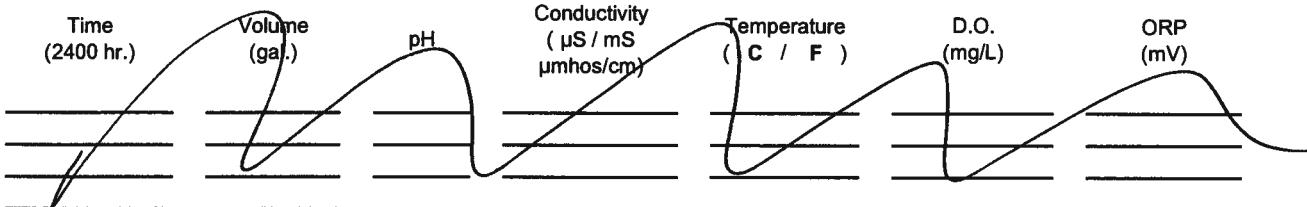
Sampling Equipment:

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: _____ ltr
Amt Removed from Well: _____ ltr
Water Removed: _____ ltr
Product Transferred to: _____

Start Time (purge): _____
 Sample Time/Date: **1040 10/21/15**
 Approx. Flow Rate: _____ gpm.
 Did well de-water? **NA** If yes, Time: _____

Weather Conditions: **Sunny**
 Water Color: **Cloudy** Odor: **Y/N** Moderate
 Sediment Description: **SLT**
 Volume: _____ gal. DTW @ Sampling: **27.47**



LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-6	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 Gasket: _____ Add/Replaced Bolt: _____ Add/Replaced Plug: _____ Add/Replaced Lock: _____



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: **10/21/15** (inclusive)
 Sampler: **Gum**

Well ID: **MW-7**
 Well Diameter: **2** in.
 Total Depth: **33.53** ft.
 Depth to Water: **28.17** ft.

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]: **5.36** x VF **—** = **—** x 3 case volume = Estimated Purge Volume: **—** gal.

Purge Equipment:
 Disposable Bailer _____
 Stainless Steel Bailer _____
 Stack Pump _____
 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:	27.77 ft
Depth to Water:	28.17 ft
Hydrocarbon Thickness:	0.40 ft
Visual Confirmation/Description:	Brown oily
Skimmer / Absorbant Sock (circle one)	
Amt Removed from Skimmer:	Itr
Amt Removed from Well:	Itr
Water Removed:	Itr
Product Transferred to:	

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

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (μS / mS $\mu\text{mhos}/\text{cm}$)	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: **SFA**

Add/Replaced Gasket: _____ Add/Replaced Bolt: _____ Add/Replaced Plug: _____ Add/Replaced Lock: _____



GETTLER - RYAN INC.

WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility#: **Chevron #209335**Job Number: **386750**Site Address: **1225 N. 45th Street**Event Date: **10/21/15** (inclusive)City: **Seattle, WA**Sampler: **Gm**Well ID **MW-8**Date Monitored: **10/21/15**Well Diameter **2** in.

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

Total Depth **35.00** ft.Depth to Water **27.89** ft. Check if water column is less than 0.50 ft.Depth to Water **7.11** xVF **-** = **-** x3 case volume = Estimated Purge Volume: **-** gal.Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: **-****Purge Equipment:**

Disposable Bailer

Stainless Steel Bailer

Stack Pump

Peristaltic Pump

QED Bladder Pump

Other: _____

Sampling Equipment:

Disposable Bailer

Pressure Bailer

Metal Filters

Peristaltic Pump

QED Bladder Pump

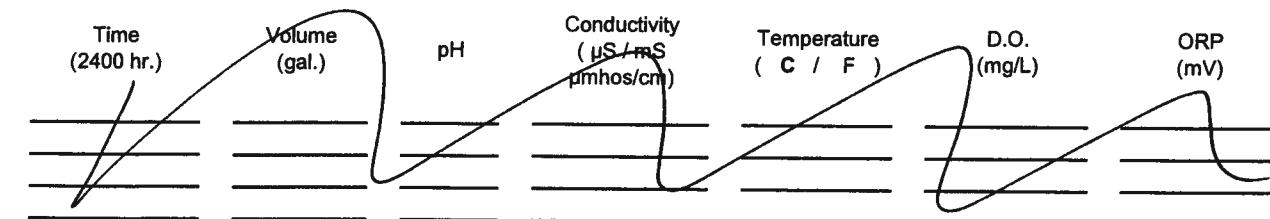
Other: _____

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: **litr**Amt Removed from Well: **litr**Water Removed: **litr**

Product Transferred to: _____

Start Time (purge): **-**Sample Time/Date: **11/01 / 10/21/15**Approx. Flow Rate: **-** gpm.Did well de-water? **NA** If yes, Time: **-** Volume: **-** gal. DTW @ Sampling: **-****LABORATORY INFORMATION**

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-8	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 Gasket: _____

Add/Replaced Bolt: _____

Add/Replaced Plug: _____

Add/Replaced Lock: _____



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: **10/21/15** (inclusive)
 Sampler: **Gm**

Well ID **MW-9**
 Well Diameter **2** in.
 Total Depth **44.00** ft.
 Depth to Water **38.81** ft.
5.25 xVF **—** = **—**

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

Check if water column is less than 0.50 ft.

x3 case volume = Estimated Purge Volume: **—** gal.

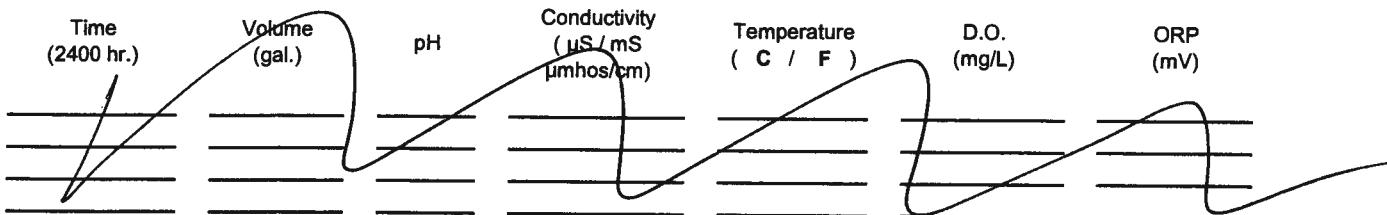
Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: **—**

Purge Equipment:
 Disposable Bailer
 Stainless Steel Bailer
 Stack Pump
 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:	ltr
Amt Removed from Well:	ltr
Water Removed:	ltr
Product Transferred to:	_____

Start Time (purge): **—**
 Sample Time/Date: **0900 10/21/15**
 Approx. Flow Rate: **—** gpm.
 Did well de-water? **NA** If yes, Time: **—** Volume: **—** gal. DTW @ Sampling: **38.81**



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: **ROOTS IN WELL HAD TO BREAK UP WITH STAINLESS STEEL BAILER**

Add/Replaced Gasket: _____ Add/Replaced Bolt: _____ Add/Replaced Plug: _____ Add/Replaced Lock: _____



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: **10/21/15** (inclusive)
 Sampler: **Gan**

Well ID **MW-10**
 Well Diameter **2** in.
 Total Depth **44.37** ft.
 Depth to Water **38.14** ft.
6.23 xVF **—** = **—**

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.

x3 case volume = Estimated Purge Volume: **—** gal.

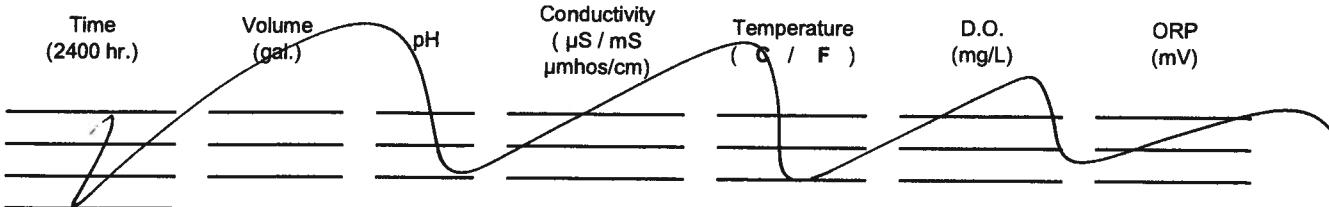
Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: **—**

Purge Equipment:
 Disposable Bailer
 Stainless Steel Bailer
 Sack Pump
 Peristaltic Pump
 QED Bladder Pump
 Other:

Sampling Equipment:
 Disposable Bailer **X**
 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:	B ft
Visual Confirmation/Description:	
Skimmer / Absorbant Sock (circle one)	
Amt Removed from Skimmer:	ltr
Amt Removed from Well:	ltr
Water Removed:	ltr
Product Transferred to:	

Start Time (purge): **—**
 Sample Time/Date: **0930 10/21/15**
 Approx. Flow Rate: **—** gpm.
 Did well de-water? **NA** If yes, Time: **—** Volume: **—** gal. DTW @ Sampling: **38.14**



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(6020)

COMMENTS: **Roots in well had to break up with stainless steel bailed.**

Add/Replaced Gasket: _____ Add/Replaced Bolt: _____ Add/Replaced Plug: _____ Add/Replaced Lock: _____

Chevron Northwest Region Analysis Request/Chain of Custody



**Lancaster
Laboratories**

For Eurofins Lancaster Laboratories use only
Acct. # _____ 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 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 G. Meana				Sediment <input type="checkbox"/> Soil <input type="checkbox"/> Water <input type="checkbox"/> NPDES <input type="checkbox"/> Surface <input type="checkbox"/> Oil <input type="checkbox"/> Air <input type="checkbox"/>		Total Number of Containers BTEX <input type="checkbox"/> 8021 <input checked="" type="checkbox"/> 8260 <input type="checkbox"/> Naphth <input type="checkbox"/> NWTPH-Gx <input type="checkbox"/> 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 type="checkbox"/> Diss. <input type="checkbox"/> Method C <input checked="" type="checkbox"/>				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		Collected									
		Date	Time	Grab	Composite	Soil	Water	NPDES	Surface	Oil	Air
SA MW-6 MW-8 MW-9 MW-10		10/21/15	~ X			w	2	X		X	
			1040				6	1		X	
			1110								
			0900								
			0930								
7 Turnaround Time Requested (TAT) (please circle) Standard 5 day 4 day EDF/EDD 72 hour 48 hour 24 hour											
Relinquished by  Relinquished by 		Date 10/22/15	Time 1020	Received by John R. / EUE	Date 10/22/15	Time 10:20					
Relinquished by Commercial Carrier: UPS _____ FedEx _____ Other _____				Received by	Date	Time					
8 Data Package (circle if required) Type I - Full Type VI (Raw Data)		EDD (circle if required) CVX-RTBU-FI_05 (default) Other: _____		Temperature Upon Receipt _____ °C		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

November 20, 2015

Project: 209335

Submittal Date: 10/23/2015
Group Number: 1603311
PO Number: 0015179981
Release Number: HORNE
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) #

8101670
8101671
8101672
8101673
8101674

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

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our scopes of accreditation can be viewed at <http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/>.

ELECTRONIC	Leidos	Attn: Ruth Otteman
COPY TO		
ELECTRONIC	Leidos	Attn: Jamalyn Agyei
COPY TO		
ELECTRONIC	Gettler-Ryan Inc.	Attn: Gettler Ryan
COPY TO		

Analysis Report

Respectfully Submitted,



Amek Carter
Specialist

(717) 556-7252

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

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

LL Sample # WW 8101670
LL Group # 1603311
Account # 11260

Project Name: 209335

Collected: 10/21/2015

Chevron

Submitted: 10/23/2015 09:20

6001 Bollinger Canyon Road
L4310

Reported: 11/20/2015 09:17

San Ramon CA 94583

45SQA

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC Volatiles 08274	ECY 97-602 NWTPH-Gx NWTPH-Gx water C7-C12	n.a.	ug/l N.D.	ug/l 50	1
GC Volatiles 02102	SW-846 8021B Benzene	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	15298A94A	10/26/2015 15:46	Marie D Beamenderfer	1
02102	Method 8021 Water Master	SW-846 8021B	1	15298A94A	10/26/2015 15:46	Marie D Beamenderfer	1
01146	GC VOA Water Prep	SW-846 5030B	1	15298A94A	10/26/2015 15:46	Marie D Beamenderfer	1

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

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

LL Sample # WW 8101671
LL Group # 1603311
Account # 11260

Project Name: 209335

Collected: 10/21/2015 10:40 by GM

Chevron
6001 Bollinger Canyon Road
L4310
San Ramon CA 94583

Submitted: 10/23/2015 09:20
Reported: 11/20/2015 09:17

45SM6

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC Volatiles 08274	ECY 97-602 NWTPH-Gx NWTPH-Gx water C7-C12	n.a.	ug/l N.D.	ug/l 50	1
GC Volatiles 02102	SW-846 8021B Benzene	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 12005	ECY 97-602 NWTPH-Dx modified	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%.					
Metals 06035	SW-846 6020 Lead	7439-92-1	ug/l 10.9	ug/l 0.13	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	15298A94A	10/26/2015 22:35	Marie D Beamenderfer	1
02102	Method 8021 Water Master	SW-846 8021B	1	15298A94A	10/26/2015 22:35	Marie D Beamenderfer	1
01146	GC VOA Water Prep	SW-846 5030B	1	15298A94A	10/26/2015 22:35	Marie D Beamenderfer	1
12005	NWTPH-Dx water w/ 10g Si Gel	ECY 97-602 NWTPH-Dx modified	1	153060010A	11/04/2015 12:00	Christine E Dolman	1
12007	NW Dx water w/ 10g column	ECY 97-602 NWTPH-Dx 06/97	1	153060010A	11/02/2015 20:00	Samantha L Bronder	1
06035	Lead	SW-846 6020	1	152996050002A	10/27/2015 21:14	Mallory L Clark	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	152996050002	10/27/2015 09:26	Katlin N Cataldi	1

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

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

LL Sample # WW 8101672
LL Group # 1603311
Account # 11260

Project Name: 209335

Collected: 10/21/2015 11:10 by GM

Chevron
6001 Bollinger Canyon Road
L4310
San Ramon CA 94583

Submitted: 10/23/2015 09:20
Reported: 11/20/2015 09:17

45SM8

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC Volatiles 08274	ECY 97-602 NWTPH-Gx NWTPH-Gx water C7-C12	n.a.	ug/l 110	ug/l 50	1
GC Volatiles 02102	SW-846 8021B Benzene	71-43-2	ug/l N.D.	ug/l 0.5	1
02102	Ethylbenzene	100-41-4	1.1	0.5	1
02102	Toluene	108-88-3	N.D.	0.5	1
02102	Total Xylenes	1330-20-7	3.9	1.5	1
GC Petroleum Hydrocarbons w/Si 12005	ECY 97-602 NWTPH-Dx modified	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%.					
Metals 06035	SW-846 6020 Lead	7439-92-1	ug/l 0.63	ug/l 0.13	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	15298A94A	10/26/2015 23:00	Marie D Beamenderfer	1
02102	Method 8021 Water Master	SW-846 8021B	1	15298A94A	10/26/2015 23:00	Marie D Beamenderfer	1
01146	GC VOA Water Prep	SW-846 5030B	1	15298A94A	10/26/2015 23:00	Marie D Beamenderfer	1
12005	NWTPH-Dx water w/ 10g Si Gel	ECY 97-602 NWTPH-Dx modified	1	153060010A	11/04/2015 12:21	Christine E Dolman	1
12007	NW Dx water w/ 10g column	ECY 97-602 NWTPH-Dx 06/97	1	153060010A	11/02/2015 20:00	Samantha L Bronder	1
06035	Lead	SW-846 6020	1	153006050002A	10/29/2015 19:32	Mallory L Clark	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	153006050002	10/29/2015 08:16	Katlin N Cataldi	1

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

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

LL Sample # WW 8101673
LL Group # 1603311
Account # 11260

Project Name: 209335

Collected: 10/21/2015 09:00 by GM

Chevron
6001 Bollinger Canyon Road
L4310
San Ramon CA 94583

Submitted: 10/23/2015 09:20
Reported: 11/20/2015 09:17

45SM9

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC Volatiles 08274	ECY 97-602 NWTPH-Gx NWTPH-Gx water C7-C12	n.a.	ug/l N.D.	ug/l 50	1
GC Volatiles 02102	SW-846 8021B Benzene	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 12005	ECY 97-602 NWTPH-Dx modified	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%.					
Metals 06035	SW-846 6020 Lead	7439-92-1	ug/l 12.4	ug/l 0.13	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	15298A94A	10/26/2015 23:26	Marie D Beamenderfer	1
02102	Method 8021 Water Master	SW-846 8021B	1	15298A94A	10/26/2015 23:26	Marie D Beamenderfer	1
01146	GC VOA Water Prep	SW-846 5030B	1	15298A94A	10/26/2015 23:26	Marie D Beamenderfer	1
12005	NWTPH-Dx water w/ 10g Si Gel	ECY 97-602 NWTPH-Dx modified	1	153060010A	11/04/2015 12:43	Christine E Dolman	1
12007	NW Dx water w/ 10g column	ECY 97-602 NWTPH-Dx 06/97	1	153060010A	11/02/2015 20:00	Samantha L Bronder	1
06035	Lead	SW-846 6020	1	153006050002A	10/29/2015 19:34	Mallory L Clark	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	153006050002	10/29/2015 08:16	Katlin N Cataldi	1

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

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

LL Sample # WW 8101674
LL Group # 1603311
Account # 11260

Project Name: 209335

Collected: 10/21/2015 09:30 by GM

Chevron
6001 Bollinger Canyon Road
L4310
San Ramon CA 94583

Submitted: 10/23/2015 09:20
Reported: 11/20/2015 09:17

45S10

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC Volatiles 08274	ECY 97-602 NWTPH-Gx NWTPH-Gx water C7-C12	n.a.	ug/l N.D.	ug/l 50	1
GC Volatiles 02102	SW-846 8021B Benzene	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 12005	ECY 97-602 NWTPH-Dx modified	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%.					
Metals 06035	SW-846 6020 Lead	7439-92-1	ug/l 20.1	ug/l 0.13	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	15298A94A	10/26/2015 23:52	Marie D Beamenderfer	1
02102	Method 8021 Water Master	SW-846 8021B	1	15298A94A	10/26/2015 23:52	Marie D Beamenderfer	1
01146	GC VOA Water Prep	SW-846 5030B	1	15298A94A	10/26/2015 23:52	Marie D Beamenderfer	1
12005	NWTPH-Dx water w/ 10g Si Gel	ECY 97-602 NWTPH-Dx modified	1	153060010A	11/04/2015 13:04	Christine E Dolman	1
12007	NW Dx water w/ 10g column	ECY 97-602 NWTPH-Dx 06/97	1	153060010A	11/02/2015 20:00	Samantha L Bronder	1
06035	Lead	SW-846 6020	1	153006050002A	10/29/2015 19:35	Mallory L Clark	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	153006050002	10/29/2015 08:16	Katlin N Cataldi	1

Quality Control Summary

Client Name: Chevron
Reported: 11/20/2015 09:17

Group Number: 1603311

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

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank MDL</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: 15298A94A			Sample number(s): 8101670-8101674					
Benzene	N.D.	0.2	ug/l	97	94	80-120	4	30
Ethylbenzene	N.D.	0.2	ug/l	101	95	80-120	6	30
NWTPH-Gx water C7-C12	N.D.	50.	ug/l	96	92	80-123	4	30
Toluene	N.D.	0.2	ug/l	102	97	80-120	6	30
Total Xylenes	N.D.	0.2	ug/l	104	98	80-120	6	30
Batch number: 153060010A			Sample number(s): 8101671-8101674					
DRO C12-C24 w/Si Gel	N.D.	30.	ug/l	53	54	32-117	2	20
HRO C24-C40 w/Si Gel	N.D.	70.	ug/l					
Batch number: 152996050002A			Sample number(s): 8101671					
Lead	N.D.	0.13	ug/l	102		80-120		
Batch number: 153006050002A			Sample number(s): 8101672-8101674					
Lead	N.D.	0.13	ug/l	100		80-120		

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

<u>Analysis Name</u>	<u>MS %REC</u>	<u>MSD %REC</u>	<u>MS/MSD Limits</u>	<u>RPD MAX</u>	<u>BKG Conc</u>	<u>DUP Conc</u>	<u>DUP RPD</u>	<u>Dup RPD Max</u>
Batch number: 152996050002A			Sample number(s): 8101671 UNSPK: 8101671 BKG: 8101671					
Lead	101	105	75-125	2	20	10.9	11.1	2
Batch number: 153006050002A			Sample number(s): 8101672-8101674 UNSPK: P099488 BKG: P099488					
Lead	106	110	75-125	3	20	N.D.	0 (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.

*- 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.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Chevron
Reported: 11/20/2015 09:17

Group Number: 1603311

Surrogate Quality Control

Analysis Name: Method 8021 Water Master
Batch number: 15298A94A

	Trifluorotoluene-P	Trifluorotoluene-F
8101670	86	73
8101671	86	74
8101672	86	78
8101673	86	74
8101674	85	74
Blank	85	75
LCS	85	93
LCSD	83	92
Limits:	51-120	63-135

Analysis Name: NWTPH-Dx water w/ 10g Si Gel
Batch number: 153060010A
Orthoterphenyl

8101671	78
8101672	84
8101673	73
8101674	79
Blank	80
LCS	82
LCSD	83
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.

is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Chevron Northwest Region Analysis Request/Chain of Custody

eurofins

Lancaster
Laboratories

Acct. # 11260

For Eurofins Lancaster Laboratories use only
Group # 1603311 Sample # 8101670-74
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			<input type="checkbox"/> Sediment <input type="checkbox"/> Potable <input checked="" type="checkbox"/> Ground <input checked="" type="checkbox"/> Surface <input type="checkbox"/> Water <input type="checkbox"/> NPDES <input type="checkbox"/> Air			BTEX <input type="checkbox"/> 8260 <input type="checkbox"/> Naphth <input type="checkbox"/> 8260 full scan <input type="checkbox"/> NWTPH-Gx <input type="checkbox"/> 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 Total <input checked="" type="checkbox"/> Diss. <input type="checkbox"/> Method <u>ICP/MS/ICP/MS</u>			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				
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 G. Medina									Please forward the lab results directly to the Lead Consultant and cc: G-R.				
2 Sample Identification		Collected		Grab (3)	Composite	Soil <input type="checkbox"/>	Water <input type="checkbox"/>	NPDES <input type="checkbox"/>	Oil <input type="checkbox"/>	Air <input type="checkbox"/>	Total Number of Containers	BTEX <input type="checkbox"/> 8260 <input type="checkbox"/> 8260 full scan <input type="checkbox"/> NWTPH-Gx <input type="checkbox"/> 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 Total <input checked="" type="checkbox"/> Diss. <input type="checkbox"/> Method <u>ICP/MS/ICP/MS</u>	
		Date 10/21/15	Time —										
SA MW-6 MW-8 MW-9 MW-10		1040	1110	0900	0930								
7 Turnaround Time Requested (TAT) (please circle)													
Standard 5 day 72 hour 48 hour EDF/EDD 24 hour				Relinquished by <u>J. H. C.</u>		Date 10/22/15	Time 10:20	Received by <u>V. R. P. / EUE</u>	Date 10/22/15	Time 10:20			
				Relinquished by <u>J. H. C.</u>		Date 10/22/15	Time	Received by	Date	Time			
8 Data Package (circle if required)		EDD (circle if required) Type I - Full Type VI (Raw Data)		Relinquished by Commercial Carrier: UPS <input type="checkbox"/> FedEx <input type="checkbox"/> Other <input checked="" type="checkbox"/>			Received by <u>C. Eshler</u>		Date 10/23/15	Time 0920			
				Temperature Upon Receipt 0.5 - 0.9 °C			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		
>	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.		

Laboratory Data Qualifiers:

- B - Analyte detected in the blank
- C - Result confirmed by reanalysis
- E - Concentration exceeds the calibration range
- J (or G, I, X) - estimated value \geq the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL)
- P - Concentration difference between the primary and confirmation column >40%. The lower result is reported.
- U - Analyte was not detected at the value indicated
- V - Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference...

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods. Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) 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.

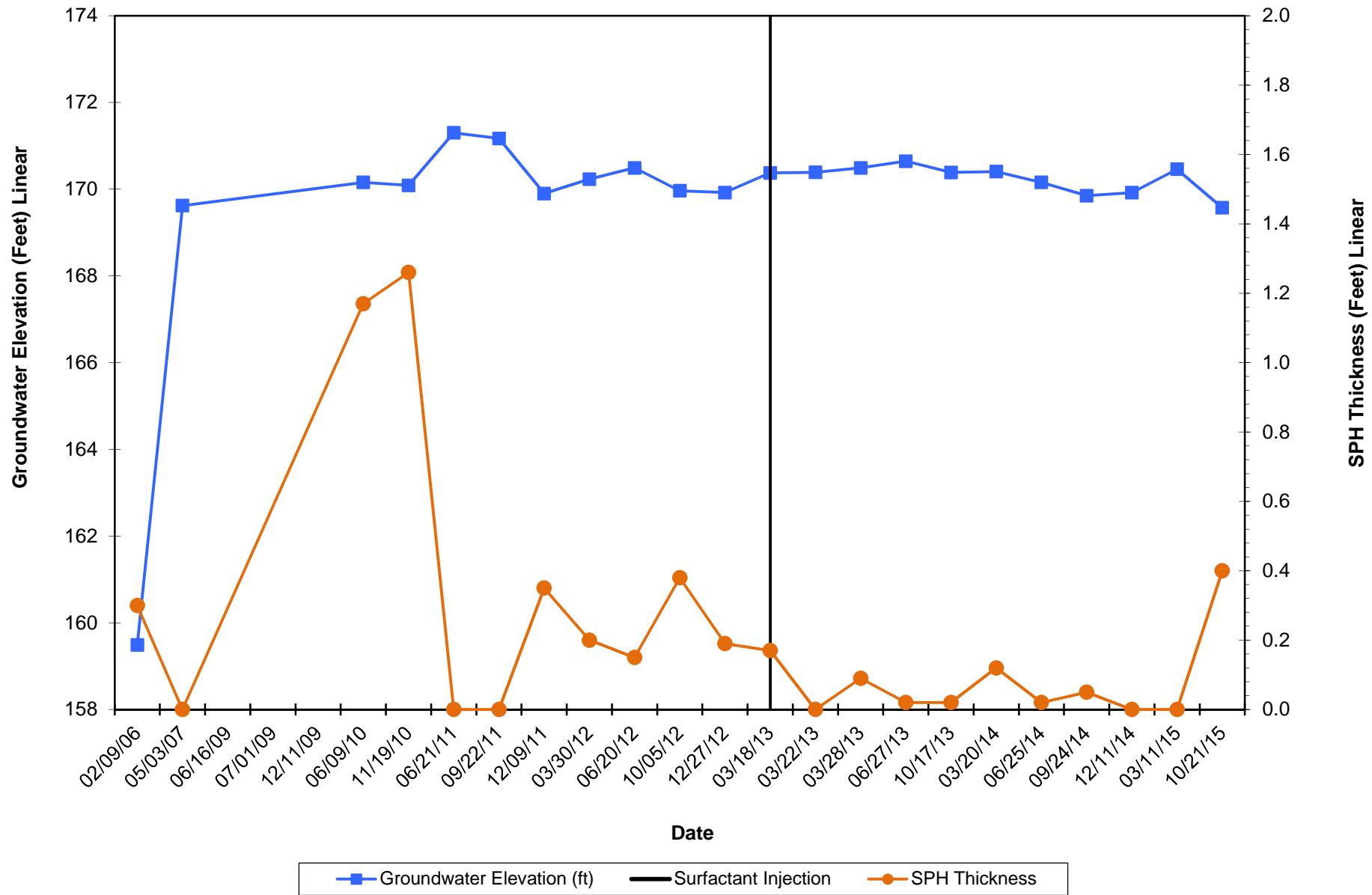
This report shall not be reproduced except in full, without the written approval of the laboratory.

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.

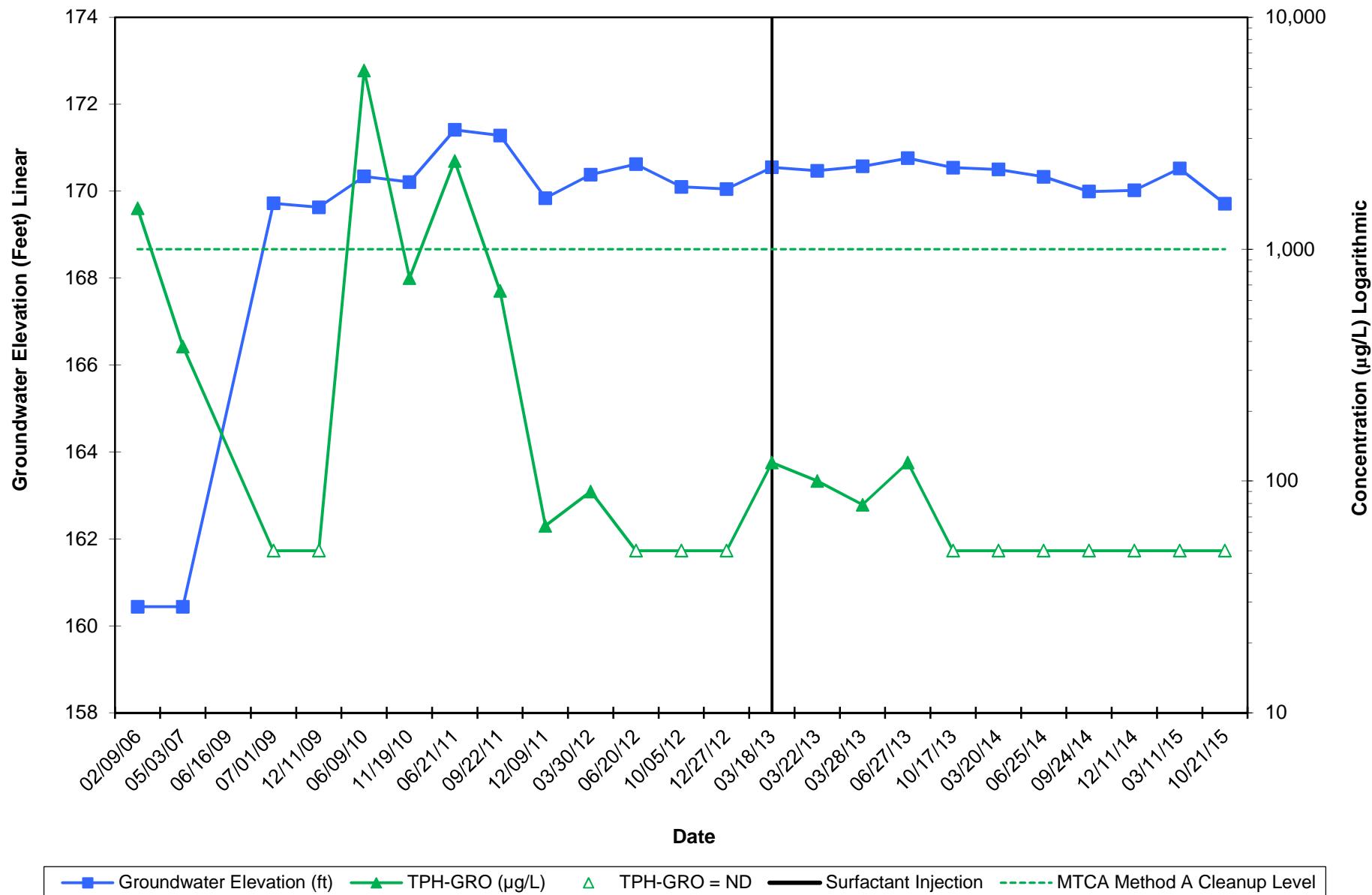
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Attachment C:
Hydrographs

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



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

