HOIN Park Seattle Lu51

April 22, 2014

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

Subject: **First Quarter 2014 Groundwater Monitoring and Sampling Report**
Former Tidewater Service Station No. 303189
7301 Martin Luther King Jr. Way South
Seattle, Washington

Dear Mr. Horne:

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 the former Tidewater Service Station No. 303189 (the site) in Seattle, Washington (Figure 1).

FIELD ACTIVITIES

Gettler-Ryan, Inc. (Gettler-Ryan) conducted the groundwater monitoring and sampling field event on February 26, 2014. They collected depth-to-groundwater measurements and checked for the presence of separate-phase hydrocarbons (SPH) in three monitoring wells on site. SPH were observed in monitoring well MW-2. A site map is provided as Figure 2.

Groundwater samples were collected from two of the three monitoring wells. Samples were submitted 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; and
- Benzene, toluene, ethylbenzene, and total xylenes by United States Environmental Protection Agency Method 8021B.

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

RESULTS

Groundwater elevations are consistent with historical data reported at the site. Petroleum-hydrocarbon constituent concentrations are generally consistent with respect to historical data. SPH thickness in monitoring well MW-2 was 0.03 feet. No analytes were detected at concentrations exceeding the Model Toxic Control Act or laboratory reporting limits in monitoring wells MW-1 and MW-3.

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.

Gettler-Ryan will continue to perform groundwater monitoring and sampling on a quarterly basis. If you have any questions or comments, please contact me 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 – Groundwater Elevation Map
Table 1 – Groundwater Monitoring Data and Analytical Results
Attachment A – Groundwater Monitoring and Sampling Data Package
Attachment B – Laboratory Analysis Report

cc: Ms. Donna Musa – Ecology NW Region, Toxics Cleanup Program
3190 160th Avenue SE, Bellevue, WA 98008-5452
Mr. Larry Hard – Seattle Housing Authority
190 Queen Anne Avenue North, P.O Box 19028, Seattle, WA 98109-1028
Project File

REPORT LIMITATIONS

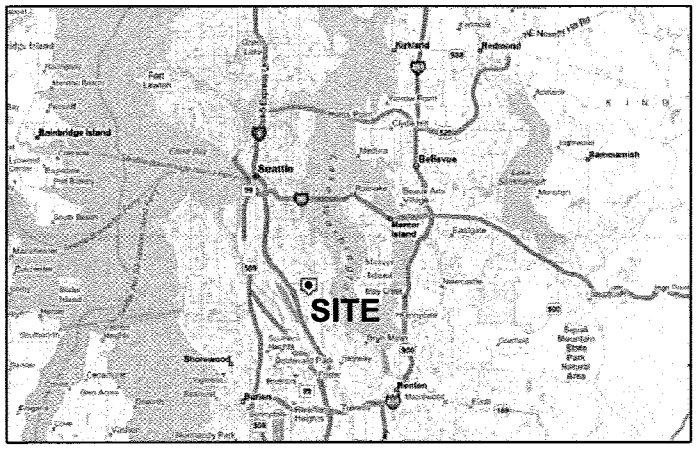
This technical document was prepared on behalf of CEMC and is intended for its sole use and for use by the local, state or federal regulatory agency that the technical document was sent to by Leidos. Any other person or entity obtaining, using, or relying on this technical document hereby acknowledges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

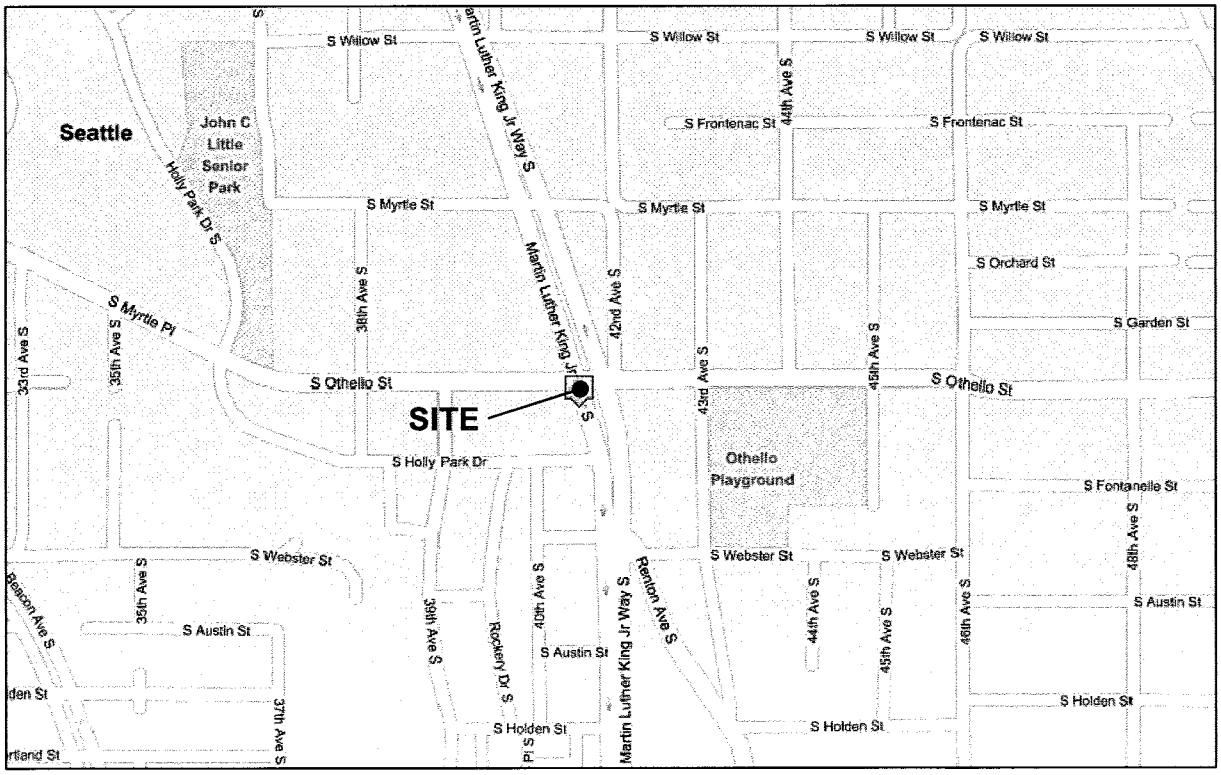
Site history and background information provided in this technical document are based on sources that may include interviews with environmental regulatory agencies and property management personnel and a review of acquired environmental regulatory agency documents and property information obtained from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

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Former Tidewater Service Station No. 30-3189 7301 Martin Luther King Jr. Way South Seattle, Washington	FIGURE 1 Vicinity Map	
	FILE NAME: 303189_VM.dwg	DATE: 8/29/2012

South Othello Street

N

0 20'

Feet

MW-2
97.52**

Former USTs

Sidewalk

Martin Luther King Jr. Way South

Former Station Building

Former Canopy / Pump Island

MW-1
98.77

MW-3
99.42

Legend

MW-3	Groundwater Monitoring Wells Installed 2007 (SAIC)
	Property Boundary
99.42	Groundwater Elevation in Feet
97.52**	Groundwater Elevation Corrected for the Presence of Separate Phase Hydrocarbons (SPH)
UST	Underground Storage Tank

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Former Tidewater Service Station No. 303189
7301 Martin Luther King Jr. Way South
Seattle, Washington

FIGURE 2
Groundwater Elevation Map
February 26, 2014

FILE NAME: 303189 Site Map.dwg

DATE: 3/19/2014

TABLE 1
GROUNDWATER MONITORING DATA AND ANALYTICAL RESULTS[1]
FORMER TIDEWATER SERVICE STATION NO. 303189
7301 Martin Luther King Jr. Way South
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															
08/31/07		--	--	--	--	--	**930**	190	<50	<0.5	<0.5	<0.5	<1.5	--	0.052
04/24/09	LFP	99.66	--	2.36	--	97.30	**650**	<76	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--
08/12/09	LFP	99.66	--	4.24	--	95.42	370	<67	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--
11/14/09	LFP	99.66	--	1.78	--	97.88	270[2]	<68[5]	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--
02/11/10	LFP	99.66	--	1.92	--	97.74	**560**	<69	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--
05/24/10	LFP	99.66	--	2.43	--	97.23	91	<68	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--
08/04/10	LFP	99.66	--	3.62	--	96.04	**520**	<75	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--
11/12/10	LFP	99.66	--	2.00	--	97.66	440	<68	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--
02/23/11	LFP	99.66	--	2.03	--	97.63	**1,000**	270	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--
05/06/11	LFP	99.66	--	2.32	--	97.34	**1,100**	210	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--
08/18/11	LFP	99.66	--	4.10	--	95.56	**830**	210	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--
11/22/11	LFP	99.66	--	1.88	--	97.78	<30	<70	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--
02/23/12	LFP	99.66	--	1.60	--	98.06	<31	<72	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--
05/25/12	LFP	99.66	--	1.80	--	97.86	<30	<69	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--
08/10/12	LFP	100.66	--	4.02	--	96.64	<30	<69	<50	<0.5	<0.5	<0.5	<1.5	--	--
11/15/12	LFP	100.66	--	2.18	--	98.48	120	160	<50	<0.5	<0.5	<0.5	<1.5	--	--
02/14/13	LFP	100.66	--	1.84	--	98.82	<29	<68	<50	<0.5	<0.5	<0.5	<1.5	--	--
06/01/13	LFP	100.66	--	1.86	--	98.80	<29	<67	<50	<0.5	<0.5	<0.5	<1.5	--	--
08/22/13	LFP	100.66	--	3.98	--	96.68	<29	<67	<50	<0.5	<0.5	<0.5	<1.5	--	--
11/22/13	LFP	100.66	--	2.22	--	98.44	<29	<67	<50	<0.5	<0.5	<0.5	<1.5	--	--
02/26/14	LFP	100.66	--	1.89	--	98.77	<30	<70	<50	<0.5	<0.5	<0.5	<1.5	--	--
MW-2															
08/31/07		--	--	--	--	--	**2,100**	**1,200**	**26,000**	**3,200**	190	**1,400**	**3,300**	--	--
04/24/09	PER	99.05	--	7.34	--	91.71	--[4]	--[4]	**16,000**	**4,100**	99	**1,500**	**2,000**	<3	--
08/12/09	PER	99.05	--	8.18	--	90.87	--[4]	--[4]	**27,000**	**4,000**	100	**1,300**	**1,900**	<3	--
11/14/09	PER	99.05	--	5.75	--	93.30	--[4]	--[4]	**19,000**	**2,800**	62	**950**	**1,300**	<3	--
02/11/10	PER	99.05	--	6.98	--	92.07	--[4]	--[4]	**25,000**	**3,400**	97	**1,600**	**2,200**	<0.5	--
05/24/10	PER	99.05	--	7.42	--	91.63	--[4]	--[4]	**19,000**	**2,900**	88	**1,400**	**2,000**	<1	--
08/04/10	PER	99.05	--	7.92	--	91.13	--[4]	--[4]	**16,000**	**3,800**	110	**1,700**	**2,700**	<3	--
11/12/10	PER	99.05	--	6.16	--	92.89	--[4]	--[4]	**16,000**	**1,900**	56	660	680	<1	--
02/23/11	PER	99.05	--	6.09	--	92.96	--[4]	--[4]	**12,000**	**2,800**	60	680	780	<3	--
05/06/11	PER	99.05	--	6.98	--	92.07	--[4]	--[4]	**15,000**	**3,100**	72	**1,300**	**1,400**	<3	--
08/18/11		99.05	8.20	8.30	0.10	90.83	UNABLE TO SAMPLE DUE TO PRESENCE OF SPH					--	--	--	--
11/22/11		99.05	UNABLE TO MEASURE DTW OR COLLECT SAMPLE DUE TO PRESENCE OF SPH						--	--		--	--	--	--
02/23/12		99.05	1.55	1.90	0.35	97.43	UNABLE TO SAMPLE DUE TO PRESENCE OF SPH					--	--	--	--
05/25/12		99.05	7.10	7.85	0.75	91.80	UNABLE TO SAMPLE DUE TO PRESENCE OF SPH					--	--	--	--

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TABLE 1
GROUNDWATER MONITORING DATA AND ANALYTICAL RESULTS[1]
FORMER TIDEWATER SERVICE STATION NO. 303189
7301 Martin Luther King Jr. Way South
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)															
08/10/12		99.05	8.14	8.34	0.20	90.87	UNABLE TO SAMPLE DUE TO PRESENCE OF SPH					--	--	--	--
11/15/12		99.05	5.92	6.10	0.18	93.09	UNABLE TO SAMPLE DUE TO PRESENCE OF SPH					--	--	--	--
02/14/13		99.05	7.12	UNABLE TO MEASURE DTW OR COLLECT SAMPLE DUE TO PRESENCE OF SPH							--	--	--	--	--
06/01/13		99.05	7.06	UNABLE TO MEASURE DTW OR COLLECT SAMPLE DUE TO PRESENCE OF SPH							--	--	--	--	--
08/22/13		99.05	UNABLE TO MEASURE DTP, DTW OR COLLECT SAMPLE DUE TO PRESENCE OF SPH								--	--	--	--	--
11/22/13		99.05	6.02	6.04	0.02	93.03	UNABLE TO SAMPLE DUE TO PRESENCE OF SPH					--	--	--	--
02/26/14		99.05	1.52	1.55	0.03	97.52	UNABLE TO SAMPLE DUE TO PRESENCE OF SPH					--	--	--	--
MW-3															
08/31/07		--	--	--	--	--	120	<100	<50	<0.5	<0.5	<0.5	<1.5		0.055
04/24/09	LFP	100.00	--	2.13	--	97.87	58	<75	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--
08/12/09	LFP	100.00	--	4.47	--	95.53	**620**	170	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--
11/14/09	LFP	100.00	--	1.60	--	98.40	450	370	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--
02/11/10	LFP	100.00	--	1.59	--	98.41	160	130	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--
05/24/10	LFP	100.00	--	1.83	--	98.17	**910**	310	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--
08/04/10	LFP	100.00	--	3.84	--	96.16	55	<74	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--
11/12/10	LFP	100.00	--	1.62	--	98.38	67	<71	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--
02/23/11	LFP	100.00	--	1.73	--	98.27	140	<73	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--
05/06/11	LFP	100.00	--	1.85	--	98.15	160	82	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--
08/18/11	LFP	100.00	--	4.38	--	95.62	56	<74	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--
11/22/11	LFP	100.00	--	1.58	--	98.42	<30	<70	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--
02/23/12	LFP	100.00	--	1.65	--	98.35	<33	<77	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--
05/25/12	LFP	100.00	--	1.30	--	98.70	<29	<67	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--
08/10/12	LFP	101.00	--	4.23	--	96.77	<30	<69	<50	<0.5	<0.5	<0.5	<1.5	--	--
11/15/12	LFP	101.00	--	1.79	--	99.21	75	93	<50	<0.5	<0.5	<0.5	<1.5	--	--
02/14/13	LFP	101.00	--	2.17	--	98.83	<29	<67	<50	<0.5	<0.5	<0.5	<1.5	--	--
06/01/13	LFP	101.00	--	1.66	--	99.34	<28	<66	<50	<0.5	<0.5	<0.5	<1.5	--	--
08/22/13	LFP	101.00	--	4.22	--	96.78	<29	<67	<50	<0.5	<0.5	<0.5	<1.5	--	--
11/22/13	LFP	101.00	--	1.66	--	99.34	<30	<70	<50	<0.5	<0.5	<0.5	<1.5	--	--
02/26/14	LFP	101.00	--	1.58		99.42	<28	<66	<50	1.0	<0.5	0.8	<1.5	--	--
B-9[7]															
05/01/02		--	--	--	--	--	0.660	0.310	32	**530**	<100	**1,600**	**4,300**	--	--
B-10[7]															
05/01/02		--	--	--	--	--	5.10	<0.063	26	**240**	110	240	330	--	--

TABLE 1
GROUNDWATER MONITORING DATA AND ANALYTICAL RESULTS[1]
FORMER TIDEWATER SERVICE STATION NO. 303189
7301 Martin Luther King Jr. Way South
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/TRIP BLANK															
04/24/09		--	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--
08/12/09		--	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--
11/14/09		--	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--
02/11/10		--	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--
05/24/10		--	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--
08/04/10		--	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--
11/12/10		--	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--
02/23/11		--	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--
05/06/11		--	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--
08/18/11[6]		--	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--
02/23/12		--	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--
05/25/12		--	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--
08/10/12		--	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--	--
11/15/12		--	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--	--
02/14/13		--	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--	--
06/01/13		--	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--	--
08/22/13		--	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--	--
11/22/13		--	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--	--
02/26/14		--	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--	--
Standard Laboratory Reporting Limits:							--	--	50	0.5	0.5	0.5	0.5	0.5	--
MTCA Method A Cleanup Levels:							500	500	800/1,000	5	1,000	700	1,000	0.5	15
Current Method[8]:							NWTPH-Dx + Extended		NWTPH-Gx and USEPA 8021B/8260B						USEPA 7421

Abbreviations:

BTEX = Benzene, toluene, ethylbenzene, and total xylenes
DTP = Depth to Product
DTW = Depth to Water
(ft.) = Feet
GC/MS = gas chromatography/mas spectrometry
GWE = Groundwater Elevation
LFP = Low Flow Purge
MTBE = Methyl Tertiary Butyl Ether
MTCA = Model Toxics Control Act
ND = Non-detect
PER = Peristaltic Pump
QA = Quality Assurance/Trip Blank
QC = Quality control
SPH = Separate-phase hydrocarbons
SPHT = SPH 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
< = The analyte was not detected at or above the reported value
-- = Not Measured/Not Analyzed

Analytical Methods:

After April 24, 2009 and prior to August 10, 2012 BTEX analysis by USEPA Method 8260B.
TPH-GRO by Method NWTPH-Gx.
TPH-DRO and TPH-HRO by Method NWTPH-Dx with silica-gel cleanup.
BTEX and MTBE by USEPA Method 8021B.

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TABLE 1
GROUNDWATER MONITORING DATA AND ANALYTICAL RESULTS[1]
FORMER TIDEWATER SERVICE STATION NO. 303189
7301 Martin Luther King Jr. Way South
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/TRIP BLANK															
04/24/09		--	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--
08/12/09		--	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--
11/14/09		--	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--
02/11/10		--	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--
05/24/10		--	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--
08/04/10		--	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--
11/12/10		--	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--
02/23/11		--	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--
05/06/11		--	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--
08/18/11[6]		--	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--
02/23/12		--	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--
05/25/12		--	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--
08/10/12		--	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--	--
11/15/12		--	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--	--
02/14/13		--	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--	--
06/01/13		--	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--	--
08/22/13		--	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--	--
11/22/13		--	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--	--
02/26/14		--	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--	--
Standard Laboratory Reporting Limits:							--	--	50	0.5	0.5	0.5	0.5	0.5	--
MTCA Method A Cleanup Levels:							500	500	800/1,000	5	1,000	700	1,000	0.5	15
Current Method[8]:							NWTPH-Dx + Extended		NWTPH-Gx and USEPA 8021B/8260B						USEPA 7421

Abbreviations:

BTEX = Benzene, toluene, ethylbenzene, and total xylenes
DTP = Depth to Product
DTW = Depth to Water
(ft.) = Feet
GC/MS = gas chromatography/mas spectrometry
GWE = Groundwater Elevation
LFP = Low Flow Purge
MTBE = Methyl Tertiary Butyl Ether
MTCA = Model Toxics Control Act
ND = Non-detect
PER = Peristaltic Pump
QA = Quality Assurance/Trip Blank
QC = Quality control
SPH = Separate-phase hydrocarbons
SPHT = SPH 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
< = The analyte was not detected at or above the reported value
-- = Not Measured/Not Analyzed

Analytical Methods:

After April 24, 2009 and prior to August 10, 2012 BTEX analysis by USEPA Method 8260B.
TPH-GRO by Method NWTPH-Gx.
TPH-DRO and TPH-HRO by Method NWTPH-Dx with silica-gel cleanup.
BTEX and MTBE by USEPA Method 8021B.

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TABLE 1
GROUNDWATER MONITORING DATA AND ANALYTICAL RESULTS[1]
FORMER TIDEWATER SERVICE STATION NO. 30-3189
7301 Martin Luther King Jr. Way South
Seattle, Washington
Concentrations reported in µg/L

Notes:

1 Analytical results in bold font indicate concentrations exceed MTCA Method A cleanup levels.
2 TOC elevations are expressed in feet relative to an arbitrary datum.
3 When SPH is present, GWE has been corrected using the following formula: GWE = [(TOC - DTW) + (SPHT x 0.80)].
4 Not sampled due to insufficient water.
5 Laboratory report indicates the surrogate data is outside the QC limits. Results from the reextraction are within the limits. The hold time had expired prior to the reextraction therefore, all results are reported from the original extract. The TPH-DRO result for the re-extraction is 610 µg/L; the TPH-HRO result for the re-extraction is ND.
6 The initial analysis for GCMS volatiles could not be reported due to analytical difficulties. Since only one sample vial was submitted, the analysis was repeated using the remaining sample volume which contained headspace.
7 Results for wells B-9 and B-10 were provided by GeoEngineers.
8 Laboratory analytical methods for historical data may no be consistent with list of current analytical methods. When necessary, consult original laboratory reports to verify methods used.

leidos

Attachment A:
Groundwater Monitoring and Sampling Data Package

GETTLER-RYAN INC.

TRANSMITTAL

March 10, 2014
G-R #385862

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: Chevron Facility
#303189
(Former Tidewater Service Stn.)
7301 MLK Jr. Way South
Seattle, Washington

WE HAVE ENCLOSED THE FOLLOWING:

COPIES	DESCRIPTION
VIA PDF	Groundwater Monitoring and Sampling Data Package **First Quarter Event of February 26, 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/303189

GETTLER-RYAN INC.

CHEVRON - SITE CHECK LIST

Facility#:	Chevron #303189 Date: 2.26.14
Address:	7301 Martin Luther King Jr. Way South
City/St.:	Seattle,WA
Status of Site:	VACANT LOT

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

#	Description	Condition	Labeling	Contents	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	Well Plug Y / N	Well Lock Y / N	Well Box Manufacturer/Size/# of Bolts	Other
MW-1	GOOD			→	8" MORRISX3	
MW-2	GOOD			→	↓	
MW-3	GOOD			→	↓	

Additional Comments/Observations:

Standard Operating Procedure, Low-Flow Purging and Sampling

Gettler-Ryan Inc. field personnel adhere to the following Standard Operating Procedure (SOP) for the collection and handling of representative groundwater samples using the Low-Flow (Minimal-Drawdown) Purging technique. This SOP incorporates purging and sampling methods discussed in U.S. EPA, Ground Water Issue, Publication Number EPA/540/S-95/504, April 1996 by Puls, R.W. and M.J. Barcelona - *"Low-Flow (Minimal-Drawdown) Ground-Water Sampling Procedures."*

A QED Well Wizard™ (or equivalent) bladder pump or Peristaltic Pump will be used to purge and sample selected wells as outlined in the scope-of-work. An in-line flow cell or other multi-parameter meter is used to collect water quality indicating parameters during purging.

Initial Pump Discharge Test Procedures

The Static Water Level (SWL) is measured in all wells at the site prior to the installation of the pump or tubing and initiation of the test procedures in any well. In addition, the presence or absence of separate-phase hydrocarbons (SPH) is determined using an interface probe. Product thickness, if present, is measured to the nearest 0.01 foot. The SWL measurement and SPH thickness, if any, will be recorded on the field data sheet.

The bladder pump or suction inlet tubing of the peristaltic pump is then positioned with its inlet located within the screened interval of the well. The in-line flow cell is then connected to the discharge tubing. After pump installation, the SWL is allowed to recover to its original level. The pump is then started at a discharge rate between 100 ml to 300 ml per minute with the in-line flow cell connected. The water level is monitored continuously for any change from the original measurement and the discharge rate is adjusted until an optimum discharge rate (ODR) is determined. The goal for the ODR is to produce a stable drawdown of less than 0.1 meter as allowed by site conditions; however the total drawdown from the initial SWL should not exceed 25% of the distance between pump inlet location and the top of the well screen. Once achieved, the ODR will be confirmed by volumetric discharge measurement and recorded on the field data sheet.

Purging and Water Quality Parameter Measurement

When the ODR has been determined and the SWL drawdown has been established within the acceptable range, and a minimum of one pump system volume (bladder volume and/or discharge tubing volume) has been purged, field measurements for temperature (T), pH, conductivity (Ec), and if required, oxygen reduction potential (ORP) and dissolved oxygen (DO) will be collected and documented on the field data sheet. Measurements should be taken every three to five minutes until parameters stabilize for three consecutive readings. The minimum parameter subset of T (± 10%), pH (± 0.1 unit), and Ec (± 10 uS) are required to stabilize. Additional parameters that may be required are DO (± 0.2 mg/l) and ORP (± 20 mV).

Sample Collection

When water quality parameters have stabilized, and the SWL drawdown remains established within the acceptable range, groundwater sample collection may begin. If used, the in-line flow cell and its tubing are disconnected from the discharge tubing prior to sample collection. Water samples are collected from the discharge tubing into appropriate containers. Pre-preserved containers, supplied by analytical laboratories, are used when possible. 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. 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. 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. For sampling sets greater than 20 samples, 5% trip blanks are included. 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 #303189 Job Number: 385862
Site Address: 7301 Martin Luther King Jr. Way S Event Date: 2.26.14 (inclusive)
City: Seattle,WA Sampler: J.P

Well ID MW-1 Date Monitored: 2.26.14
Well Diameter .75 in.
Total Depth 11.52 ft.
Depth to Water 1.89 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 then 0.50 ft.

9.63 xVF ~ = ~ x3 case volume = Estimated Purge Volume: ~ gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 3.60

Purge Equipment:
Disposable Bailer
Stainless Steel Bailer
Stack Pump
Suction Pump
Grundfos
Peristaltic Pump x
QED Bladder Pump
Other: YSI MP5 5556

Sampling Equipment:
Disposable Bailer
Pressure Bailer
Metal Filters
Peristaltic Pump x
QED Bladder Pump
Other: TUBING

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

Start Time (purge): 1202 Weather Conditions: SUN
Sample Time/Date: 1225 / 2.26.14 Water Color: CLEAR Odor: Y / (N)
Approx. Flow Rate: 200 mlpm Sediment Description: NONE
Did well de-water? NO If yes, Time: ~ Volume: ~ gal. DTW @ Sampling: 2.40

Time (2400 hr.)	Volume (Liters)	pH	Conductivity (mS) (~~umhos/cm~~ ~~uS~~)	Temperature (C) F	D.O. (mg/L)	ORP (mV)	Gauge DTW as parameters are recorded
1220	3.6	6.96	.392	16.22	1.18	33.6	2.28
1223	4.2	6.94	.390	16.30	1.11	34.8	2.31
1226	4.80	6.94	.3880	16.36	1.06	36.0	2.40

LABORATORY INFORMATION

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

COMMENTS: Depth Pump Set At: 7'-8"

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

GETTLER-RYAN INC.

WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility#: **Chevron #303189** Job Number: **385862**

Site Address: **7301 Martin Luther King Jr. Way S** Event Date: 2.26.14 (inclusive)

City: **Seattle,WA** Sampler: JF

Well ID **MW-2** Date Monitored: 2.26.14

Well Diameter .75 in.

Total Depth 9.58 ft.

Depth to Water 1.55 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 then 0.50 ft.

0.03 xVF — = — x3 case volume = Estimated Purge Volume: — gal.

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

Time Started: 1352 (2400 hrs)

Time Completed: 1401 (2400 hrs)

Depth to Product: 1.52 ft

Depth to Water: 1.55 ft

Hydrocarbon Thickness: .03 ft

Visual Confirmation/Description: BLACKISH - THICK

~~Skimmer / Absorbant Sock (circle one)~~

~~Amt Removed from Skimmer: gal~~

~~Amt Removed from Well: gal~~

~~Water Removed:~~

~~Product Transferred to:~~

Purge Equipment:

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

Sampling Equipment:

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

Start Time (purge): Weather Conditions:

Sample Time/Date: / Water Color: Odor: Y / N

Approx. Flow Rate: mlpm Sediment Description:

Did well de-water? If yes, Time: Volume: gal. DTW @ Sampling:

Time (2400 hr.)	Volume (Liters)	pH	Conductivity (µmhos/cm - uS)	Temperature (C / F)	D.O. (mg/L)	ORP (mV)	Gauge DTW as parameters are recorded

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

COMMENTS: Depth Pump Set At: 5Ft @ 1.55

Add/Replaced Lock: Add/Replaced Plug: Add/Replaced Bolt:

GETTLER-RYAN INC.

WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility#: Chevron #303189 Job Number: 385862
Site Address: 7301 Martin Luther King Jr. Way S Event Date: 2.26.14 (inclusive)
City: Seattle,WA Sampler: J.P

Well ID MW-3 Date Monitored: 2.26.14
Well Diameter .75 in.
Total Depth 9.37 ft.
Depth to Water 1.68 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 then 0.50 ft.

7.79 xVF — = — x3 case volume = Estimated Purge Volume: — gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 3.13

Purge Equipment:		Sampling Equipment:	
Disposable Bailer		Disposable Bailer	
Stainless Steel Bailer		Pressure Bailer	
Stack Pump		Metal Filters	
Suction Pump		Peristaltic Pump	X
Grundfos		QED Bladder Pump	
Peristaltic Pump	X	Other: TUBING	
QED Bladder Pump			
Other: YSI MPS Probe			

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

Start Time (purge): 1249 Weather Conditions: SUN
Sample Time/Date: 1320 2.26.14 Water Color: CLEAR Odor (Y) N MILD
Approx. Flow Rate: 200 mlpm Sediment Description: NONE
Did well de-water? NO If yes, Time: — Volume: — gal. DTW @ Sampling: 1.97

Time (2400 hr.)	Volume (Liters)	pH	Conductivity ~~(µmhos/cm µS)~~ MS	Temperature (C) / F	D.O. (mg/L)	ORP (mV)	Gauge DTW as parameters are recorded
1317	3.6	6.906	.327	11.11	1.66	-98.6	1.70
1320	4.2	6.906	.320	11.20	1.58	-93.7	1.81
1323	4.8	6.904	.318	11.26	1.46	-95.2	1.97

LABORATORY INFORMATION

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

COMMENTS: Depth Pump Set At: 6'-7'

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

Chevron Northwest Region Analysis Request/Chain of Custody

eurofins | Lancaster Laboratories

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

SCR #: _____

1 Client Information

Facility # SS#303189-OML G-R#385662 WBS

Site Address 7301 Martin Luther King Jr. Way South, SEATTLE, WA

Chevron PM MHO Lead Consultant LEIDOSRO 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 J. Payne

2 Sample Identification

Sample Identification	Collected Date	Collected Time	3 Grab	3 Composite	4 Matrix: Soil	Sediment	Potable Water	Ground Water	NPDES	Surface Water	Air	Oil	Total Number of Containers	5 Analyses Requested: BTEX + ~~MTBE~~	Naphth	8260	8021	8260 full scan	Oxygenates	NWTPH-Gx	NWTPH-Dx with Silica Gel Cleanup	NWTPH-Dx without Silica Gel Cleanup	WA EPH	WA VPH	Lead	Total	Diss.	Method
QA	2.26		X				X					2		X						X								
MW-1	↓	1231	X				X					5		X						X	X							
MW-3	↓	1326	X				X					5		X						X	X							

6 Remarks

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

No MTBE 8021

2-27-14

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

7 Turnaround Time Requested (TAT) (please circle)

Standard | 5 day | 4 day | 72 hour | 48 hour | 24 hour | EDF/EDD

Relinquished by	Date	Time	Received by	Date	Time
	2.27.14	1300			
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-FI_05 (default)
Other: _____

Relinquished by Commercial Carrier: UPS X FedEx _____ Other _____

Temperature Upon Receipt _____ °C

Received by | Date | Time

Custody Seals Intact? Yes No

9

Received by | Date | Time

Received by | Date | Time

Attachment B:
Laboratory Analysis Report

eurofins | Lancaster Laboratories Environmental

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

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

March 14, 2014

Project: 303189

Submittal Date: 02/28/2014
Group Number: 1456163
PO Number: 0015144853
Release Number: HOPKINS/HORNE
State of Sample Origin: WA

Client Sample Description	Lancaster Labs (LL) #
QA Water	7378129
MW-1 Grab Groundwater	7378130
MW-3 Grab Groundwater	7378131

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

ELECTRONIC COPY TO	Gettler-Ryan Inc.	Attn: Gettler Ryan
ELECTRONIC COPY TO	SAIC	Attn: Jamalyn Green
ELECTRONIC COPY TO	SAIC	Attn: Ruth Otteman

Respectfully Submitted,

Amek Carter
Specialist

(717) 556-7252

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

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2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Analysis Report

Sample Description: QA Water
Facility# 303189 Job# 385862
7301 Martin Luther King Jr Way S - Seattle, WA

LL Sample # WW 7378129
LL Group # 1456163
Account # 11260

Project Name: 303189

Collected: 02/26/2014

Submitted: 02/28/2014 09:10
Reported: 03/14/2014 09:15

Chevron
6001 Bollinger Canyon Road
L4310
San Ramon CA 94583

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

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	14063A53A	03/05/2014 14:31	Marie D Beamenderfer	1
02102	Method 8021 Water Master	SW-846 8021B	1	14063A53A	03/05/2014 14:31	Marie D Beamenderfer	1
01146	GC VOA Water Prep	SW-846 5030B	1	14063A53A	03/05/2014 14:31	Marie D Beamenderfer	1

Sample Description: MW-1 Grab Groundwater
Facility# 303189 Job# 385862
7301 Martin Luther King Jr Way S - Seattle, WA

LL Sample # WW 7378130
LL Group # 1456163
Account # 11260

Project Name: 303189

Collected: 02/26/2014 12:31 by JP

Submitted: 02/28/2014 09:10
Reported: 03/14/2014 09:15

Chevron
6001 Bollinger Canyon Road
L4310
San Ramon CA 94583

MLKS1

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC Volatiles	**ECY 97-602 NWTPH-Gx**		ug/l	ug/l	
08274	NWTPH-Gx water C7-C12	n.a.	N.D.	50	1
GC Volatiles	**SW-846 8021B**		ug/l	ug/l	
02102	Benzene	71-43-2	N.D.	0.5	1
02102	Ethylbenzene	100-41-4	N.D.	0.5	1
02102	Toluene	108-88-3	N.D.	0.5	1
02102	Total Xylenes	1330-20-7	N.D.	1.5	1
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.	30	1
12005	HRO C24-C40 w/Si Gel	n.a.	N.D.	70	1

The reverse surrogate, capric acid, is present at <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	14063A53A	03/05/2014 21:39	Marie D Beamenderfer	1
02102	Method 8021 Water Master	SW-846 8021B	1	14063A53A	03/05/2014 21:39	Marie D Beamenderfer	1
01146	GC VOA Water Prep	SW-846 5030B	1	14063A53A	03/05/2014 21:39	Marie D Beamenderfer	1
12005	NWTPH-Dx water w/ 10g Si Gel	ECY 97-602 NWTPH-Dx modified	1	140650016A	03/11/2014 04:58	Christine E Dolman	1
12007	NW Dx water w/ 10g column	ECY 97-602 NWTPH-Dx 06/97	1	140650016A	03/07/2014 10:15	Anna E Stager	1

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Analysis Report

Sample Description: MW-3 Grab Groundwater
Facility# 303189 Job# 385862
7301 Martin Luther King Jr Way S - Seattle, WA

LL Sample # WW 7378131
LL Group # 1456163
Account # 11260

Project Name: 303189

Collected: 02/26/2014 13:28 by JP

Submitted: 02/28/2014 09:10
Reported: 03/14/2014 09:15

Chevron
6001 Bollinger Canyon Road
L4310
San Ramon CA 94583

MLKS3

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC Volatiles	**ECY 97-602 NWTPH-Gx**		**ug/l**	**ug/l**	
08274	NWTPH-Gx water C7-C12	n.a.	N.D.	50	1
GC Volatiles	**SW-846 8021B**		**ug/l**	**ug/l**	
02102	Benzene	71-43-2	1.0	0.5	1
02102	Ethylbenzene	100-41-4	0.8	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.	28	1
12005	HRO C24-C40 w/Si Gel	n.a.	N.D.	66	1

The reverse surrogate, capric acid, is present at <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	14063A53A	03/05/2014 22:06	Marie D Beamenderfer	1
02102	Method 8021 Water Master	SW-846 8021B	1	14063A53A	03/05/2014 22:06	Marie D Beamenderfer	1
01146	GC VOA Water Prep	SW-846 5030B	1	14063A53A	03/05/2014 22:06	Marie D Beamenderfer	1
12005	NWTPH-Dx water w/ 10g Si Gel	ECY 97-602 NWTPH-Dx modified	1	140650016A	03/13/2014 09:15	Christine E Dolman	1
12007	NW Dx water w/ 10g column	ECY 97-602 NWTPH-Dx 06/97	1	140650016A	03/07/2014 10:15	Anna E Stager	1

Quality Control Summary

Client Name: Chevron Group Number: 1456163
Reported: 03/14/14 at 09:15 AM

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: 14063A53A	Sample number(s): 7378129-7378131							
Benzene	N.D.	0.2	ug/l	102	100	80-120	2	30
Ethylbenzene	N.D.	0.2	ug/l	103	101	80-120	2	30
NWTPH-Gx water C7-C12	N.D.	50.	ug/l	109	110	75-135	1	30
Toluene	N.D.	0.2	ug/l	103	102	80-120	2	30
Total Xylenes	N.D.	0.2	ug/l	106	104	80-120	2	30
Batch number: 140650016A	Sample number(s): 7378130-7378131							
DRO C12-C24 w/Si Gel	N.D.	30.	ug/l	55	49	32-117	13	20
HRO C24-C40 w/Si Gel	N.D.	70.	ug/l					

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: 14063A53A

	Trifluorotoluene-P	Trifluorotoluene-F
7378129	75	68
7378130	76	68
7378131	76	75
Blank	75	68
LCS	75	77
LCSD	74	76
Limits:	51-120	63-135

Analysis Name: NWTPH-Dx water w/ 10g Si Gel
Batch number: 140650016A

	Orthoterphenyl
7378130	75
7378131	84
Blank	69
LCS	76
LCSD	70

*- 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
Group Number: 1456163
Reported: 03/14/14 at 09:15 AM

Surrogate Quality Control

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

eurofins | Lancaster Laboratories

Acct. # 11260 For Eurofins Lancaster Laboratories use only Group # 1456163 Sample # 7378129-31

Instructions on reverse side correspond with circled numbers.

(1) Client Information

Facility # SS#303189-OML G-R#385862 WBS

Site Address 7301 Martin Luther King Jr. Way South, SEATTLE, WA

Chevron PM MHO Lead Consultant LEIDOSRO Ruth Ottemann

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 J. PAYNE

(2) Sample Identification | Collected Date | Collected Time | **(3)** Grab | Composite

(4) Matrix: Soil ☐ | Sediment ☐ | Potable ☐ | Ground ☑ | NPDES ☐ | Surface ☐ | Water | Oil ☐ | Air ☐

(5) Analyses Requested: Total Number of Containers | BTEX + MTBE 8021 ☑ | Naphth 8260 ☑ | 8260 full scan | Oxygenates ____ | NWTPH-Gx | NWTPH-Dx with Silica Gel Cleanup ☑ | NWTPH-Dx without Silica Gel Cleanup ☐ | WA VPH ☐ | WA EPH ☐ | Lead Total ☐ Diss. ☐ Method ____

Sample Identification	Collected Date	Collected Time	Grab	Composite	Soil	Sediment	Potable	Ground	NPDES	Surface	Water	Oil	Air	Total Number of Containers	BTEX + MTBE 8021	Naphth 8260	8260 full scan	Oxygenates	NWTPH-Gx	NWTPH-Dx with Silica Gel Cleanup	NWTPH-Dx without Silica Gel Cleanup	WA VPH	WA EPH	Lead Total	Lead Diss.	Method
QA	2.26		X					X				2			X				X							
MW-1		1231	X					X				5			X				X	X						
MW-3		1328	X					X				5			X				X	X						

SCR #: _____

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

(6) Remarks

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

NO MTBE

8021

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

Standard | 5 day | 4 day | 72 hour | 48 hour | 24 hour | EDF/EDD

Relinquished by	Date	Time	Received by	Date	Time
	2.27.14	1430			
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-FI_05 (default)

Other: _____

Relinquished by Commercial Carrier: UPS X FedEx _____ Other _____

Received by | Date 2/28/14 | Time 0940

Temperature Upon Receipt 0 3 3.2 °C

Custody Seals Intact? (Yes) No

(9)

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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 limit of quantitation, 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 ≥ 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 ≥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.