FS: 2132059

Raplee Property
Stanwood
Release 591953
VCP NW1644

SAIC

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DEC 12 2011
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December 6, 2011

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

Subject: **Second Semiannual 2011 Groundwater Monitoring and Sampling Report**
Former Chevron Service Station No. 30-5192
9816 271st Street Northwest
Stanwood, Washington

Dear Mr. Mark Horne:

SAIC Energy, Environment & Infrastructure, LLC (SAIC), on behalf of Chevron Environmental Management Company (CEMC), prepared this letter summarizing the second semiannual 2011 groundwater monitoring and sampling event at former Chevron Service Station No. 30-5192 (the site) in Stanwood, Washington (Figure 1).

FIELD ACTIVITIES

Gettler-Ryan Inc. (Gettler-Ryan) conducted the groundwater monitoring and sampling field event on August 5, 2011. They collected depth-to-groundwater measurements and checked for the presence of separate-phase hydrocarbons (SPH) in four monitoring wells on site.

Groundwater samples were collected from three of the four monitoring wells. Monitoring well MW-4 was not sampled due to the presence of SPH. Samples were submitted to Lancaster Laboratories, Inc. in Pennsylvania for the following analyses:

- Total petroleum hydrocarbons (TPH) as gasoline-range organics (TPH-GRO) by Washington State Department of Ecology (Ecology) Method NWTPH-Gx;
- TPH as diesel-range organics (TPH-DRO) and TPH as heavy oil-range organics (TPH-HRO) by Ecology Method NWTPH-Dx extended with silica-gel cleanup; and
- Benzene, toluene, ethylbenzene, and total xylenes (BTEX), and methyl tert-butyl ether (MTBE) by United States Environmental Protection Agency Method 8021B.

A laboratory-supplied trip blank (QA) was submitted to the laboratory and analyzed for TPH-GRO, BTEX, and MTBE to provide quality assurance. Field data sheets are

SAIC Energy, Environment & Infrastructure, LLC
18912 North Creek Parkway | Suite 101 | Bothell, WA 98011 | tel: (425) 485-5800 | fax: (425) 485-5566 | saic.com\eeandi

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

FINDINGS

At the time of this monitoring event, groundwater elevations ranged from 97.61 feet in monitoring well MW-2 to 95.66 feet in monitoring well MW-4, based on an arbitrary benchmark elevation of 100.00 feet. Groundwater flows toward the west-northwest at a gradient of approximately 0.01 to 0.04 feet per foot (Figure 2). Groundwater elevations decreased an average of 0.45 foot since the previous semiannual monitoring event in January 2011.

SPH were detected in monitoring well MW-4 at a thickness of 0.02 foot.

The following analytes were detected at concentrations exceeding their respective Model Toxics Control Act Method A cleanup levels:

- TPH-DRO were detected in monitoring well MW-2; and
- TPH-HRO were detected in monitoring well MW-2.

Historical groundwater elevation data and laboratory analytical results are summarized in Table 1. The laboratory analysis report is provided as Attachment B.

DISCUSSION

Groundwater elevations and potential flow direction are consistent with historical data reported at the site.

SPH were detected in monitoring well MW-4 for the first time since sampling began on the site in April of 2006.

Petroleum-hydrocarbon constituent concentrations are generally consistent with previous events and mainly consist of TPH-DRO and TPH-HRO. These detections are most likely associated with the underground storage tanks that were used for waste oil by a previous tenant (not Standard Oil) or a leaking off-property heating oil tank.

Gettler-Ryan will continue to perform groundwater monitoring and sampling on a semiannual basis. The next groundwater monitoring and sampling event is scheduled for January 2012.

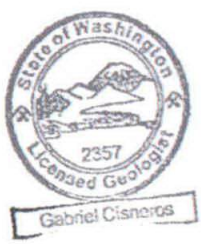
If you have any questions or comments, please contact me at (425) 482-3319 or via email at langem@saic.com.

Sincerely,

SAIC Energy, Environment & Infrastructure, LLC

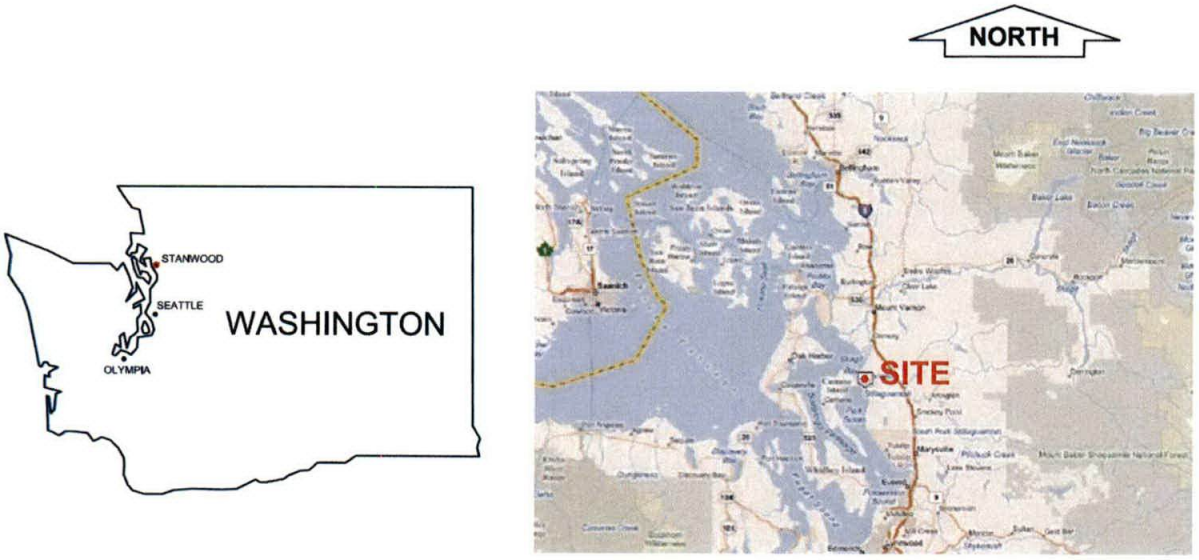
Michael Lange
Northwest Portfolio Manager

Gabriel Cisneros, LG #2357
Geologist

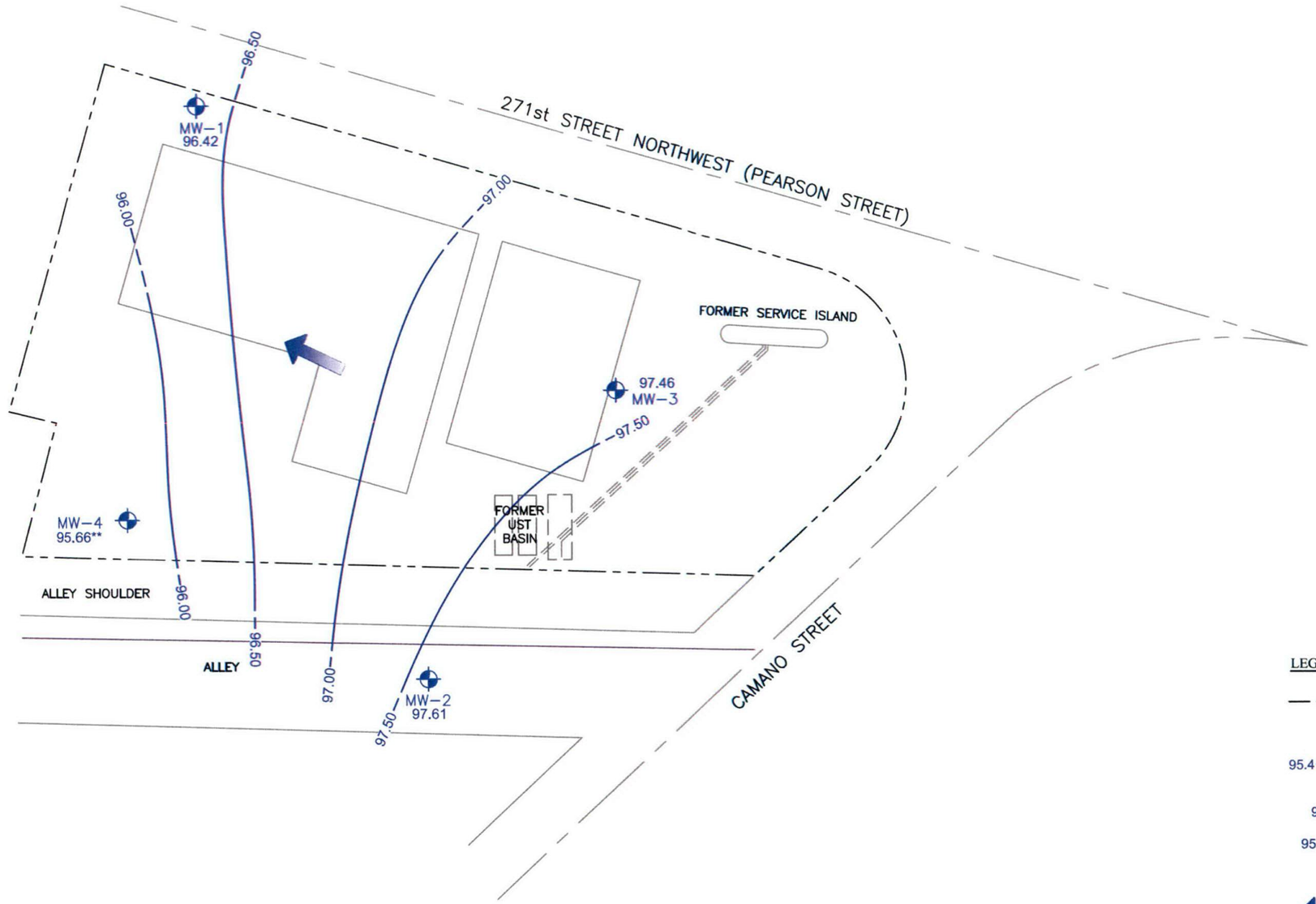


Enclosures:
Figure 1 – Vicinity Map
Figure 2 – Potentiometric Map
Table 1 – Groundwater Monitoring Data and Analytical Results
Attachment A – Groundwater Monitoring and Sampling Data Package
Attachment B – Laboratory Analysis Report

cc: Ms. Donna Musa – Ecology NW Region, Toxics Cleanup Program
3190 160th Avenue SE, Bellevue, WA 98008-5452
Mr. Wayne Raplee – Property Owner
14115 70th Avenue NW, Stanwood, WA 98292
Mr. Joshua Lipsky – Cascadia Law Group PLLC
1201 Third Avenue, Suite 320, Seattle, WA 98101
Project File



SAIC	Former Chevron Service Station No. 30-5192 9816 271st Street Northwest Stanwood, Washington	FIGURE 1 Vicinity Map FILE NAME: 30-5192_VM2010.dwg DATE: 10/05/2011



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LEGEND

- Property Line
- Monitoring Well Location
- 95.4 — Groundwater Elevation Contour at a 0.50 Foot Interval (Dashed Where Inferred)
- 95.69 — Groundwater Elevation in Feet
- 95.69** — Groundwater Elevation Corrected for the Presence of Separate Phase Hydrocarbons (SPH)
- Approximate Groundwater Flow Direction at a Gradient of 0.04 to 0.01

SAIC

Former Chevron Service Station No. 30-5192
9816 271st Street Northwest
Stanwood, Washington

FIGURE 2
Potentiometric Map
August 5, 2011

FILE NAME: 30-5192_PotentiometricMap.dwg

DATE: 10/26/2011

TABLE 1
GROUNDWATER MONITORING DATA AND ANALYTICAL RESULTS
FORMER CHEVRON SERVICE STATION NO. 30-5192
9816 271st Street Northwest
Stanwood, Washington
Concentrations reported in µg/L

Well ID/ Date	Purge Method	TOC* (ft.)	DTP (ft.)	DTW (ft.)	SPHT (ft.)	GWE (ft.)	TPH-DRO	TPH-HRO	TPH-GRO	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	D. Lead
MW-1															
04/10/06		98.32	--	1.81	--	96.51	--	--	--	--	--	--	--	--	--
05/03/06		98.32	--	--	--	--	310[1]	120[1]	<240	<2.5	<2.5	4.7	11	<13	<0.87
08/02/06	PER	98.32	--	2.96	--	95.36	260[1]	330[1]	<48	<0.5	<0.5	<0.5	<1.5	<2.5	--
10/10/06	PER	98.32	--	2.55	--	95.77	150[1]	<100[1]	<48	<0.5	<0.5	<0.5	<1.5	<2.5	--
01/15/07	PER	98.32	--	1.64	--	96.68	<160[1]	<200[1]	<240	<2.5	<2.5	<2.5	<7.5	<13	--
04/25/07	PER	98.32	--	1.58	--	96.74	190[1]	130[1]	<50	<0.5	<0.5	<0.5	<1.5	<2.5	--
07/15/07	PER	98.32	--	2.58	--	95.74	<81[1]	<100[1]	<500	<5.0	<5.0	<5.0	<15	<25	--
10/03/07	PER	98.32	--	3.00	--	95.32	130[1]	<100[1]	<250	<2.5	<2.5	<2.5	<7.5	<13	--
01/03/08		98.32	--	2.51	--	95.81	130[1]	<100[1]	<50	<0.5	<0.5	<0.5	<1.5	<2.5	--
02/28/09	LFP	98.32	--	3.27	--	95.05	**610**[1]	**610**[1]	<50	<0.5	<0.5	<0.5	<1.5	<2.5	--
07/22/09	LFP	98.32	--	4.43	--	93.89	**650**[1]	**720**[1]	<50	<0.5	<0.5	<0.5	<1.5	<2.5	--
01/08/10	LFP	98.32	--	3.32	--	95.00	350[1]	160[1]	<50	<0.5	<0.5	<0.5	<1.5	<2.5	--
07/20/10	LFP	98.32	--	3.02	--	95.30	130[1]	100[1]	<50	<0.5	<0.5	<0.5	<1.5	<2.5	--
01/21/11	LFP	98.32	--	1.71	--	96.61	<160[1,4]	**650**[1]	<50	<0.5	<0.5	<0.5	<1.5	<2.5	--
08/05/11	LFP	98.32	--	1.90	--	96.42	190[1]	130[1]	<50	<0.5	<0.5	<0.5	<1.5	<2.5	--
MW-2															
04/10/06		99.58	--	2.29	--	97.29	--	--	--	--	--	--	--	--	--
05/03/06		99.58	--	--	--	--	**1,400**[1]	**560**[1]	<240	**13**	<2.5	<2.5	<7.5	<13	<0.87
08/02/06	PER	99.58	--	2.98	--	96.60	**2,000**[1]	**1,800**[1]	220	**20**	<0.5	<0.5	1.6	<2.5	--
10/10/06	PER	99.58	--	3.64	--	95.94	**1,400**[1]	**790**[1]	<240	**16**	<2.5	<2.5	<7.5	<13	--
01/15/07	PER	99.58	--	2.08	--	97.50	**810**[1]	270[1]	<240	**9.3**	<2.5	<2.5	<7.5	<13	--
04/25/07	PER	99.58	--	2.16	--	97.42	**830**[1]	480[1]	250	**13**	<0.5	<0.5	<1.5	<2.5	--
07/15/07	PER	99.58	--	2.95	--	96.63	**7,800**[1,3]	<1,000[1,3]	<500	**13**	<5.0	<5.0	<15	<25	--
10/03/07	PER	99.58	--	3.44	--	96.14	**1,600**[1]	**1,100**[1]	<250	**4.9**	<2.5	<2.5	<7.5	<13	--
01/03/08		99.58	--	2.32	--	97.26	**1,400**[1]	**800**[1]	460	**6.7**	1.0	<0.5	<1.5	<2.5	--
02/28/09	LFP	99.58	--	2.89	--	96.69	**2,700**[1]	**2,800**[1]	450	2.5	0.6	<0.5	<1.5	<2.5	--
07/22/09	LFP	99.58	--	3.33	--	96.25	**2,500**[1]	**4,000**[1]	360	1.1	0.8	<0.5	1.5	<2.5	--
01/08/10	LFP	99.58	--	2.90	--	96.68	**1,800**[1]	**1,400**[1]	470	<0.5	0.5	0.7	<1.5	<2.5	--
07/20/10	LFP	99.58	--	2.88	--	96.70	**2,000**[1]	**1,600**[1]	420	<0.5	0.8	<0.5	<1.5	<2.5	--
01/21/11	LFP	99.58	--	2.07	--	97.51	**2,000**[1]	**1,900**[1]	390	<0.5	<0.5	0.6	<1.5	<2.5	--
08/05/11	LFP	99.58	--	1.97	--	97.61	**830**[1]	**880**[1]	<250[4]	<2.5[4]	<2.5[4]	<2.5[4]	<7.5[4]	<13[4]	--

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TABLE 1
GROUNDWATER MONITORING DATA AND ANALYTICAL RESULTS
FORMER CHEVRON SERVICE STATION NO. 30-5192
9816 271st Street Northwest
Stanwood, Washington
Concentrations reported in µg/L

Well ID/ Date	Purge Method	TOC* (ft.)	DTP (ft.)	DTW (ft.)	SPHT (ft.)	GWE (ft.)	TPH-DRO	TPH-HRO	TPH-GRO	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	D. Lead
MW-3															
04/10/06		99.16	--	0.40	--	98.76	--	--	--	--	--	--	--	--	--
05/03/06		99.16	--	--	--	--	**580**[1]	240[1]	<240	<2.5	<2.5	<2.5	<7.5	<13	<0.87
08/02/06	PER	99.16	--	2.61	--	96.55	350[1]	380[1]	<48	<0.5	<0.5	<0.5	<1.5	<2.5	--
10/10/06	PER	99.16	--	2.75	--	96.41	310[1]	140[1]	<48	<0.5	<0.5	<0.5	<1.5	<2.5	--
01/15/07	PER	99.16	--	0.50	--	98.66	250[1]	<100[1]	<240	<2.5	<2.5	<2.5	<7.5	<13	--
04/25/07	PER	99.16	--	0.84	--	98.32	260[1]	110[1]	<50	<0.5	<0.5	<0.5	<1.5	<2.5	--
07/15/07	PER	99.16	--	2.16	--	97.00	250[1]	150[1]	<500	<5.0	<5.0	<5.0	<15	<25	--
10/03/07	PER	99.16	--	2.68	--	96.48	330[1]	260[1]	<250	<2.5	<2.5	<2.5	<7.5	<13	--
01/03/08		99.16	--	1.62	--	97.54	280[1]	210[1]	<50	<0.5	<0.5	<0.5	<1.5	<2.5	--
02/28/09	LFP	99.16	--	1.56	--	97.60	290[1]	190[1]	<50	<0.5	<0.5	<0.5	1.6	<2.5	--
07/22/09	LFP	99.16	--	3.11	--	96.05	**780**[1]	**830**[1]	<50	<0.5	<0.5	<0.5	<1.5	<2.5	--
01/08/10	LFP	99.16	--	2.83	--	96.33	**680**[1]	360[1]	<50	<0.5	<0.5	<0.5	<1.5	<2.5	--
07/20/10	LFP	99.16	--	1.92	--	97.24	330[1]	190[1]	<50	<0.5	<0.5	<0.5	<1.5	<2.5	--
01/21/11	LFP	99.16	--	1.63	--	97.53	<160[1,4]	**630**[1]	<50	<0.5	<0.5	<1.5	<1.5	<2.5	--
08/05/11	LFP	99.16	--	1.70	--	97.46	230[1]	210[1]	<50	<0.5	<0.5	<0.5	<1.5	<2.5	--
MW-4															
04/10/06		100.00	--	2.08	--	97.92	--	--	--	--	--	--	--	--	--
05/03/06		100.00	--	--	--	--	**7,900**[1]	<1,000[1]	<240	<2.5	<2.5	<2.5	<7.5	<13	<0.87
08/02/06	PER	100.00	--	3.57	--	96.43	**7,300**[1]	<1,000[1]	73	<0.5	<0.5	<0.5	2.8	<2.5	--
10/10/06[2]	PER	100.00	--	4.28	--	95.72	**7,900**[1]	**2,200**[1]	<48	<0.5	<0.5	<0.5	<1.5	<2.5	--
01/15/07[2]	PER	100.00	--	2.98	--	97.02	**8,300**[1]	**3,000**[1]	<240	<2.5	<2.5	<2.5	<7.5	<13	--
04/25/07[2]	PER	100.00	--	4.35	--	95.65	**9,300**[1]	**2,000**[1]	89	<0.5	<0.5	<0.5	<1.5	<2.5	--
07/15/07	PER	100.00	--	4.06	--	95.94	**850**[1,3]	320[1,3]	<500	<5.0	<5.0	<5.0	<15	<25	--
10/03/07	PER	100.00	--	4.22	--	95.78	**8,500**[1]	<2,100[1]	<250	<2.5	<2.5	<2.5	<7.5	<13	--
01/03/08		100.00	--	3.98	--	96.02	**9,100**[1]	**2,200**[1]	61	<0.5	<0.5	<0.5	<1.5	<2.5	--
02/28/09	LFP	100.00	--	3.44	--	96.56	**5,400**[1]	**2,100**[1]	56	<0.5	<0.5	<0.5	<1.5	<2.5	--
07/22/09	LFP	100.00	--	3.30	--	96.70	**14,000**[1]	**7,600**[1]	100	<0.5	<0.5	<0.5	<1.5	<2.5	--
01/08/10	LFP	100.00	--	3.51	--	96.49	**13,000**[1]	**18,000**[1]	75	<0.5	<0.5	<0.5	<1.5	<2.5	--
07/20/10	LFP	100.00	--	4.31	--	95.69	**12,000**[1]	**13,000**[1]	69	<0.5	<0.5	<0.5	<1.5	<2.5	--
01/21/11	LFP	100.00	--	2.71	--	97.29	**14,000**[1]	<1,800[1]	50	<0.5	<0.5	<0.5	<1.5	<2.5	--
8/5/11**	LFP	100.00	4.34	4.36	0.02	95.66**	UNABLE TO SAMPLE DUE TO PRESENCE OF SPH					--	--	--	--

SAIC

TABLE 1
GROUNDWATER MONITORING DATA AND ANALYTICAL RESULTS
FORMER CHEVRON SERVICE STATION NO. 30-5192
9816 271st Street Northwest
Stanwood, Washington
Concentrations reported in µg/L

Well ID/ Date	Purge Method	TOC* (ft.)	DTP (ft.)	DTW (ft.)	SPHT (ft.)	GWE (ft.)	TPH-DRO	TPH-HRO	TPH-GRO	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	D. Lead
TRIP BLANK QA															
05/03/06		--		--		--	--	--	<48	<0.5	<0.5	<0.5	<1.5	<2.5	--
08/02/06		--		--		--	--	--	<48	<0.5	<0.5	<0.5	<1.5	<2.5	--
10/10/06		--		--		--	--	--	<48	<0.5	<0.5	<0.5	<1.5	<2.5	--
01/15/07		--		--		--	--	--	<48	<0.5	<0.5	<0.5	<1.5	<2.5	--
04/25/07		--		--		--	--	--	<50	<0.5	<0.5	<0.5	<1.5	<2.5	--
07/15/07		--		--		--	--	--	<50	<0.5	<0.5	<0.5	<1.5	<2.5	--
10/03/07		--		--		--	--	--	<50	<0.5	<0.5	<0.5	<1.5	<2.5	--
01/03/08		--		--		--	--	--	<50	<0.5	<0.5	<0.5	<1.5	<2.5	--
02/28/09		--		--		--	--	--	<50	<0.5	<0.5	<0.5	<1.5	<2.5	--
07/22/09		--		--		--	--	--	<50	<0.5	<0.5	<0.5	<1.5	<2.5	--
01/08/10		--		--		--	--	--	<50	<0.5	<0.5	<0.5	<1.5	<2.5	--
07/20/10		--		--		--	--	--	<50	<0.5	<0.5	<0.5	<1.5	<2.5	--
01/21/11		--		--		--	--	--	<50	<0.5	<0.5	<0.5	<1.5	<2.5	--
08/05/11		--		--		--	--	--	<50	<0.5	<0.5	<0.5	<1.5	<2.5	--
Standard Laboratory Reporting Limits:							--	--	50	0.5	0.5	0.5	1.5	2.5	0.001
MTCA Method A CULs:							500	500	800/1,000	5	1,000	700	1,000	20	--
Current Method:							NWTPH-Dx + Extended		NWTPH-Gx and USEPA 8021B						USEPA 7421

EXPLANATIONS:

Analytical results in bold font indicate concentrations exceed MTCA Method A CULs.

CULs = Cleanup levels
D. Lead = Dissolved Lead
DTP = Depth to Product
DTW = Depth to Water
(ft.) = Feet
GWE = Groundwater Elevation
LFP = Low Flow Purge
MTBE = Methyl Tertiary Butyl Ether
MTCA = Model Toxics Control Act
PER = Peristaltic Pump
QA = Quality Assurance/Trip Blank
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
-- = Not Measured/Not Analyzed

* TOC elevations are expressed in feet relative to an arbitrary datum.

** GWE has been corrected for the presence of SPH; correction factor: [(TOC - DTW) + (SPHT x 0.80)].

1 Analyzed with silica-gel cleanup.

2 Incorrect TOC used to calculate GWE in past reports (99.16). Correct TOC is shown.

3 Current laboratory analytical results do not coincide with historical data; samples may have been switched in the field.

4 Reporting limits were raised due to interference from the sample matrix or sample foaming.

SAIC

Attachment A:
Groundwater Monitoring and Sampling Data Package

GETTLER-RYAN INC.

TRANSMITTAL

August 16, 2011
G-R #387100

TO: Mr. Michael Lange
SAIC
18912 North Creek Parkway, Ste. 101
Bothell, Washington 98011

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

RE: Former Chevron Service Station
#305192
9816 271st Street Northwest
Stanwood, Washington

WE HAVE ENCLOSED THE FOLLOWING:

COPIES	DESCRIPTION
VIA PDF	Groundwater Monitoring and Sampling Data Package **Second Semi-Annual Event of August 5, 2011**

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/305192

GETTLER-RYAN INC.

CHEVRON - SITE CHECK LIST

Facility#:	#305192
Address:	9816 271St Street Nw
City/St.:	Stanwood,WA
Status of Site:	FENCED VACANT LOT & 1 WELL OUTSIDE OF FENCE

Date: 8.5.11

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

#	Description	Condition	Labeling	Contents	Location
	NO DM'S				

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	REP	GOOD	GOOD	8" MORRIS x2	RETAP
MW-2	↓	REP	GOOD	GOOD	8" MORRIS x2	RETAP
MW-3		M x2	GOOD	GOOD	8" MORRIS x3	2 BROKEN
MW-4		GOOD	GOOD	GOOD	8" MORRIS x2	—

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. 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 without 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; 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. If the in-line flow cell is to be used, purging is discontinued once the ODR is determined, and the inline flow cell is connected. Purging is then resumed and the ODR is adjusted to allow for the back pressure of the in-line flow cell.

Purging and Water Quality Parameter Measurement

Prior to sampling the well, the SWL will be re-measured and documented and purging will be re-initiated using the ODR. The discharge rate will be confirmed by volumetric discharge measurement and the ODR adjusted as necessary. When the ODR has been re-established, the SWL drawdown has stabilized within the acceptable range and at least 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 there is no change in the SWL drawdown, groundwater sample collection may begin. 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 #305192 Job Number: 387100
Site Address: 9816 271St Street Nw Event Date: ~~8.4.11~~ 8.5.11 (inclusive)
City: Stanwood,WA Sampler: J.Payne

Well ID MW-1 Date Monitored: 8.5.11
Well Diameter 1.5 in.
Total Depth 14.16 ft.
Depth to Water ~~1.98~~ 1.90 ☐ Check if water column is less then 0.50 ft.
12.26 xVF .092 = 1.1 x3 case volume = Estimated Purge Volume: 3.38 gal.
Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: _____

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

Purge Equipment:
Disposable Bailer _____
Stainless Steel Bailer _____
Stack Pump _____
Suction Pump _____
Grundfos _____
Peristaltic Pump ✓
QED Bladder Pump _____
Other: _____

Sampling Equipment:
Disposable Bailer _____
Pressure Bailer _____
Discrete Bailer _____
Peristaltic Pump ✓
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): 0830 Weather Conditions: OVERCAST · LIGHT RAIN
Sample Time/Date: 0900 / 8.5.11 Water Color: CLEAR Odor: Y / (N)
Approx. Flow Rate: ~~200~~ ~~gpm~~ mL/pm Sediment Description: NONE
Did well de-water? NO If yes, Time: — Volume: — gal. DTW @ Sampling: 5.28

Time (2400 hr.)	Volume ~~(gal.)~~ mL/pm	pH	Conductivity (µmhos/cm (µS))	Temperature (C) / F)	D.O. (mg/L)	ORP (mV)	Gauge DTW as parameters are recorded
0848	3.6	8.27	1808	9.1	0	-189.9	5.26
0851	4.2	8.27	1.487	9.2	0	-189.7	5.31
0854	4.8	8.27	1.809	9.2	0	-189.8	5.28

LABORATORY INFORMATION

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

COMMENTS: 8" Manhole x 2 POOR RECHARGE RETURN

Add/Replaced Lock: _____ Add/Replaced Plug: _____ Add/Replaced Bolt: x2

GETTLER-RYAN INC.

WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility#: Chevron #305192 | Job Number: 387100
Site Address: 9816 271St Street Nw | Event Date: 8.5.11 (inclusive)
City: Stanwood,WA | Sampler: J.PAYNE

Well ID: MW-2
Well Diameter: 1.5 in. .Ø92
Total Depth: 14.18 ft.
Depth to Water: 1.97 ft.
12.21 xVF ___ = ___ x3 case volume = Estimated Purge Volume: ___ gal.
Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 4.41

Date Monitored: 8.5.11

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.

Purge Equipment:

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

Sampling Equipment:

Disposable Bailer	
Pressure Bailer	
Discrete Bailer	
Peristaltic Pump	✓
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): 1015
Sample Time/Date: 1045 / 8.5.11
Approx. Flow Rate: 200 ~~gpm~~ mL/pm
Did well de-water? NO If yes, Time: — Volume: — gal. DTW @ Sampling: 4.31

Weather Conditions: OVERCAST · RAIN
Water Color: CLOUDY Odor: (Y) N MILD
Sediment Description: LIGHT · GREY

Time (2400 hr.)	Volume ~~(gal.)~~ mL/Pm	pH	Conductivity (µmhos/cm (µS))	Temperature (C / F)	D.O. (mg/L)	ORP (mV)	Gauge DTW as parameters are recorded
1033	3,600	6.62	.760	12.1	Ø	-182.Ø	4.32
1036	4,200	6.62	.760	12.2	Ø	-182.3	4.31
1039	4,800	6.62	.760	12.2	Ø	-182.1	4.31

LABORATORY INFORMATION

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

COMMENTS: 8" Morris x2 RETAPPED LIGHT SHEEN

Add/Replaced Lock: ___ Add/Replaced Plug: ___ Add/Replaced Bolt: x2

GETTLER-RYAN INC.

WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility#: **Chevron #305192** Job Number: **387100**

Site Address: **9816 271St Street Nw** Event Date: 8.5.11 (inclusive)

City: **Stanwood,WA** Sampler: J.Payne

Well ID **MW-3**

Well Diameter 1.5 in. .092

Total Depth 13.62 ft.

Depth to Water 1.70 ft.

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

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 4.08

Date Monitored: 8.5.11

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.

Purge Equipment:

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

Sampling Equipment:

Disposable Bailer	
Pressure Bailer	
Discrete Bailer	
Peristaltic Pump	✓
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): 0915 Weather Conditions: Overcast · Rain

Sample Time/Date: 0945 / 8.5.11 Water Color: CLEAR Odor: Y / (N)

Approx. Flow Rate: 200 ~~gpm~~ mL/min Sediment Description: None

Did well de-water? NO If yes, Time: — Volume: — gal. DTW @ Sampling:

Time (2400 hr.)	Volume ~~(gal.)~~ mL/min	pH	Conductivity (µmhos/cm (µS))	Temperature (C / F)	D.O. (mg/L)	ORP (mV)	Gauge DTW as parameters are recorded
0933	3,600	8.14	.946	9.5	0	-185.9	4.21
0936	4,200	8.15	.944	9.6	0	-185.6	4.19
0939	4,800	8.15	.944	9.6	0	-185.7	4.20

LABORATORY INFORMATION

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

COMMENTS: 8" Morris x3 - 2-Broken Flanges, well HD is secured w/ 1 Bolt

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

GETTLER-RYAN INC.

WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility#: Chevron #305192 Job Number: 387100
Site Address: 9816 271St Street Nw Event Date: 8.5.11 (inclusive)
City: Stanwood,WA Sampler: J.PAYNE

Well ID MW-4 Date Monitored: ~~8.8~~ 8.5.11
Well Diameter 1.5 in.
Total Depth 13.71 ft.
Depth to Water 4.36 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.

____ 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
Suction Pump
Grundfos
Peristaltic Pump
QED Bladder Pump
Other:

Sampling Equipment:
Disposable Bailer
Pressure Bailer
Discrete Bailer
Peristaltic Pump
QED Bladder Pump
Other:

Time Started: — (2400 hrs)
Time Completed: — (2400 hrs)
Depth to Product: 4.34 ft
Depth to Water: 4.36 ft
Hydrocarbon Thickness: .02 ft
Visual Confirmation/Description: THICK · YELLOWISH · BROWN
~~Skimmer / Absorbent Sock~~ (circle one)
Amt Removed from Skimmer: — gal
Amt Removed from Well: — gal
Water Removed: —
Product Transferred to: —

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

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µmhos/cm - µS)	Temperature (C / F)	D.O. (mg/L)	ORP (mV)	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+MTBE(8021)
	x 1 liter ambers	YES	HCL	LANCASTER	NWTPH-Dx w/sg

COMMENTS: 8" MORRIS x2 DETECTED SPH @ 4.34, USING INTERFACE PROBE, THICK · YELLOWISH · BROWN

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

Chevron Northwest Region Analysis Request/Chain of Custody

Lancaster Laboratories

For Lancaster Laboratories use only

Acct. #: _____ Group #: _____ Sample #: _____

SCR #: _____

~~SS#305192-OML G-R#387100~~

Facility #: _____ WBS: _____

Site Address: 9816 271st Street NW, STANWOOD, WA

Chevron PM: MGA Lead Consultant: SAICML Lange

Consultant/Office: G-R, Inc., 6747 Sierra Court, Suite J, Dublin, CA 94568

Consultant Prj. Mgr.: Deanna L. Harding (deanna@grinc.com)

Consultant Phone #: 925-551-7555 Fax #: 925-551-7899

Sampler: J. Payne

Sample Identification	Date Collected	Time Collected	Grab	Composite	Matrix: Soil	Matrix: Water	Matrix: Oil ☐ Air ☐	Total Number of Containers	BTEX + MTBE 8021 ☐ 8260 ☐ Naphth ☐	8260 full scan	Oxygenates	NWTPH GX	NWTPH DX ☐ Silica Gel Cleanup	Lead Total ☐ Diss. ☐ Method	☐ WAVPH ☐ WAEPH	NWTPH H HCID ☐ quantification
G.A	8.5.11		X			X		1	X			X				
MW-1		0900	X			X		5	X			X	X			
MW-2		1045	X			X		5	X			X	X			
MW-3		0945	X			X		5	X			X	X			

Analyses Requested / Preservation Codes

- ☐ 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

Comments /Remarks

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

Turnaround Time Requested (TAT) (please circle)

(STD. TAT) 72 hour 48 hour

24-hour 4 day 5 day

EDF/EDD

Data Package Options (please circle if required)

QC Summary Type I – Full

Type VI (Raw Data)

	Date	Time		Date	Time
Relinquished by:	8.5.11	1600	Received by:		
Relinquished by:			Received by:		
Relinquished by:			Received by:		
Relinquished by Commercial Carrier: UPS FedEx Other			Received by:		
Temperature Upon Receipt ____ C°			Custody Seals Intact? Yes No		

Attachment B:
Laboratory Analysis Report

Lancaster Laboratories

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

Analysis Report

ANALYTICAL RESULTS

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

Prepared for:

Chevron
6001 Bollinger Canyon Road
L4310
San Ramon CA 94583

August 25, 2011

Project: 305192

Submittal Date: 08/13/2011
Group Number: 1261603
PO Number: 0015080810
Release Number: BAUHS
State of Sample Origin: WA

Client Sample Description	Lancaster Labs (LLI) #
QA Water Sample	6375468
MW-1 Grab Water Sample	6375469
MW-2 Grab Water Sample	6375470
MW-3 Grab Water Sample	6375471

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

ELECTRONIC COPY TO	SAIC c/o Gettler-Ryan	Attn: Rachelle Munoz
ELECTRONIC COPY TO	SAIC	Attn: Mike Lange
ELECTRONIC COPY TO	SAIC	Attn: Jamalyn Green

Lancaster Laboratories

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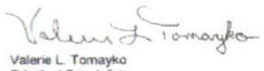
Analysis Report

Questions? Contact your Client Services Representative
Jill M Parker at (717) 656-2300 Ext. 1241

Respectfully Submitted,



Valerie L. Tomayko
Principal Specialist

Lancaster Laboratories

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

Analysis Report

Sample Description: QA Water Sample
Facility# 305192 Job# 387100
9816 271st Street NW - Stanwood, WA

LLI Sample # WW 6375468
LLI Group # 1261603
Account # 11260

Project Name: 305192

Collected: 08/05/2011

Submitted: 08/13/2011 10:30
Reported: 08/25/2011 07:38

Chevron
6001 Bollinger Canyon Road
L4310
San Ramon CA 94583

STNQA

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	Methyl tert-Butyl Ether	1634-04-4	N.D.	2.5	1
02102	Toluene	108-88-3	N.D.	0.5	1
02102	Total Xylenes	1330-20-7	N.D.	1.5	1

General Sample Comments

State of Washington Lab Certification No. C259

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
08274	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	11228A53A	08/17/2011 23:03	Catherine J Schwarz	1
02102	Method 8021 Water Master	SW-846 8021B	1	11228A53A	08/17/2011 23:03	Catherine J Schwarz	1
01146	GC VOA Water Prep	SW-846 5030B	1	11228A53A	08/17/2011 23:03	Catherine J Schwarz	1

Lancaster Laboratories

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Analysis Report

Sample Description: MW-1 Grab Water Sample
Facility# 305192 Job# 387100
9816 271st Street NW - Stanwood, WA

LLI Sample # WW 6375469
LLI Group # 1261603
Account # 11260

Project Name: 305192

Collected: 08/05/2011 09:00 by JP

Submitted: 08/13/2011 10:30
Reported: 08/25/2011 07:38

Chevron
6001 Bollinger Canyon Road
L4310
San Ramon CA 94583

STN01

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	Methyl tert-Butyl Ether	1634-04-4	N.D.	2.5	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	**ECY 97-602 NWTPH-Dx modified**		**ug/l**	**ug/l**	
02211	DRO C12-C24 w/Si Gel	n.a.	190	30	1
02211	HRO C24-C40 w/Si Gel	n.a.	130	70	1

General Sample Comments

State of Washington Lab Certification No. C259

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
08274	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	11228A53A	08/18/2011 07:31	Catherine J Schwarz	1
02102	Method 8021 Water Master	SW-846 8021B	1	11228A53A	08/18/2011 14:43	Catherine J Schwarz	1
01146	GC VOA Water Prep	SW-846 5030B	1	11228A53A	08/18/2011 07:31	Catherine J Schwarz	1
01146	GC VOA Water Prep	SW-846 5030B	2	11228A53A	08/18/2011 14:43	Catherine J Schwarz	1
02211	NWTPH-Dx water w/Si Gel	ECY 97-602 NWTPH-Dx modified	1	112300015A	08/19/2011 18:41	Glorines Suarez-Rivera	1
02135	Extraction - DRO Water Special	ECY 97-602 NWTPH-Dx 06/97	1	112300015A	08/19/2011 01:00	Sherry L Morrow	1

Lancaster Laboratories

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Analysis Report

Sample Description: MW-2 Grab Water Sample
Facility# 305192 Job# 387100
9816 271st Street NW - Stanwood, WA

LLI Sample # WW 6375470
LLI Group # 1261603
Account # 11260

Project Name: 305192

Collected: 08/05/2011 10:45 by JP

Submitted: 08/13/2011 10:30
Reported: 08/25/2011 07:38

Chevron
6001 Bollinger Canyon Road
L4310
San Ramon CA 94583

STN02

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.	250	1
	Reporting limits were raised due to sample foaming.				
GC Volatiles	**SW-846 8021B**		**ug/l**	**ug/l**	
02102	Benzene	71-43-2	N.D.	2.5	1
02102	Ethylbenzene	100-41-4	N.D.	2.5	1
02102	Methyl tert-Butyl Ether	1634-04-4	N.D.	13	1
02102	Toluene	108-88-3	N.D.	2.5	1
02102	Total Xylenes	1330-20-7	N.D.	7.5	1
	Reporting limits were raised due to sample foaming.				
GC Petroleum Hydrocarbons	**ECY 97-602 NWTPH-Dx modified**		**ug/l**	**ug/l**	
02211	DRO C12-C24 w/Si Gel	n.a.	830	29	1
02211	HRO C24-C40 w/Si Gel	n.a.	880	67	1

General Sample Comments

State of Washington Lab Certification No. C259

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
08274	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	11228A53A	08/18/2011 00:50	Catherine J Schwarz	1
02102	Method 8021 Water Master	SW-846 8021B	1	11228A53A	08/18/2011 00:50	Catherine J Schwarz	1
01146	GC VOA Water Prep	SW-846 5030B	1	11228A53A	08/18/2011 00:50	Catherine J Schwarz	1
02211	NWTPH-Dx water w/Si Gel	ECY 97-602 NWTPH-Dx modified	1	112300015A	08/19/2011 19:23	Glorines Suarez-Rivera	1
02135	Extraction - DRO Water Special	ECY 97-602 NWTPH-Dx 06/97	1	112300015A	08/19/2011 01:00	Sherry L Morrow	1

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Analysis Report

Sample Description: MW-3 Grab Water Sample
Facility# 305192 Job# 387100
9816 271st Street NW - Stanwood, WA

LLI Sample # WW 6375471
LLI Group # 1261603
Account # 11260

Project Name: 305192

Collected: 08/05/2011 09:45 by JP

Submitted: 08/13/2011 10:30
Reported: 08/25/2011 07:38

Chevron
6001 Bollinger Canyon Road
L4310
San Ramon CA 94583

STN03

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	Methyl tert-Butyl Ether	1634-04-4	N.D.	2.5	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	**ECY 97-602 NWTPH-Dx modified**		**ug/l**	**ug/l**	
02211	DRO C12-C24 w/Si Gel	n.a.	230	29	1
02211	HRO C24-C40 w/Si Gel	n.a.	210	69	1

General Sample Comments

State of Washington Lab Certification No. C259

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
08274	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	11228A53A	08/18/2011 01:17	Catherine J Schwarz	1
02102	Method 8021 Water Master	SW-846 8021B	1	11228A53A	08/18/2011 01:17	Catherine J Schwarz	1
01146	GC VOA Water Prep	SW-846 5030B	1	11228A53A	08/18/2011 01:17	Catherine J Schwarz	1
02211	NWTPH-Dx water w/Si Gel	ECY 97-602 NWTPH-Dx modified	1	112300015A	08/19/2011 19:02	Glorines Suarez-Rivera	1
02135	Extraction - DRO Water Special	ECY 97-602 NWTPH-Dx 06/97	1	112300015A	08/19/2011 01:00	Sherry L Morrow	1

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Analysis Report

Quality Control Summary

Client Name: Chevron
Group Number: 1261603
Reported: 08/25/11 at 07:38 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.

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 11228A53A	Sample number(s): 6375468-6375471							
Benzene	N.D.	0.2	ug/l	110	110	80-120	0	30
Ethylbenzene	N.D.	0.2	ug/l	105	105	80-120	0	30
Methyl tert-Butyl Ether	N.D.	0.3	ug/l	90	95	78-125	5	30
NWTPH-Gx water C7-C12	N.D.	50.	ug/l	109	109	75-135	0	30
Toluene	N.D.	0.2	ug/l	105	110	80-120	5	30
Total Xylenes	N.D.	0.6	ug/l	108	110	80-120	2	30
Batch number: 112300015A	Sample number(s): 6375469-6375471							
DRO C12-C24 w/Si Gel	N.D.	30.	ug/l	99	100	56-103	1	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: 11228A53A

	Trifluorotoluene-P	Trifluorotoluene-F
6375468	71	69
6375469	71	78
6375470	71	70
6375471	71	71
Blank	71	70
LCS	70	88
LCSD	71	89
Limits:	58-146	63-135

Analysis Name: NWTPH-Dx water w/Si Gel
Batch number: 112300015A

	Orthoterphenyl
6375469	116
6375470	112
6375471	113
Blank	113
LCS	122

*- 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.

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Analysis Report

Quality Control Summary

Client Name: Chevron
Group Number: 1261603
Reported: 08/25/11 at 07:38 AM

Surrogate Quality Control

LCSD	121
Limits:	50-150

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

Chevron Northwest Region Analysis Request/Chain of Custody

Lancaster Laboratories

For Lancaster Laboratories use only

Acct. #: 11260 Group # 1261603 Sample #: 6375468-71

SCR #:

Facility #: SS#305192-OML G-R#387100 WBS:

Site Address: 9816 271st Street NW, STANWOOD, WA

Chevron PM: MGA Lead Consultant: SAICML Lange

Consultant/Office: G-R, Inc., 6747 Sierra Court, Suite J, Dublin, CA 94568

Consultant Prj. Mgr.: Deanna L. Harding (deanna@grinc.com)

Consultant Phone #: 925-551-7555 Fax #: 925-551-7899

Sampler: J. PAYNE

Analyses Requested

Preservation Codes

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

Sample Identification	Date Collected	Time Collected	Grab	Composite	Matrix: Soil	Matrix: Water	Matrix: Oil ☐ Air ☐	Total Number of Containers	BTEX + MTBE 8021 ☐ 8260 ☐ Naphth ☐ (H)	8260 full scan	Oxygenates ____	NWTPH GX (#)	NWTPH DX ☐ Silica Gel Cleanup (H)	Lead Total ☐ Diss. ☐ Method	☐ WAVPH ☐ WAEPH	NWTPH H HCID ☐ quantification
Q.A	8.5.11		X			X		2	X			X				
MW-1	↓	0900	X			X		5	X			X	X			
MW-2		1045	X			X		5	X			X	X			
MW-3		0945	X			X		5	X			X	X			

Comments /Remarks

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

Turnaround Time Requested (TAT) (please circle)

(STD. TAT) 72 hour 48 hour

24 hour 4 day 5 day

~~EDF/EDD~~

Data Package Options (please circle if required)

QC Summary Type I – Full

Type VI (Raw Data)

Relinquished by:	Date	Time	Received by:	Date	Time
[signature]	8.5.11	1600			
Relinquished by Commercial Carrier: UPS (FedEx) Other ____			Received by:	Date 8/5/11	Time 1830
Temperature Upon Receipt 1.6-2.3 C°			Custody Seals Intact? Yes No		

Lancaster Laboratories, Inc., 2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 (717) 656-2300

Copies: White and yellow should accompany samples to Lancaster Laboratories. The pink copy should be retained by the client.

3468.02

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)
ug	microgram(s)	**mg**	milligram(s)
ml	milliliter(s)	**l**	liter(s)
m3	cubic meter(s)	**ul**	microliter(s)

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

> greater than

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

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

ppb parts per billion

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

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
C	Pesticide result confirmed by GC/MS
D	Compound quantitated on a diluted sample
E	Concentration exceeds the calibration range of the instrument
N	Presumptive evidence of a compound (TICs only)
P	Concentration difference between primary and confirmation columns >25%
U	Compound was not detected
X,Y,Z	Defined in case narrative

Inorganic Qualifiers

B	Value is <CRDL, but ≥IDL
E	Estimated due to interference
M	Duplicate injection precision not met
N	Spike sample not within control limits
S	Method of standard additions (MSA) used for calculation
U	Compound was not detected
W	Post digestion spike out of control limits
*****	Duplicate analysis not within control limits
+	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.

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