Holly Park
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LUST

SAIC
From Science to Solutions

June 10, 2011

COMPLETED
1515 6/21/11

Ms. Miren Garde-Aranzadi
Chevron Environmental Management Company
6101 Bollinger Canyon Road
San Ramon, California 94583

Subject: **First Quarter 2011 Groundwater Monitoring and Sampling Report**
Former Tidewater Service Station No. 30-3189
7301 Martin Luther King Jr. Way South
Seattle, Washington

Dear Ms. Garde-Aranzadi:

SAIC Energy, Environment & Infrastructure, LLC (SAIC), on behalf of Chevron Environmental Management Company (CEMC), prepared this letter summarizing the first quarter 2011 groundwater monitoring and sampling event at former Tidewater Service Station No. 30-3189 (the site) in Seattle, Washington (Figure 1).

FIELD ACTIVITIES

Gettler-Ryan Inc. (Gettler-Ryan) conducted the groundwater monitoring and sampling field event on February 23, 2011. They collected depth-to-groundwater measurements and checked for the presence of separate-phase hydrocarbons (SPH) in three monitoring wells on site.

Groundwater samples were collected from all three monitoring wells and 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, and methyl tert-butyl ether by United States Environmental Protection Agency Method 8260B.

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

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

FINDINGS

At the time of this monitoring event, groundwater elevations ranged from 98.27 feet in monitoring well MW-3 to 92.96 feet in monitoring well MW-2, based on an arbitrary benchmark of 100.00 feet. Groundwater potentially flows toward the north-northeast at a gradient of approximately 0.08 feet per foot (Figure 2). Groundwater elevations decreased an average of 0.02 foot since the previous quarterly monitoring event in November 2010.

SPH were not detected in any of the monitoring wells.

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

- TPH-DRO was detected in monitoring well MW-1;
- TPH-GRO was detected in monitoring well MW-2; and
- Benzene was 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 not detected in any of the monitoring wells.

Petroleum-hydrocarbon constituent concentrations are generally consistent with respect to historical data.

Gettler-Ryan will continue to perform groundwater monitoring and sampling on a quarterly basis. The next groundwater monitoring and sampling event is scheduled for May 2011.

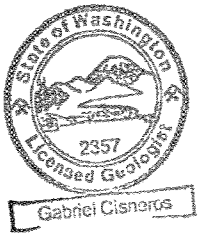
If you have any questions or comments, please contact me at (916) 757-3462 or via email at jenkinsme@saic.com.

Sincerely,

SAIC Energy, Environment & Infrastructure, LLC

Michael E. Jenkins, LG, LHG
Senior Project Manager

Gabriel Cisneros, LG #2357
Geologist



Enclosures:

Figure 1 – Vicinity Map

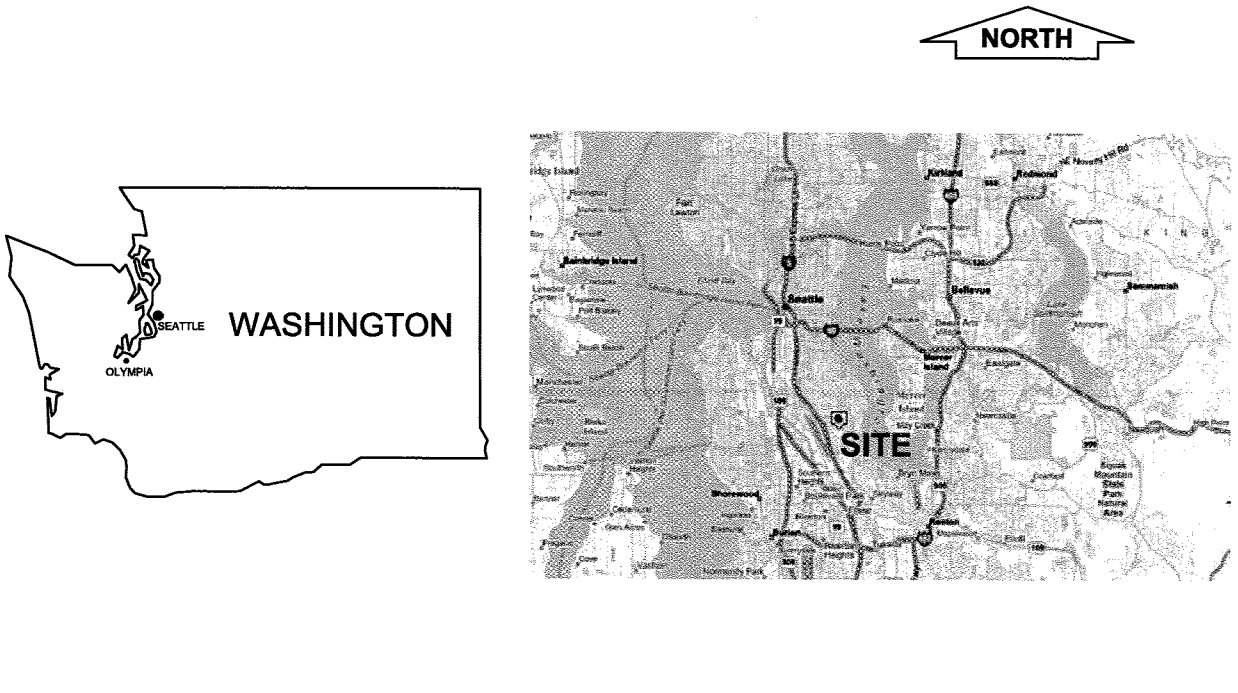
Figure 2 – Potentiometric Map

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. Larry Hard – Seattle Housing Authority
120 Sixth Avenue North, P.O Box 19028, Seattle, WA 98109-1028
Project File



Former Tidewater Service Station No. 30-3189
7301 Martin Luther King Jr. Way South
Seattle, Washington

FIGURE 1
Vicinity Map

FILE NAME:	DATE:
303189_VM.dwg	01/20/2011

SAIC
From Science to Solutions

Z:\2004\ChevronTexaco\WA Portfolio\303189 M_LutherKing\303189_VM.dwg greenjamal 20/01/11 - 2:28 P

South Othello Street

N

0 20'

Feet

Former Building

Former Building

Former Building

Former Building

Martin Luther King Jr. Way South

Sidewalk

MW-2
92.96

MW-1
97.63

MW-3
98.27

93.00

94.00

95.00

96.00

97.00

98.00

Former USTs

Former Station Building

Former Canopy / Pump Island

Former Restaurant

Legend

MW-3 — Groundwater Monitoring Wells Installed 2007 (SAIC)

Fence

Property Boundary

94.00 — Groundwater Table Contour at a 1 Foot Interval (Dashed Where Inferred)

97.66 — Groundwater Elevation in Feet

Approximate Groundwater Flow Direction at a Gradient of 0.08

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FORMER TIDEWATER SERVICE STATION No. 30-3189
7301 MARTIN LUTHER KING JR. WAY SOUTH
SEATTLE, WASHINGTON

Figure 2
Potentiometric Map
February 23, 2011

FILE NAME: Site Map_2008.dwg

DATE: 6/8/2011

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

Well ID/ Date	Purge Method	TOC* (ft.)	DTW (ft.)	GWE (ft.)	TPH-DRO	TPH-HRO	TPH-GRO	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	Total Lead
MW-1													
8/31/07[1]		--	--	--	**930**	190	<50	<0.5	<0.5	<0.5	<1.5	--	0.052
4/24/09	LFP	99.66	2.36	97.30	**650**	<76	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--
8/12/09	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[3]	<68[3]	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--
2/11/10	LFP	99.66	1.92	97.74	**560**	<69	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--
5/24/10	LFP	99.66	2.43	97.23	91	<68	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--
8/4/10	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	--
2/23/11	LFP	99.66	2.03	97.63	**1,000**	270	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--
MW-2													
8/31/07[1]		--	--	--	**2,100**	**1,200**	**26,000**	**3,200**	190	**1,400**	**3,300**	--	--
4/24/09	PER	99.05	7.34	91.71	--[2]	--[2]	**16,000**	**4,100**	99	**1,500**	**2,000**	<3	--
8/12/09	PER	99.05	8.18	90.87	--[2]	--[2]	**27,000**	**4,000**	100	**1,300**	**1,900**	<3	--
11/14/09	PER	99.05	5.75	93.30	--[2]	--[2]	**19,000**	**2,800**	62	**950**	**1,300**	<3	--
2/11/10	PER	99.05	6.98	92.07	--[2]	--[2]	**25,000**	**3,400**	97	**1,600**	**2,200**	<0.5	--
5/24/10	PER	99.05	7.42	91.63	--[2]	--[2]	**19,000**	**2,900**	88	**1,400**	**2,000**	<1	--
8/4/10	PER	99.05	7.92	91.13	--[2]	--[2]	**16,000**	**3,800**	110	**1,700**	**2,700**	<3	--
11/12/10	PER	99.05	6.16	92.89	--[2]	--[2]	**16,000**	**1,900**	56	660	680	<1	--
2/23/11	PER	99.05	6.09	92.96	--[2]	--[2]	**12,000**	**2,800**	60	680	780	<3	--
MW-3													
8/31/07[1]		--	--	--	120	<100	<50	<0.5	<0.5	<0.5	<1.5		0.055
4/24/09	LFP	100.00	2.13	97.87	58	<75	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--
8/12/09	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	--
2/11/10	LFP	100.00	1.59	98.41	160	130	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--
5/24/10	LFP	100.00	1.83	98.17	**910**	310	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--
8/4/10	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	--
2/23/11	LFP	100.00	1.73	98.27	140	<73	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--

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

Well ID/ Date	Purge Method	TOC* (ft.)	DTW (ft.)	GWE (ft.)	TPH-DRO	TPH-HRO	TPH-GRO	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	Total Lead
B-9													
5/1/02[1]		--	--	--	0.660	0.310	32	**530**	<100	**1,600**	**4,300**	--	--
B-10													
5/1/02[1]		--	--	--	5.10	<0.0630	26	**240**	110	240	330	--	--
QA/TRIP BLANK													
4/24/09		--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--
8/12/09		--	--	--	--	--	<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	--
2/11/10		--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--
5/24/10		--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--
8/4/10		--	--	--	--	--	<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	--
2/23/11		--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--
Standard Laboratory Reporting Limits:					--	--	50	0.5	0.5	0.5	0.5	1	--
MTCA Method A CULs:					500	500	800/1,000	5	1,000	700	1,000	0.5	15
Current Method:					NWTPH-Dx + Extended		NWTPH-Gx and USEPA 8021B/8260B						USEPA 7421

EXPLANATIONS:

Groundwater monitoring data and laboratory analytical results prior to April 24, 2009 were compiled for wells MW-1, MW-2, and MW-3 by SAIC.
Analytical results in bold font indicate concentrations exceed MTCA Method A CULs.
Results for wells B-9 and B-10 were provided by GeoEngineers.

TOC = Top of Casing
(ft.) = Feet
DTW = Depth to Water
GWE = Groundwater Elevation
TPH = Total Petroleum Hydrocarbons
TPH-DRO = TPH as diesel-range organics
TPH-HRO = TPH as heavy oil-range organics
TPH-GRO = TPH as gasoline-range organics
BTEX = Benzene, toluene, ethylbenzene, and total xylenes
MTBE = Methyl Tertiary Butyl Ether
µg/L = Micrograms per liter
PER = Peristaltic Pump
LFP = Low Flow Purge
< = The analyte was not detected at or above the reported value
-- = Not Measured/Not Analyzed
QA = Quality Assurance/Trip Blank
MTCA = Model Toxics Control Act
CULs = Cleanup levels
SAIC = SAIC Energy, Environment & Infrastructure, LLC
QC = Quality control
ND = Non-detect
USEPA = United States Environmental Protection Agency
GC/MS = gas chromatography/mas spectrometry

ANALYTICAL METHOD:

Prior to April 24, 2009, BTEX analysis by USEPA Method 8021B.
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 8260B.

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

EXPLANATIONS (cont):

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

1 Data provided by SAIC.

2 Not sampled due to insufficient water.

3 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.

Attachment A:
Groundwater Monitoring and Sampling Data Package

GETTLER-RYAN INC.

TRANSMITTAL

March 2, 2011
G-R #385862

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: 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 23, 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/303189

GETTLER-RYAN INC.

CHEVRON - SITE CHECK LIST

Facility#:	**Chevron #303189** Date: 2-23-11
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, well plug, well lock, etc.:

Well ID	Well Box	Bolts	Well Plug	Well Lock	Other
MW-1	OK	OK	OK	OK	
MW-2	↓	↓	↓	↓	
MW-3	↓	↓	↓	↓	

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 #303189 Job Number: 385862
Site Address: 7301 Martin Luther King Jr. Way S Event Date: 2-23-11 (inclusive)
City: Seattle,WA Sampler: ML

Well ID MW- 1
Well Diameter .75 in.
Total Depth 11.52 ft.
Depth to Water 2.03 ft.
Date Monitored: 2-23-11

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.

_____ 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 X
QED Bladder Pump
Other:

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

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

Start Time (purge): 1220
Sample Time/Date: 1250 / 2-23-11
Approx. Flow Rate: 100 ml/ gpm.
Did well de-water? NO If yes, Time: _____ Volume: _____ gal. DTW @ Sampling: 3.20

Weather Conditions: Cloudy
Water Color: Clear Odor: Y / N
Sediment Description: None

Time (2400 hr.)	Volume (~~gal.~~) L	pH	Conductivity (µmhos/cm - µS)	Temperature (C / F)	D.O. (mg/L)	ORP (mV)	Gauge DTW as parameters are recorded
1232	1.2	6.72	711	6.4			2.69
1235	1.5	6.69	714	6.4			3.02
1238	1.8	6.70	714	6.4			3.20

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW- 1	6 x voa vial	YES	HCL	LANCASTER	NWTPH-Gx/BTEX+MTBE(8260)
	2 x 1 liter ambers	YES	HCL	LANCASTER	NWTPH-Dx w/sg

COMMENTS: _____

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: 2/23/11 (inclusive)
City: Seattle,WA | Sampler: ML

Well ID: MW-2
Well Diameter: .75 in.
Total Depth: 9.41 ft.
Depth to Water: 6.09 ft.

Date Monitored: 2-23-11

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.

___ 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: X
- QED Bladder Pump: ___
- Other: ___

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

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

Start Time (purge): 1310 | Weather Conditions: Cloudy
Sample Time/Date: 1345 / 2-23-11 | Water Color: Clear | Odor: Y / N STRONG
Approx. Flow Rate: 100 ml/ ___ gpm. | Sediment Description: ___
Did well de-water? YES | If yes, Time: 1313 | Volume: 350ml | DTW @ Sampling: 6.40

Time (2400 hr.)	Volume (mL)	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-2	6 x voa vial	YES	HCL	LANCASTER	NWTPH-Gx/BTEX+MTBE(8260)
	x 1 liter ambers	YES	HCL	LANCASTER	NWTPH-Dx w/sg

COMMENTS: WELL DEWATERS, ONLY ABLE TO COLLECT 6 VOA'S.

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: 2-23-11 (inclusive)
City: Seattle,WA Sampler: ML

Well ID MW-3 Date Monitored: 2-23-11
Well Diameter .75 in.
Total Depth 9.50 ft.
Depth to Water 1.73 ft. ☐ Check if water column is less then 0.50 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

___ 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 X
QED Bladder Pump ___
Other: ___

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

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

Start Time (purge): 1130 Weather Conditions: Cloudy
Sample Time/Date: 1200 12-23-11 Water Color: Clear Odor: Y / (N)
Approx. Flow Rate: 100 ml/ gpm. Sediment Description: ME
Did well de-water? NO If yes, Time: ___ Volume: ___ gal. DTW @ Sampling: 2.86

Time (2400 hr.)	Volume (~~gal~~ L)	pH	Conductivity (µmhos/cm (µS))	Temperature (C / F)	D.O. (mg/L)	ORP (mV)	Gauge DTW as parameters are recorded
1140	1	6.56	646	6.2			2.51
1143	1.3	6.57	650	6.2			2.76
1146	1.6	6.57	649	6.2			2.80

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-3	6 x voa vial	YES	HCL	LANCASTER	NWTPH-Gx/BTEX+MTBE(8260)
	2 x 1 liter ambers	YES	HCL	LANCASTER	NWTPH-Dx w/sg

COMMENTS: ___

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

Chevron Northwest Region Analysis Request/Chain of Custody

Lancaster Laboratories
Where quality is a science.

For Lancaster Laboratories use only
Acct. #: _____ Sample #: _____ SCR#: _____

Facility #: SS#303169-OML G-R#385362
Site Address: 7301 Martin Luther King Jr. Way South, SEATTLE, WA
Chevron PM: OS 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: [signature]
Service Order #: _____ ☐ Non SAR: _____

Analyses Requested

Preservation Codes

Preservative Codes
H = HCl T = Thiosulfate
N = HNO_3 B = NaOH
S = H_2SO_4 O = Other

☐ 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	Water (Potable ☐ NPDES ☐)	Oil ☐ Air ☐	Total Number of Containers	BTEX + MTBE 8021 ☐ 8260 ☐ Naphth ☐	8260 full scan	Oxygenates ____	TPH G	TPH D ☐ Extended Rng. ☐ Silica Gel Cleanup	Lead Total ☐ Diss ☐ Method ____	VPH/EPH	NWTPH HCID ☐ quantification ☐
QA	2/23/11		X			X		2	X			X				
MW-1		1250	X			X		5	X			X	X			
MW-2		1345	X			X		3	X			X				
MW-3	✓	1200	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) Disk / EDD
WIP (RWQCB) Standard Format
Disk _____ Other

	Date	Time		Date	Time
Relinquished by:	2/23/11	1700	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

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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

March 08, 2011

Project: 303189

Submittal Date: 02/24/2011
Group Number: 1234512
PO Number: 0015061199
Release Number: SKANCE
State of Sample Origin: WA

Client Sample Description	Lancaster Labs (LLI) #
QA Water Sample	6214785
MW-1 Grab Water Sample	6214786
MW-2 Grab Water Sample	6214787
MW-3 Grab Water Sample	6214788

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

Analysis Report

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

Respectfully Submitted,

Sarah M. Snyder
Senior Specialist

Lancaster Laboratories

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Analysis Report

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

LLI Sample # WW 6214785
LLI Group # 1234512
Account # 11260

Project Name: 303189

Collected: 02/23/2011

Submitted: 02/24/2011 08:50
Reported: 03/08/2011 12:23

Chevron
6001 Bollinger Canyon Road
L4310
San Ramon CA 94583

MLSQA

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10943	Benzene	71-43-2	N.D.	0.5	1
10943	Ethylbenzene	100-41-4	N.D.	0.5	1
10943	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1
10943	Toluene	108-88-3	N.D.	0.5	1
10943	Xylene (Total)	1330-20-7	N.D.	0.5	1
GC Volatiles	**ECY 97-602 NWTPH-Gx**		**ug/l**	**ug/l**	
08273	NWTPH-Gx water C7-C12	n.a.	N.D.	50	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
10943	BTEX/MTBE 8260 Water	SW-846 8260B	1	Z110572AA	02/26/2011 05:57	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z110572AA	02/26/2011 05:57	Anita M Dale	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	11061B20A	03/03/2011 13:56	Katrina T Longenecker	1
01146	GC VOA Water Prep	SW-846 5030B	1	11061B20A	03/03/2011 13:56	Katrina T Longenecker	1

Lancaster Laboratories

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Analysis Report

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

LLI Sample # WW 6214786
LLI Group # 1234512
Account # 11260

Project Name: 303189

Collected: 02/23/2011 12:50 by ML

Submitted: 02/24/2011 08:50
Reported: 03/08/2011 12:23

Chevron
6001 Bollinger Canyon Road
L4310
San Ramon CA 94583

MLSM1

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10943	Benzene	71-43-2	N.D.	0.5	1
10943	Ethylbenzene	100-41-4	N.D.	0.5	1
10943	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1
10943	Toluene	108-88-3	N.D.	0.5	1
10943	Xylene (Total)	1330-20-7	N.D.	0.5	1
GC Volatiles	**ECY 97-602 NWTPH-Gx**		**ug/l**	**ug/l**	
08273	NWTPH-Gx water C7-C12	n.a.	N.D.	50	1
GC Extractable TPH w/Si Gel	**ECY 97-602 NWTPH-Dx modified**		**ug/l**	**ug/l**	
02211	DRO C12-C24 w/Si Gel	n.a.	1,000	30	1
02211	HRO C24-C40 w/Si Gel	n.a.	270	71	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
10943	BTEX/MTBE 8260 Water	SW-846 8260B	1	Z110572AA	02/26/2011 06:21	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z110572AA	02/26/2011 06:21	Anita M Dale	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	11061B20A	03/03/2011 15:23	Katrina T Longenecker	1
01146	GC VOA Water Prep	SW-846 5030B	1	11061B20A	03/03/2011 15:23	Katrina T Longenecker	1
02211	NWTPH-Dx water w/Si Gel	ECY 97-602 NWTPH-Dx modified	1	110600015A	03/02/2011 18:32	Glorines Suarez-Rivera	1
02135	Extraction - DRO Water Special	ECY 97-602 NWTPH-Dx 06/97	1	110600015A	03/01/2011 15:00	Kathryn I DeHaven	1

Lancaster Laboratories

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Analysis Report

Sample Description: MW-2 Grab Water Sample
Facility# 303189 Job# 385862
7301 Martin Luther King Jr Way S - Seattle, WA

LLI Sample # WW 6214787
LLI Group # 1234512
Account # 11260

Project Name: 303189

Collected: 02/23/2011 13:45 by ML

Submitted: 02/24/2011 08:50
Reported: 03/08/2011 12:23

Chevron
6001 Bollinger Canyon Road
L4310
San Ramon CA 94583

MLSM2

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10943	Benzene	71-43-2	2,800	25	50
10943	Ethylbenzene	100-41-4	680	3	5
10943	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	3	5
10943	Toluene	108-88-3	60	3	5
10943	Xylene (Total)	1330-20-7	780	3	5
GC Volatiles	**ECY 97-602 NWTPH-Gx**		**ug/l**	**ug/l**	
08273	NWTPH-Gx water C7-C12	n.a.	12,000	250	5

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
10943	BTEX/MTBE 8260 Water	SW-846 8260B	1	Z110572AA	02/26/2011 07:32	Anita M Dale	5
10943	BTEX/MTBE 8260 Water	SW-846 8260B	1	Z110572AA	02/26/2011 07:56	Anita M Dale	50
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z110572AA	02/26/2011 07:32	Anita M Dale	5
01163	GC/MS VOA Water Prep	SW-846 5030B	2	Z110572AA	02/26/2011 07:56	Anita M Dale	50
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	11061B20A	03/03/2011 19:23	Katrina T Longenecker	5
01146	GC VOA Water Prep	SW-846 5030B	1	11061B20A	03/03/2011 19:23	Katrina T Longenecker	5

Lancaster Laboratories

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Analysis Report

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

LLI Sample # WW 6214788
LLI Group # 1234512
Account # 11260

Project Name: 303189

Collected: 02/23/2011 12:00 by ML

Submitted: 02/24/2011 08:50
Reported: 03/08/2011 12:23

Chevron
6001 Bollinger Canyon Road
L4310
San Ramon CA 94583

MLSM3

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10943	Benzene	71-43-2	N.D.	0.5	1
10943	Ethylbenzene	100-41-4	N.D.	0.5	1
10943	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1
10943	Toluene	108-88-3	N.D.	0.5	1
10943	Xylene (Total)	1330-20-7	N.D.	0.5	1
GC Volatiles	**ECY 97-602 NWTPH-Gx**		**ug/l**	**ug/l**	
08273	NWTPH-Gx water C7-C12	n.a.	N.D.	50	1
GC Extractable TPH w/Si Gel	**ECY 97-602 NWTPH-Dx modified**		**ug/l**	**ug/l**	
02211	DRO C12-C24 w/Si Gel	n.a.	140	31	1
02211	HRO C24-C40 w/Si Gel	n.a.	N.D.	73	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
10943	BTEX/MTBE 8260 Water	SW-846 8260B	1	Z110572AA	02/26/2011 08:20	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z110572AA	02/26/2011 08:20	Anita M Dale	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	11061B20A	03/03/2011 15:45	Katrina T Longenecker	1
01146	GC VOA Water Prep	SW-846 5030B	1	11061B20A	03/03/2011 15:45	Katrina T Longenecker	1
02211	NWTPH-Dx water w/Si Gel	ECY 97-602 NWTPH-Dx modified	1	110620011A	03/04/2011 21:13	Marie D John	1
02135	Extraction - DRO Water Special	ECY 97-602 NWTPH-Dx 06/97	1	110620011A	03/03/2011 10:50	Kathryn I DeHaven	1

Lancaster Laboratories

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Analysis Report

Quality Control Summary

Client Name: Chevron
Group Number: 1234512
Reported: 03/08/11 at 12:23 PM

Matrix QC may not be reported if 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: Z110572AA	Sample number(s): 6214785-6214788							
Benzene	N.D.	0.5	ug/l	105		79-120		
Ethylbenzene	N.D.	0.5	ug/l	108		79-120		
Methyl Tertiary Butyl Ether	N.D.	0.5	ug/l	105		76-120		
Toluene	N.D.	0.5	ug/l	107		79-120		
Xylene (Total)	N.D.	0.5	ug/l	107		80-120		
Batch number: 11061B20A	Sample number(s): 6214785-6214788							
NWTPH-Gx water C7-C12	N.D.	50.	ug/l	89	90	75-135	1	30
Batch number: 110600015A	Sample number(s): 6214786							
DRO C12-C24 w/Si Gel	N.D.	30.	ug/l	78	71	56-103	8	20
HRO C24-C40 w/Si Gel	N.D.	70.	ug/l					
Batch number: 110620011A	Sample number(s): 6214788							
DRO C12-C24 w/Si Gel	N.D.	30.	ug/l	81		56-103		
HRO C24-C40 w/Si Gel	N.D.	70.	ug/l					

Sample Matrix Quality Control

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

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: Z110572AA	Sample number(s): 6214785-6214788 UNSPK: 6214786								
Benzene	111	111	80-126	0	30				
Ethylbenzene	115	116	71-134	1	30				
Methyl Tertiary Butyl Ether	104	106	72-126	1	30				
Toluene	114	114	80-125	0	30				
Xylene (Total)	113	113	79-125	0	30				
Batch number: 110620011A	Sample number(s): 6214788 BKG: P216952								
DRO C12-C24 w/Si Gel						N.D.	690	200* (1)	20
HRO C24-C40 w/Si Gel						1,600	3,300	69* (1)	20

Surrogate Quality Control

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

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

Quality Control Summary

Client Name: Chevron
Reported: 03/08/11 at 12:23 PM

Group Number: 1234512

Surrogate Quality Control

Analysis Name: UST VOCs by 8260B - Water
Batch number: Z110572AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
6214785	100	98	99	102
6214786	100	100	99	101
6214787	99	99	99	105
6214788	100	100	99	102
Blank	99	98	100	102
LCS	99	101	99	103
MS	99	100	100	104
MSD	100	100	100	104
Limits:	80-116	77-113	80-113	78-113

Analysis Name: NWTPH-Gx water C7-C12
Batch number: 11061B20A

	Trifluorotoluene-F
6214785	78
6214786	79
6214787	129
6214788	79
Blank	79
LCS	107
LCSD	106
Limits:	63-135

Analysis Name: NWTPH-Dx water w/Si Gel
Batch number: 110600015A

	Orthoterphenyl
6214786	108
Blank	94
LCS	108
LCSD	102
Limits:	50-150

Analysis Name: NWTPH-Dx water w/Si Gel
Batch number: 110620011A

	Orthoterphenyl
6214788	106
Blank	99
DUP	77
LCS	113
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
Where quality is a science.

For Lancaster Laboratories use only
Acct. #: 11260 Sample #: 6214785-88 SCR#:

Grp# 1234512

Facility #: SS#303189-OML G-R#385862
Site Address: 7301 Martin Luther King Jr. Way South, SEATTLE, WA
Chevron PM: OS 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: MIKE LOMBARD
Service Order #: ☐ Non SAR:

Sample Identification	Date Collected	Time Collected	Grab	Composite	Matrix: Soil	Matrix: Water (☐ Potable ☐ NPDES)	Matrix: Oil ☐ Air ☐	Total Number of Containers	BTEX + MTBE 8021 ☐ 8260 ☐ Naphth	8260 full scan	Oxygenates	TPH G	TPH D Extended Rng. ☐ Silica Gel Cleanup	Lead Total ☐ Diss. ☐ Method	VPH/EPH	NWTPH H HCID ☐ quantification					
									H			H	H								
QA	2-23-11		X			X		2	X			X									
MW-1	↓	1250	X			X		5	X			X	X								
MW-2		1345	X			X		3	X			X									
MW-3		1200	X			X		5	X			X	X								

Analyses Requested

Preservation Codes

Preservative Codes
H = HCl T = Thiosulfate
N = HNO_3 B = NaOH
S = H_2SO_4 O = Other

☐ 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

Data Package Options (please circle if required) **EDF/EDD**
QC Summary | Type I - Full
Type VI (Raw Data) | Disk / EDD
WIP (RWQCB) | Standard Format
Disk | _____ Other.

	Date	Time		Date	Time
Relinquished by:	2-23-11	1700	Received by:		
Relinquished by:			Received by:		
Relinquished by:			Received by:		
Relinquished by Commercial Carrier: UPS FedEx Other			Received by: Deborah Mosher	2/24/11	0850
Temperature Upon Receipt 1.9-4.0 C°			Custody Seals Intact? Yes No		

Lancaster Laboratories

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.