SAIC
From Science to Solutions

March 10, 2011

Ms. Olivia Skance
Chevron Environmental Management Company
6101 Bollinger Canyon Road
San Ramon, California 94583

Subject: **Third Quarter 2010 Groundwater Monitoring Report**
Former Tidewater Service Station No. 30-3189
7301 Martin Luther King Jr. Way South
Seattle, Washington

Dear Ms. Skance:

SAIC Energy, Environment & Infrastructure, LLC (SAIC) on behalf of Chevron Environmental Management Company (CEMC), prepared this letter summarizing the third quarter 2010 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 August 4, 2010. 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 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 96.16 feet in monitoring well MW-3to 91.13 feet in monitoring well MW-2, based on an arbitrary benchmark of 100.00 feet. Groundwater potentially flows toward the north-northwest at a gradient of approximately 0.08 feet per foot (Figure 2). Groundwater elevations decreased an average of 1.26 feet since the previous quarterly monitoring event, which was performed in May 2010.

SPH were not detected in any of the wells monitored.

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

- TPH-GRO were detected in monitoring well MW-2;
- TPH-DRO were detected in monitoring well MW-1;
- Benzene was detected in monitoring well MW-2;
- Ethylbenzene was detected in monitoring well MW-2; and
- Total xylenes were detected in monitoring well MW-2.

Historic 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.

Monitoring well MW-2 continues to have concentrations exceeding MTCA Method A CULs for TPH-GRO, benzene, ethylbenzene, and total xylenes. These impacts are likely due to residual soil impacts related to the former underground storage tanks located up gradient from this well. TPH-DRO and TPH-HRO could not be analyzed for monitoring well MW-2 because the well dewatered during sampling.

TPH-DRO exceeded the MTCA Method A CUL in monitoring well MW-1 during this event. TPH-DRO concentrations fluctuate above and below the MTCA Method A CUL in response to seasonal groundwater fluctuations. The variations of hydrocarbon concentrations in monitoring well MW-1 are likely due to seasonal groundwater fluctuation.

Gettler-Ryan will continue to perform groundwater monitoring and sampling on a quarterly basis. The next groundwater monitoring and sampling event is scheduled for November 2010.

If you have any questions or comments, please contact me at (425) 482-3321 or via email at jenkinsme@saic.com.

Sincerely,

SAIC Energy, Environment & Infrastructure, LLC

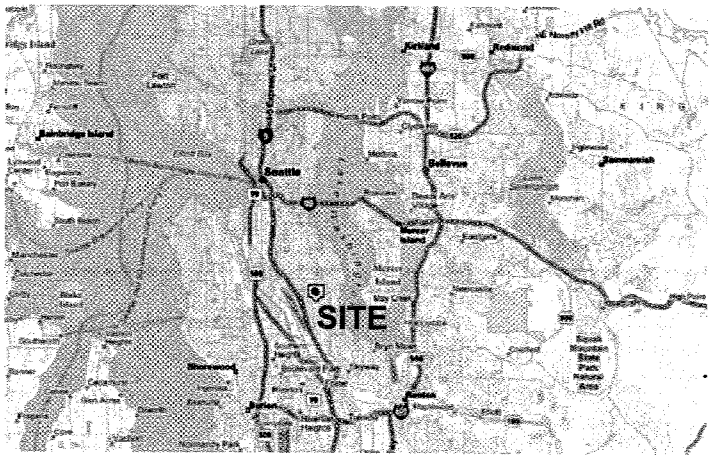
Michael E. Jenkins, LG, LHG
Senior Project Manager

Gabriel Cisneros LG #2357
Geologist

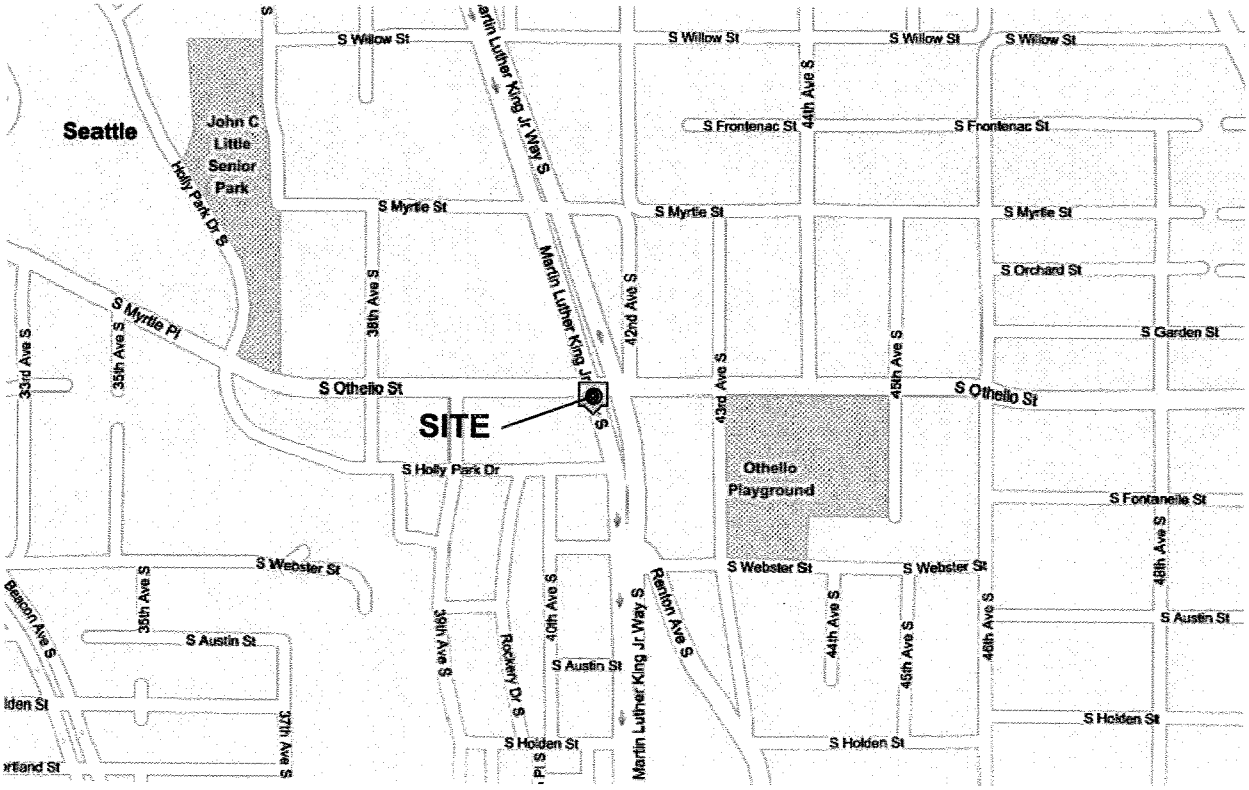
Enclosures:
Figure 1 – Vicinity Map
Figure 2 – Potentiometric Map
Table 1 – Groundwater Monitoring Data and Analytical Results
Attachment A – Groundwater Monitoring and Sampling Data Package
Attachment B – Laboratory Analysis Report

cc: Ms. Donna Musa – WDOE Northwest Regional Office 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

PLEASE NOTE: In an effort to adopt practices that reduce negative impacts on the environment, SAIC is in the process of transitioning to an electronic distribution of all Groundwater Monitoring Reports. Please contact me at (425) 482-3321 or via email at jenkinsme@saic.com if you would be willing to accept an electronic copy of this report in lieu of a hard copy; in the absence of a response we will continue to provide you a hard copy.



NORTH



Maps Provided by Seattle.gov

SAIC
From Science to Solutions

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

South Othello Street

N

0 20'

Feet

Martin Luther King Jr. Way South

MW-2
91.13

MW-1
96.04

MW-3
96.16

91

92

93

94

95

96

Legend

MW-3 Groundwater Monitoring Wells Installed 2007 (SAIC)

Fence

Property Boundary

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

96.16 Groundwater Elevation in Feet

Approximate Groundwater Flow Direction at a Gradient of 0.08

SAIC
From Science to Solutions

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

Figure 2
Potentiometric Map
August 4, 2010

FILE NAME:	DATE:
Site Map_2008.dwg	03/09/2011

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 Type	TOC* (ft.)	DTW (ft.)	GWE (ft.)	TPH-DRO	TPH-HRO	TPH-GRO	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	T. 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	--
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	--
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	--
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	--	--

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 Type	TOC* (ft.)	DTW (ft.)	GWE (ft.)	TPH-DRO	TPH-HRO	TPH-GRO	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	T. Lead
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	--
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.
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

ANALYTICAL METHOD:

Prior to April 24, 2009, BTEX analysis by USEPA 8021.
TPH-GRO by Method NWTPH-Gx.
TPH-DRO and TPH-HRO by Method NWTPH-Dx.
TPH-DRO and TPH-HRO analyzed with silica-gel cleanup.
BTEX and MTBE Analysis by Method 8260B.

* 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

August 13, 2010
G-R #385862

TO: Mr. Peter Catterall
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	DATED	DESCRIPTION
VIA PDF		Groundwater Monitoring and Sampling Data Package **Third Quarter Event of August 4, 2010**

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: 8-4-10
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

In each well, the Static Water Level (SWL) is measured prior to the installation of the pump or tubing in the 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: 8-4-10 (inclusive)
City: Seattle,WA | Sampler: ML

Well ID: MW-1 | Date Monitored: 8-4-10
Well Diameter: .75 in.
Total Depth: 11.53 ft.
Depth to Water: 3.62 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: 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): 0745
Sample Time/Date: 0815 / 8-4-10
Approx. Flow Rate: 100 ml / ____ gpm.
Did well de-water? NO If yes, Time: ____ Volume: ____ gal. DTW @ Sampling: 6.27

Weather Conditions: Sunny
Water Color: Clear Odor: Y / (N)
Sediment Description: None

Time (2400 hr.)	Volume (gal.) / mL	pH	Conductivity (µmhos/cm - µS)	Temperature (C / F)	D.O. (mg/L)	ORP (mV)	Gauge DTW as parameters are recorded
0800	1.5	6.67	851	21.4			5.62
0803	1.8	6.70	856	21.4			6.01
0806	2.1	6.72	855	21.3			6.27

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: 8-4-10 (inclusive)
City: Seattle,WA | Sampler: ML

Well ID: MW-2 | Date Monitored: 8-4-10
Well Diameter: .75 in.
Total Depth: 9.42 ft.
Depth to Water: 7.92 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): 0925 | Weather Conditions: SUNNY
Sample Time/Date: 0945 / 8-4-10 | Water Color: Cloudy | Odor: (Y) / N
Approx. Flow Rate: 100 ml/ gpm. | Sediment Description: none
Did well de-water? Yes If yes, Time: 0927 Volume: 200 ml DTW @ Sampling: 8.16

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-2	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: WELL DEWATERED, SLOW RECOVERY, 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: 8-4-10 (inclusive)
City: Seattle,WA Sampler: ML

Well ID MW-3 Date Monitored: 8-4-10
Well Diameter .75 in.
Total Depth 9.50 ft.
Depth to Water 3.84 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: 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): 0835 Weather Conditions: SUNNY
Sample Time/Date: 0905 / 8-4-10 Water Color: CLEAR Odor: Y / N
Approx. Flow Rate: 100 ml gpm. Sediment Description: NONE
Did well de-water? NO If yes, Time: ____ Volume: ____ gal. DTW @ Sampling: 6.14

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
0850	1.5	6.61	640	21.4			5.16
0853	1.8	6.67	647	21.4			5.72
0856	2.1	6.68	648	21.4			6.14

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#303189-OML G-R#385862
Site Address: 7301 Martin Luther King Jr. Way South, SEATTLE, WA
Chevron PM: OS Lead Consultant: SAICPC Catterall
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 Gimbal
Service Order #: ______ ☐ Non SAR: ______

Analyses Requested

Preservation Codes: H (BTEX + MTBE), H (TPH G), H (TPH D)

Sample Identification	Date Collected	Time Collected	Grab	Composite	Soil	Water	Oil ☐ Air ☐	Total Number of Containers	BTEX + MTBE 8021 ☐ 8260 ☒ Naphth ☐	8260 full scan	Oxygenates	NWTPH TPH G	NWTPH TPH D (☐ Extended Rng. ☒ Silica Gel Cleanup)	Lead Total ☐ Diss. ☐ Method	VPH/EPH	NWTPH HCID ☐ quantification				
QA	8-4-10		X			X		2	X			X								
MW-1	↓	0815	X			X		8	X			X	X							
MW-2	↓	0945	X			X		6	X			X								
MW-3	↓	0905	X			X		8	X			X	X							

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 (circled) 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.

Relinquished by:	Date	Time	Received by:	Date	Time
[signature]	8-4-10	1730			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by Commercial Carrier: UPS FedEx (circled) Other ______			Received by:	Date	Time
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 13, 2010

Project: 303189

Submittal Date: 08/05/2010
Group Number: 1206214
PO Number: 0015061199
Release Number: SKANCE
State of Sample Origin: WA

Client Sample Description	Lancaster Labs (LLI) #
QA Water Sample	6050714
MW-1 Grab Water Sample	6050715
MW-2 Grab Water Sample	6050716
MW-3 Grab Water Sample	6050717

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

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

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

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

Respectfully Submitted,

Robin C. Runkle
Senior 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# 303189 Job# 385862
7301 Martin Luther King Jr Way S - Seattle, WA

LLI Sample # WW 6050714
LLI Group # 1206214
Account # 11260

Project Name: 303189

Collected: 08/04/2010

Submitted: 08/05/2010 09:00
Reported: 08/13/2010 14:19
Discard: 09/13/2010

Chevron
6001 Bollinger Canyon Road
L4310
San Ramon CA 94583

MLSQA

CAT No.		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	Z102181AA	08/06/2010 17:07	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z102181AA	08/06/2010 17:07	Daniel H Heller	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	10222A20A	08/10/2010 19:31	Tyler O Griffin	1
01146	GC VOA Water Prep	SW-846 5030B	1	10222A20A	08/10/2010 19:31	Tyler O Griffin	1

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

LLI Sample # WW 6050715
LLI Group # 1206214
Account # 11260

Project Name: 303189

Collected: 08/04/2010 08:15 by ML

Submitted: 08/05/2010 09:00
Reported: 08/13/2010 14:19
Discard: 09/13/2010

Chevron
6001 Bollinger Canyon Road
L4310
San Ramon CA 94583

MLSM1

CAT No.		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.	520	32	1
02211	HRO C24-C40 w/Si Gel	n.a.	N.D.	75	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	Z102181AA	08/06/2010 17:32	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z102181AA	08/06/2010 17:32	Daniel H Heller	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	10222A20A	08/10/2010 20:36	Tyler O Griffin	1
01146	GC VOA Water Prep	SW-846 5030B	1	10222A20A	08/10/2010 20:36	Tyler O Griffin	1
02211	NWTPH-Dx water w/Si Gel	ECY 97-602 NWTPH-Dx modified	1	102210003A	08/11/2010 14:27	Melissa McDermott	1
02135	Extraction - DRO Water Special	ECY 97-602 NWTPH-Dx 06/97	1	102210003A	08/09/2010 22:05	Elaine F Stoltzfus	1

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

LLI Sample # WW 6050716
LLI Group # 1206214
Account # 11260

Project Name: 303189

Collected: 08/04/2010 09:45 by ML

Submitted: 08/05/2010 09:00
Reported: 08/13/2010 14:19
Discard: 09/13/2010

Chevron
6001 Bollinger Canyon Road
L4310
San Ramon CA 94583

MLSM2

CAT No.		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	3,800	25	50
10943	Ethylbenzene	100-41-4	1,700	25	50
10943	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	3	5
10943	Toluene	108-88-3	110	3	5
10943	Xylene (Total)	1330-20-7	2,700	25	50
GC Volatiles	**ECY 97-602 NWTPH-Gx**		**ug/l**	**ug/l**	
08273	NWTPH-Gx water C7-C12	n.a.	16,000	500	10

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	Z102181AA	08/06/2010 17:58	Daniel H Heller	5
10943	BTEX/MTBE 8260 Water	SW-846 8260B	1	Z102181AA	08/06/2010 18:23	Daniel H Heller	50
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z102181AA	08/06/2010 17:58	Daniel H Heller	5
01163	GC/MS VOA Water Prep	SW-846 5030B	2	Z102181AA	08/06/2010 18:23	Daniel H Heller	50
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	10222A20A	08/11/2010 01:20	Tyler O Griffin	10
01146	GC VOA Water Prep	SW-846 5030B	1	10222A20A	08/11/2010 01:20	Tyler O Griffin	10

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

LLI Sample # WW 6050717
LLI Group # 1206214
Account # 11260

Project Name: 303189

Collected: 08/04/2010 09:05 by ML

Submitted: 08/05/2010 09:00
Reported: 08/13/2010 14:19
Discard: 09/13/2010

Chevron
6001 Bollinger Canyon Road
L4310
San Ramon CA 94583

MLSM3

CAT No.		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.	55	32	1
02211	HRO C24-C40 w/Si Gel	n.a.	N.D.	74	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	Z102181AA	08/06/2010 18:49	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z102181AA	08/06/2010 18:49	Daniel H Heller	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	10222A20A	08/10/2010 20:58	Tyler O Griffin	1
01146	GC VOA Water Prep	SW-846 5030B	1	10222A20A	08/10/2010 20:58	Tyler O Griffin	1
02211	NWTPH-Dx water w/Si Gel	ECY 97-602 NWTPH-Dx modified	1	102210003A	08/11/2010 14:47	Melissa McDermott	1
02135	Extraction - DRO Water Special	ECY 97-602 NWTPH-Dx 06/97	1	102210003A	08/09/2010 22:05	Elaine F Stoltzfus	1

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

Quality Control Summary

Client Name: Chevron
Reported: 08/13/10 at 02:19 PM

Group Number: 1206214

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: Z102181AA	Sample number(s): 6050714-6050717							
Benzene	N.D.	0.5	ug/l	91		79-120		
Ethylbenzene	N.D.	0.5	ug/l	93		79-120		
Methyl Tertiary Butyl Ether	N.D.	0.5	ug/l	96		76-120		
Toluene	N.D.	0.5	ug/l	92		79-120		
Xylene (Total)	N.D.	0.5	ug/l	94		80-120		
Batch number: 10222A20A	Sample number(s): 6050714-6050717							
NWTPH-Gx water C7-C12	N.D.	50.	ug/l	100	100	75-135	0	30
Batch number: 102210003A	Sample number(s): 6050715,6050717							
DRO C12-C24 w/Si Gel	N.D.	30.	ug/l	79	79	50-100	0	20
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: Z102181AA	Sample number(s): 6050714-6050717 UNSPK: P049756								
Benzene	88	95	80-126	6	30				
Ethylbenzene	76	97	71-134	13	30				
Methyl Tertiary Butyl Ether	94	98	72-126	5	30				
Toluene	95	99	80-125	4	30				
Xylene (Total)	91	100	79-125	8	30				
Batch number: 10222A20A	Sample number(s): 6050714-6050717 UNSPK: P052109								
NWTPH-Gx water C7-C12	100		57-157						

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: UST VOCs by 8260B - Water
Batch number: Z102181AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
6050714	96	94	101	98

*- 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: 1206214
Reported: 08/13/10 at 02:19 PM

Surrogate Quality Control

6050715	96	95	101	99
6050716	95	94	101	101
6050717	95	94	102	98
Blank	95	95	101	98
LCS	96	98	101	99
MS	95	97	102	99
MSD	94	96	101	100
Limits:	80-116	77-113	80-113	78-113

Analysis Name: NWTPH-Gx water C7-C12
Batch number: 10222A20A
Trifluorotoluene-F

6050714	89
6050715	86
6050716	105
6050717	88
Blank	85
LCS	122
LCSD	122
MS	114
Limits:	63-135

Analysis Name: NWTPH-Dx water w/Si Gel
Batch number: 102210003A
Orthoterphenyl

6050715	93
6050717	80
Blank	94
LCS	98
LCSD	99
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 #: 6050714-17 SCR#:

Grp# 1206214

Facility #: SS#303189-OML G-R#385862
Site Address: 7301 Martin Luther King Jr. Way South, SEATTLE, WA
Chevron PM: OS Lead Consultant: SAICPC Catterall
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	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 ☐
QA	8-4-10		X			X		2	X			X				
MW-1	↓	0815	X			X		8	X			X	X			
MW-2		0945	X			X		6	X			X				
MW-3		0905	X			X		8	X			X	X			

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:	8-4-10	1730	Received by:		
Relinquished by:			Received by:		
Relinquished by:			Received by:		
Relinquished by Commercial Carrier: UPS FedEx Other			Received by:	8/5/10	900
Temperature Upon Receipt 2.2-4.2 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.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL LANCASTER LABORATORIES BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF LANCASTER LABORATORIES AND (B) WHETHER LANCASTER LABORATORIES HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Lancaster Laboratories which includes any conditions that vary from the Standard Terms and Conditions, and Lancaster hereby objects to any conflicting terms contained in any acceptance or order submitted by client.