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August 20, 2009

Ms. Olivia Skance  
Chevron Environmental Management Company  
6111 Bollinger Canyon Road, Room 3636  
San Ramon, CA 94583-5186

**Subject: Second Quarter 2009 Groundwater Monitoring Report  
Former Tidewater Service Station No. 30-3189  
7301 MLK Jr. Way South  
Seattle, Washington**

Dear Ms. Skance:

Science Applications International Corporation (SAIC), on behalf of Chevron Environmental Management Company (Chevron), has prepared this letter summarizing the latest groundwater monitoring and sampling results from the above referenced site in Seattle, Washington. The second quarter 2009 groundwater monitoring and sampling event was conducted by Gettler-Ryan Inc. on April 24, 2009.

Groundwater elevation and analytical data are presented along with field data sheets and a laboratory analytical report in the Gettler-Ryan Inc. *Groundwater Monitoring and Sampling Report*, which is included in Attachment A.

### 1.0 FIELD ACTIVITIES

Depth-to-groundwater measurements were collected from each of the three monitoring wells (MW-1, MW-2 and MW-3) present at the site. Each monitoring well was also checked for the presence of separate-phase hydrocarbon (SPH). SPH was not detected in any of the monitoring wells gauged during this event.

At the time of this monitoring event, groundwater elevations ranged from 97.87 feet in monitoring well MW-3 to 91.71 feet in monitoring well MW-2, based on an arbitrary benchmark of 100.00 feet. Groundwater flow at the time of this event was towards the north-northeast at an approximate gradient of 0.08 per foot (ft/ft).

Groundwater samples were collected from each of the three monitoring wells at the site and submitted to Lancaster Laboratories of Lancaster, Pennsylvania for the following analyses:

- Gasoline-range hydrocarbons by Washington State Department of Ecology (WDOE) Method NWTPH-Gx;
- Diesel- and heavy oil-range hydrocarbons by WDOE Method NWTPH-D extended; and
- Benzene, toluene, ethylbenzene, total xylenes (BTEX), and methyl tertiary butyl ether (MTBE) by United States Environmental Protection Agency (USEPA) Method 8260B.

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Science Applications International Corporation

18912 North Creek Parkway | Suite 101 / Bothell, WA 98011 / tel: (425) 485-5800 / fax: (425) 485-5566 | saic.com

**COMPLETED**  
9/16/09 Site Reg.

## 2.0 ANALYTICAL RESULTS

Total Petroleum Hydrocarbons (TPH) as Gasoline-range hydrocarbons (TPH-G) were detected in monitoring well MW-2 at a concentration of 16,000 micrograms per liter ( $\mu\text{g/L}$ ) which exceeds the 800  $\mu\text{g/L}$  Model Toxics Control Act (MTCA) Method A Cleanup Level (CUL) for TPH-G.

TPH as diesel-range hydrocarbons (TPH-D) were detected in monitoring well MW-1 at a concentration of 650  $\mu\text{g/L}$  which exceeds the 500  $\mu\text{g/L}$  MTCA Method A CUL for TPH-D. Heavy oil-range hydrocarbons were not detected at concentrations above the 500  $\mu\text{g/L}$  MTCA Method A CUL for heavy oil in any of the monitoring wells sampled. Groundwater samples for analysis of diesel- and heavy oil-range hydrocarbons could not be collected from monitoring well MW-2 due to insufficient water.

Benzene, ethylbenzene, and total xylenes were detected in exceedance of their respective MTCA Method A CULs in monitoring well MW-2, at concentrations of 4,100  $\mu\text{g/L}$ , 1,500  $\mu\text{g/L}$ , and 2,000  $\mu\text{g/L}$  respectively. Toluene was not detected above the MTCA Method A CUL of 1,000  $\mu\text{g/L}$  in any of the monitoring wells sampled during this event. MTBE was not reported at concentrations exceeding its laboratory reporting limit in any of the monitoring wells sampled during this event.

## 3.0 SUMMARY

Groundwater concentrations appear to be consistent with analytical data collected during the previous sampling event performed at this site in August 2008. Concentrations of diesel-range hydrocarbons decreased slightly in monitoring wells MW-1 and MW-3. The concentrations of gasoline-range hydrocarbons in monitoring well MW-2, while still elevated, decreased significantly from the previous sampling round. Additional groundwater sampling data will be required before trends in analyte concentrations can be confirmed. The next groundwater sampling event at this site is scheduled for August 2009.

Please contact the below undersign if you have any questions or comments about the information provided herein 425-482-3321 or at [catterallp@saic.com](mailto:catterallp@saic.com).

Sincerely,

SCIENCE APPLICATIONS INTERNATIONAL CORPORATION



Peter Catterall  
Project Manager

Enclosures:

Attachment A: Gettler-Ryan Inc. - *Groundwater Monitoring & Sampling Report*, Event of April 24, 2009, Former Tidewater Service Station No. 30-3189, 7301 MLK Jr. Way South, Seattle, Washington

cc: WDOE, Northwest Regional Office, Toxics Cleanup Program  
Mr. Larry Hard, Seattle Housing Authority  
Project File

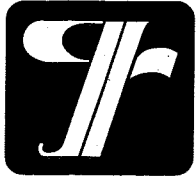
Accession #: 16102.20090821.001

*Science Applications International Corporation*

18912 North Creek Parkway | Suite 101 / Bothell, WA 98011 / tel: (425) 485-5800 / fax: (425) 485-5566 | [saic.com](http://saic.com)

**Attachment A:  
Gettler-Ryan Inc. – Groundwater Monitoring and Sampling Report  
Event of April 24, 2009, Former Tidewater Service Station No. 30-3189  
7301 MLK Jr. Way South, Seattle, Washington**

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# GETTLER-RYAN INC.



## TRANSMITTAL

June 22, 2009  
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
4	May 21, 2009	Groundwater Monitoring and Sampling Report Event of April 24, 2009

### COMMENTS:

Pursuant to your request, we are providing you with copies of the above referenced report for **your use and distribution to the following:**

Ms. Olivia Skance, Chevron Environmental Management Company, 6111 Bollinger Canyon Road, Ste. 3636,  
San Ramon, CA 94583

Mr. Larry Hard, Seattle Housing Authority, P.O. Box 19028, Seattle, Washington 98109-1028  
Washington State Department of Ecology, Northwest Region, Toxics Cleanup Program,  
3190 160<sup>th</sup> Avenue SE, Bellevue, WA 98008

*Current Site Check List included.*

Enclosure



# GETTLER-RYAN INC.

## CHEVRON - SITE CHECK LIST

Facility#:	Chevron #303189	Date:	4-24-09
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	Replaced	OK	
MW-2	↓	↓	OK	↓	
MW-3	↓	↓	OK	↓	

Additional Comments/Observations:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



# GETTLER-RYAN INC.

May 21, 2009  
Job #386795

Ms. Olivia Skance  
Chevron Environmental Management Company  
P.O. Box 6012, Room 3636  
San Ramon, CA 94583

**RE: Event of April 24, 2009**  
Groundwater Monitoring & Sampling Report  
Chevron Facility (Former Tidewater) #303189  
7301 Martin Luther King Jr. Way S.  
Seattle, Washington

Dear Mr. Skance:

This report documents the most recent groundwater monitoring and sampling event performed by Gettler-Ryan Inc. (G-R) at the referenced site. All field work was conducted in accordance with G-R Standard Operating Procedure - Groundwater Sampling (attached).

Static groundwater levels were measured and the wells were checked for the presence of separate-phase hydrocarbons. Separate-phase hydrocarbons were not present in the wells. Static water level data and groundwater elevations are presented in Table 1. A Potentiometric Map is included as Figures 1.

Groundwater samples were collected from the monitoring wells and submitted to a state certified laboratory for analyses. The field data sheets for this event are attached. Analytical results are presented in the table(s) listed below. Purge water was treated by filtration through granular activated carbon and was subsequently discharged. The chain of custody document and laboratory analytical reports are attached.

Please call if you have any questions or comments regarding this report. Thank you.

Sincerely,

Deanna L. Harding  
Project Coordinator

Douglas J. Lee  
Senior Geologist, L.G. No. 2660



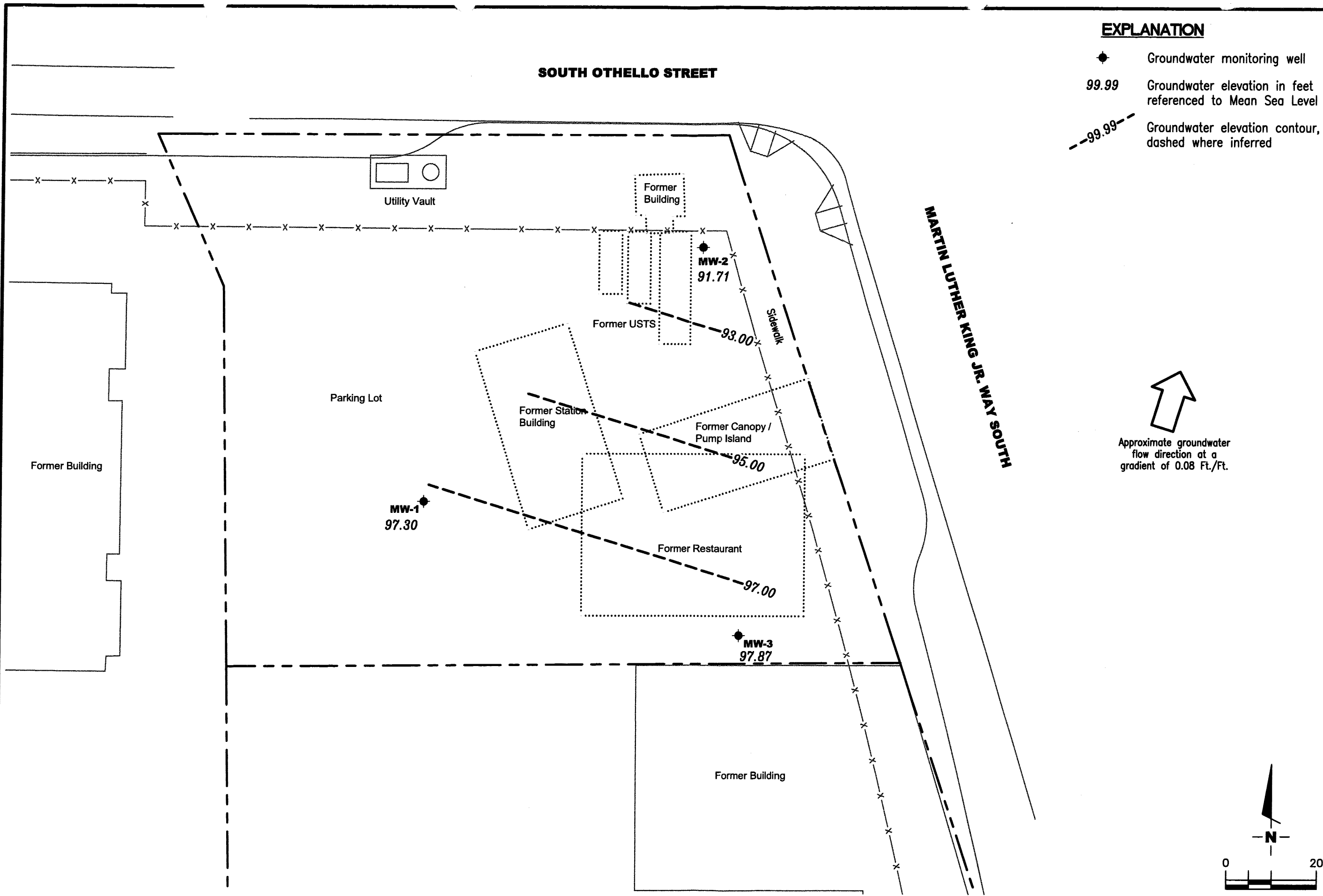
Douglas J. Lee

Figure 1: Potentiometric Map  
Table 1: Groundwater Monitoring Data and Analytical Results  
Attachments: Standard Operating Procedure - Groundwater Sampling  
Field Data Sheets  
Chain of Custody Document and Laboratory Analytical Reports

**SOUTH OHELLO STREET**

**EXPLANATION**

- ◆ Groundwater monitoring well
- 99.99 Groundwater elevation in feet referenced to Mean Sea Level
- - - 99.99 - - - Groundwater elevation contour, dashed where inferred



Approximate groundwater flow direction at a gradient of 0.08 Ft./Ft.

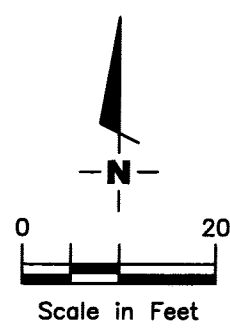


FIGURE 1

**POTENTIOMETRIC MAP**  
 Chevron Facility (Former Tidewater) #303189  
 7301 Martin Luther King Jr. Way South  
 Seattle, Washington

**GETTLER - RYAN INC.**  
 6747 Sierra Court, Suite J  
 Dublin, CA 94568  
 (925) 551-7555

PROJECT NUMBER: 385862  
 REVIEWED BY: [Signature]  
 DATE: April 24, 2009  
 FILE NAME: P:\Enviro\Chevron\303189\009-303189.dwg | Layout Tab: Pot2

Source: Figure modified from drawing provided by SAIC, Site Map, Figure 1, Dated: 01/11/08..

**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
Chevron Facility (Former Tidewater) #303189  
7301 Martin Luther King Jr. Way S.  
Seattle, Washington

WELL ID/ DATE	TOC* (ft.)	DTW (ft.)	GWE (ft.)	TPH-DRO (µg/L)	TPH-HRO (µg/L)	TPH-GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	T. LEAD (µg/L)
<b>MW-1</b>												
08/31/07 <sup>1</sup>	--	--	--	930	190	<50	<0.5	<0.5	<0.5	<1.5	--	0.052
04/24/09	PER 99.66	2.36	97.30	650	<76	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--
<b>MW-2</b>												
08/31/07 <sup>1</sup>	--	--	--	2,100	1,200	26,000	3,200	190	1,400	3,300	--	--
04/24/09	PER 99.05	7.34	91.71	-- <sup>2</sup>	-- <sup>2</sup>	16,000	4,100	99	1,500	2,000	<3	--
<b>MW-3</b>												
08/31/07 <sup>1</sup>	--	--	--	120	<100	<50	<0.5	<0.5	<0.5	<1.5	--	0.055
04/24/09	PER 100.00	2.13	97.87	58	<75	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--
<b>B-9</b>												
05/01/02 <sup>1</sup>	--	--	--	0.660	0.310	32	530	<100	1,600	4,300	--	--
<b>B-10</b>												
05/01/02 <sup>1</sup>	--	--	--	5.10	<0.0630	26	240	110	240	330	--	--
<b>TRIP BLANK</b>												
<b>QA</b>												
04/24/09	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--

	TPH-DRO	TPH-HRO	TPH-GRO	B	T	E	X	MTBE	T. LEAD
Standard Laboratory Reporting Limits:	--	--	50	0.5	0.5	0.5	0.5	1	--
MTCA Method A Cleanup Levels:	500	500	800/1,000	5	1,000	700	1,000	0.5	15
Current Method:	NWTPH-Dx + Extended			NWTPH-Gx and EPA 8021B/8260B					EPA 7421



**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
Chevron Facility (Former Tidewater) #303189  
7301 Martin Luther King Jr. Way S.  
Seattle, Washington

**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 Scientific International Corporation prior. 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

DRO = Diesel Range Organics

HRO = Oil Range Organics

B = Benzene

T = Toluene

E = Ethylbenzene

X = Xylenes

MTBE = Methyl Tertiary Butyl Ether

(µg/L) = Micrograms per liter

PER = Peristaltic Pump

< = 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 Cleanup Regulations

[WAC 173-340-720(2)(a)(I), as amended 02/01].

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

**ANALYTICAL METHOD:**

Prior to April 24, 2009, Benzene, Toluene, Ethylbenzene, Xylene Analysis by USEPA 8021

Gasoline-range hydrocarbons (TPH-GRO) Method NWTPH-Gx.

Diesel- and lube oil-range hydrocarbons (TPH-DRO) by Method NWTPH-Dx.

TPH-DRO and TPH-HRO analyzed with silica gel cleanup

BTEX and MTBE Analysis by Method 8260B

<sup>1</sup> Data provided by SAIC.

<sup>2</sup> Not sampled due to insufficient water.

## STANDARD OPERATING PROCEDURE - GROUNDWATER SAMPLING

Gettler-Ryan Inc. field personnel adhere to the following procedures for the collection and handling of groundwater samples prior to analysis by the analytical laboratory. Prior to sample collection, the type of analysis to be performed is determined. Loss prevention of volatile compounds is controlled and sample preservation for subsequent analysis is maintained.

Prior to sampling, the presence or absence of free-phase hydrocarbons is determined using an interface probe. Product thickness, if present, is measured to the nearest 0.01 foot and is noted in the field notes. In addition, all depth to water level measurements are collected with a static water level indicator and are also recorded in the field notes, prior to purging and sampling any wells.

After water levels are collected and prior to sampling, temperature, pH and electrical conductivity are measured. If purging is to occur, each well is purged a minimum of three well casing volumes of water using pre-cleaned pumps (stack, suction, Grundfos), or disposable bailers. The measurements are taken a minimum of three times during the purging. Purging continues until these parameters stabilize. Purge water is treated by filtering the water through granular activated carbon and is subsequently discharged to the ground surface at the site.

Groundwater samples are collected using disposable bailers. The water samples are transferred from the bailer into appropriate containers. Pre-preserved containers, supplied by analytical laboratories, are used for all samples. Duplicate samples are collected for the laboratory to use in maintaining quality assurance/quality control standards. The samples are labeled to include the job number, sample identification, collection date and time, analysis, preservation (if any), and the sample collector's initials. The water samples are placed in a cooler, maintained at 4°C for transport to the laboratory. Once collected in the field, all samples are maintained under chain of custody until delivered to the laboratory.

The chain of custody document includes the job number, type of preservation, if any, analysis requested, sample identification, date and time collected, and the sample collector's name. The chain of custody is signed and dated (including time of transfer) by each person who receives or surrenders the samples, beginning with the field personnel and ending with the laboratory personnel.

A laboratory supplied trip blank accompanies each sampling set. 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.

## Standard Operating Procedure, Low-Flow Purging and Sampling

This procedure is designed to assist the user in taking representative groundwater samples from groundwater monitoring wells. Samples will be collected using low-flow (minimal drawdown) purging and sampling methods as 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."

The field sampler's objective is to purge and sample the well so that the water that is discharged from the pump, and subsequently collected, is representative of the formation water from the aquifer's identified zone of interest.

The wells to be sampled are equipped with QED Well Wizard™ bladder (squeeze-type) pumps or Peristaltic Pumps. Each bladder pump or the suction inlet tubing of the peristaltic pump is positioned with its inlet located within the screened interval of the well. The down well equipment includes a bladder pump or Teflon-lined PE (polyethylene) tubing.

### ***Initial Pump Flow Test Procedures***

If possible, the optimum flow rate for each well will be established during well development or redevelopment, or in advance of the actual sampling event. The monitoring well must be gauged for Static Water Level (SWL) prior to the installation of the pump and before pumping of any water from the well. The measurement will be documented on a Low Flow Ground Water Sample Collection Record, or field data sheet.

After pump installation, and confirmation that the SWL has returned to its original level (as determined prior to pump installation), the bladder pump or peristaltic pump should be started at a discharge rate between 100 ml to 300 ml per minute without any in-line flow cell connected. The water level in the well casing must be monitored continuously for any change from the original measurement. If significant drawdown is observed, the pump's flow rate should be incrementally reduced until the SWL drawdown ceases and stabilizes. Total drawdown from the initial (static) water level should not exceed 25% of the distance between pump inlet location and the top of the well screen. (For example, if a well has a 10-foot screen zone and the pump inlet is located mid-screen; the maximum drawdown should be 1.25 feet.) In any case, the water level in the well should not be lowered below the top of the screen/intake zone of the well.

Once the specific well's optimum discharge rate, without an in-line flow cell connected, has been determined and documented, the in-line flow cell system to be used is connected to the well discharge and the control settings required to achieve the well's optimum discharge rate are determined with the in-line flow cell connected. (Due to the system's back-pressure, the discharge rate will be decreased by 10-20%). All control settings are to be documented on the gauging and sampling sheet as specific to that particular well's ID and will be utilized for its subsequent purging and sampling events.

### ***Purge and Sampling Events***

Prior to the initiation of purging a well, the SWL will be measured and documented. The pump will be started utilizing its documented control settings and its discharge rate will be confirmed by volumetric discharge measurement with the in-line flow cell connected. If necessary, any minor modifications to the control settings to achieve the well's optimum discharge rate will be documented on the gauging sheet. When the optimum pump flow rate has been established, the SWL draw down has stabilized within the required range and at least one pump system volume (bladder volume + discharge tubing volume) has been purged, begin taking field measurements for pH, temperature (T), conductivity (Ec), oxygen reduction potential (ORP) and dissolved oxygen (DO) using a "QED" Model MP-20 in-line flow cell, or other multi-parameter meter. All water chemistry field measurements will be documented on the field data sheet. Measurements should be taken every three to five minutes until stabilization has been achieved. Stabilization is achieved after all parameters have stabilized for three consecutive readings. In lieu of measuring all five parameters, a minimum subset would include pH, conductivity and dissolved oxygen. Three consecutive measurements indicating stability should be within:

Temperature	± 10%
pH	± 0.1 units
Conductance	± 03

When water quality parameters have stabilized, and there has been no change in the stabilized SWL (ie. No continuous draw down), sample collection may begin.

### ***Equipment List***

The following equipment is needed to conduct low flow purging and sampling:

- Bladder pump installed within the well's screened interval
- Pump controller and air source set to operate at the specific well's documented optimum discharge rate
- In-line flow cell and meter(s) with connection fittings and tubing to measure water quality
- Water level probe or installed dedicated water level measurement system
- Sample containers appropriate for the analytical requirements
- Low Flow Ground Water Sample Collection Record, or field data sheets
- 300-500 milliliter graduated cylinder or measuring cup
- 5 gallon bucket(s) for collecting purge water
- Wristwatch with second hand or stopwatch
- Sufficient cleaning and decontamination supplies if portable water level probe is utilized
- Peristaltic pump & tubing, in place of bladder pump, if applicable
- Multi-parameter meter, in place of in-line flow cell, if applicable

### ***Procedure QED Bladder Pumps***

1. Calibrate all field instruments at the start of each day's deployment per the instrument manufacturer's instructions. Record calibration data on the "Field Instruments Calibration Documentation Form."
2. Drive to the first well scheduled to be sampled (typically the least contaminated). Make notes in the field logbook, describing the well condition and activity in the vicinity of the well. Decontaminate the portable water gauging probe by washing with phosphate-free detergent, rinsing with potable water.
3. Measure the depth to water from the surveyed reference mark on the wellhead and record the measurement on the gauging and sampling sheet. Lock the water level meter in place so that the level can be monitored during purging and sampling. When placing the probe in the well, take precautions to not disturb or agitate the water.
4. Connect the compressed air source's airline to the pump controller's "AIR IN" connection (If utilizing a gas-engine operated compressor, locate the compressor at least 25 feet, down wind from the wellhead).
5. Connect the pump controller "AIR OUT" air-line to the bladder pump's air supply fitting at the wellhead.
6. Connect the pump discharge line to the in-line flow cell's "IN" fitting.
7. Connect the flow cell's "OUT" line and secure to drain the purge water into the purge water collection container.
8. Start the air supply to the pump. Set the pump controller settings to the documented settings for the specific well. Confirm the flow rate is equal to the well's established optimum flow rate. Modify as necessary (documenting any required modifications).
9. Monitor the water level and confirm that the SWL draw down has stabilized within the well's allowable limits.
10. After a single pump-system's volume (bladder volume + discharge tubing volume) has been adequately purged, read and record water quality field measurements every three to five minutes until all parameters have stabilized within their allowable ranges for at least three consecutive measurements. When stabilization has been achieved, sample collection may begin.
11. Disconnect the flow cell, and it's tubing, from the pump discharge line before collecting samples. Decrease the pump rate to 100 milliliters per minute or less by lowering the controller's air pressure setting prior to collecting samples for volatiles. Utilize the QED Model 400 Controller's 'MANUAL SAMPLE' button to ensure minimized sample exposure to the ambient air. Refer to

- the task instructions for the correct order and procedures for filling sample containers. Place the samples in a cooler with enough ice to keep them at 4 degrees Centigrade.
12. Once samples for volatiles have been collected, re-establish pump flow rate to the original purge flow rate by inputting the documented controller settings for the well without the in-line flow cell connected and collect remaining samples.
  13. When all sample containers have been filled, make a final measurement of the well's SWL and record the measurement on the gauging and sampling sheet. If the well has a "QED" dedicated bottom sounder, measure the well's total depth and record the measurement, as well.
  14. Measure and record total purge volume collected. Consolidate generated purge water.
  15. Remove and decontaminate the portable water level probe with phosphate-free detergent, rinsing with potable water.
  16. Disconnect the controller air supply to the pump.
  17. Secure the pump's discharge line/discharge adapter in the wellhead.
  18. Secure the wellhead cover and secure with its lock. Move equipment to next well to be sampled.
  19. At the end of each day, post calibrate all field instruments and record the measurements on the "Field Calibration Documentation Form".
  20. Clean and decontaminate the in-line flow cell with phosphate-free detergent, rinsing with potable water.

### ***Procedure Peristaltic Pump***

1. Record all depth to water readings on field data sheets
2. Calibrate all field instruments according to manufacturer's directions.
3. Setup pump and install silicone tubing in the roller head.
4. Place suction tubing at desired intake level in well, (mid screen) and attach to the intake side of the pump roller head.
5. Attach tubing at discharge side of pump head and place in collection container.
6. Start pump and adjust flow rate to achieve flow without depressing water level more than necessary (approx. 0.30').
7. Record parameter readings after parameters have stabilized (3 consecutive readings that fall within the acceptance criteria).
8. Decrease the flow rate of the pump to achieve approximately 100ml/min. when collecting samples.
9. Change all tubing between wells and repeat procedure.



# 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: 4-24-09 (inclusive)  
 City: Seattle, WA Sampler: ML

Well ID: MW-1  
 Well Diameter: .75 in.  
 Total Depth: 11.52 ft.  
 Depth to Water: 2.36 ft.  
9.16 xVF = \_\_\_\_\_ x3 case volume = Estimated Purge Volume: \_\_\_\_\_ gal.

Date Monitored: 4-24-09

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

Check if water column is less than 0.50 ft.

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

### 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): 1500 Weather Conditions: Sunny  
 Sample Time/Date: 1525 14-24-09 Water Color: Clear Odor: Y10  
 Approx. Flow Rate: 200 ml /pm. Sediment Description: None  
 Did well de-water? NO If yes, Time: \_\_\_\_\_ Volume: \_\_\_\_\_ gal. DTW @ Sampling: 2.40

Time (2400 hr.)	Volume (L)	pH	Conductivity (µmhos/cm - µS)	Temperature (°F)	D.O. (mg/L)	ORP (mV)	Gauge DTW as parameters are recorded
<u>1510</u>	<u>2</u>	<u>6.51</u>	<u>799</u>	<u>16.1</u>			<u>2.40</u>
<u>1513</u>	<u>2.6</u>	<u>6.55</u>	<u>803</u>	<u>16.1</u>			<u>2.41</u>
<u>1516</u>	<u>3.2</u>	<u>6.57</u>	<u>805</u>	<u>16.2</u>			<u>2.40</u>

### 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: X 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: 4-24-09 (inclusive)  
 City: Seattle, WA Sampler: ML

Well ID: MW-2  
 Well Diameter: .75 in.  
 Total Depth: 9.42 ft.  
 Depth to Water: 7.34 ft.  
2.08 xVF = \_\_\_\_\_ x3 case volume = Estimated Purge Volume: \_\_\_\_\_ gal.

Date Monitored: 4-24-09

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

Check if water column is less than 0.50 ft.

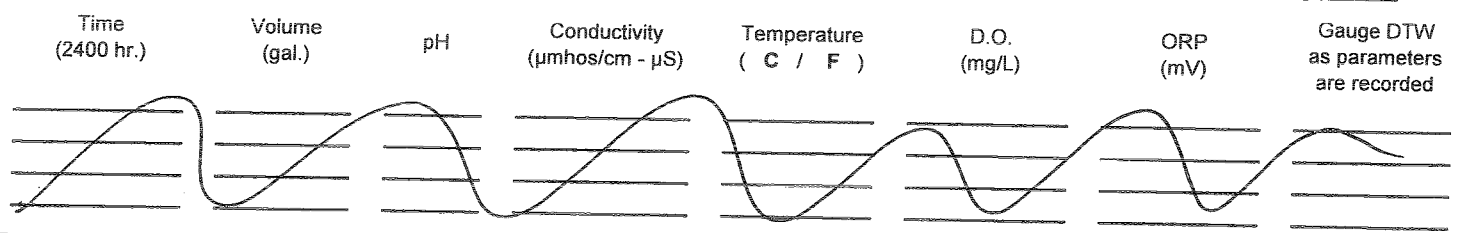
Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: \_\_\_\_\_

**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): 1545 Weather Conditions: Sunny  
 Sample Time/Date: 1615 4-24-09 Water Color: cloudy Odor: (Y) N  
 Approx. Flow Rate: 200 ml gpm. Sediment Description: light  
 Did well de-water? yes If yes, Time: 1547 Volume: 400 ml DTW @ Sampling: 7.56



### LABORATORY INFORMATION

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

COMMENTS: Well De-aired, waited for well to recover and sampled. Only able to collect 6 VOAs because of insufficient water

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: 4-24-09 (inclusive)  
 City: Seattle, WA Sampler: ML

Well ID: MW-3  
 Well Diameter: .75 in.  
 Total Depth: 9.49 ft.  
 Depth to Water: 2.13 ft.  
7.36 xVF = \_\_\_\_\_ x3 case volume = Estimated Purge Volume: \_\_\_\_\_ gal.

Date Monitored: 4-24-09

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

Check if water column is less than 0.50 ft.

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

### 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): 1415 Weather Conditions: Sunny  
 Sample Time/Date: 1440 4-24-09 Water Color: Cloudy Odor: Y/N  
 Approx. Flow Rate: 200 ml / min Sediment Description: medium  
 Did well de-water? No If yes, Time: \_\_\_\_\_ Volume: \_\_\_\_\_ gal. DTW @ Sampling: 2.18

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
<u>1425</u>	<u>2</u>	<u>6.63</u>	<u>510</u>	<u>17.7</u>			<u>2.16</u>
<u>1428</u>	<u>2.4</u>	<u>6.68</u>	<u>514</u>	<u>17.8</u>			<u>2.17</u>
<u>1431</u>	<u>3.2</u>	<u>6.64</u>	<u>511</u>	<u>17.8</u>			<u>2.18</u>

### LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-3	4 x vva 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**



**AMENDED**

Acct. # 11260 For Lancaster Laboratories use only  
 Sample # 5055716-9

SCR# \_\_\_\_\_

Grp# 1142104

Facility #: SS#303189-OML G-R#385862  
 Site Address: 7301 Martin Luther King Jr. Way South, SEATTLE, WA  
 Chevron PM: OS Lead Consultant: SAICPC  
 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: \_\_\_\_\_

Matrix		Analyses Requested																			
Soil	Water	Oil	Air	Total Number of Containers	Preservation Codes																
					BTEX + MTBE 8021	8260	Naphth	8260 full scan	Oxygenates	TPH Gy	Estimated Rng	Silica Gel Cleanup	Lead Total	Dis. Method	VPI/PEH	NMTPH H CID	quantification				
					<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Preservative Codes**  
 H = HCl    T = Thiosulfate  
 N = HNO<sub>3</sub>    B = NaOH  
 S = H<sub>2</sub>SO<sub>4</sub>    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	Soil	Water	Oil	Air	Total Number of Containers	BTEX + MTBE 8021	8260	Naphth	8260 full scan	Oxygenates	TPH Gy	Estimated Rng	Silica Gel Cleanup	Lead Total	Dis. Method	VPI/PEH	NMTPH H CID	quantification	
QA	042409		X			X			2	X					X								
MW-1		1525	X			X			8	X					X								
MW-2		1615	X			X			6	X					X								
MW-3		1410	X			X			8	X					X								

**Comments / Remarks**  
 Please amend the COFC the collection date of 04-24-09  
 Cheryl Skerson  
 5-19-09

**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

Relinquished by: <u>[Signature]</u>	Date: <u>4-21-09</u>	Time: <u>1730</u>	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by Commercial Carrier:	LPS    FedEx    Other _____		Received by:	Date:	Time:
Temperature Upon Receipt: _____ C	Custody Seals Intact?    Yes    No				

# Chevron Northwest Region Analysis Request/Chain of Custody



For Lancaster Laboratories use only  
 Acct. #: 11260 Sample #: 5655716-19 SCR#: \_\_\_\_\_

Grp# 1142104

Facility #: SS#303189-OML G-R#385862  
 Site Address: 7301 Martin Luther King Jr. Way South, SEATTLE, WA  
 Chevron PM: OS Lead Consultant: SAICPC  
 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:

Matrix		Analyses Requested													
		Preservation Codes													
Potable <input type="checkbox"/>	Water <input type="checkbox"/>	Oil <input type="checkbox"/>	Air <input type="checkbox"/>	Total Number of Containers	<input type="checkbox"/> Naphth	<input type="checkbox"/> BTEX + MTBE	<input type="checkbox"/> 8260	<input type="checkbox"/> 8260 ML scan	<input type="checkbox"/> Organot	<input type="checkbox"/> TPH G X	<input type="checkbox"/> TPH D	<input type="checkbox"/> Extended Ring	<input type="checkbox"/> Silica Gel Cleanup	<input type="checkbox"/> Method	<input type="checkbox"/> Quantification

**Preservative Codes**  
 H = HCl      T = Thiosulfate  
 N = HNO<sub>3</sub>    B = NaOH  
 S = H<sub>2</sub>SO<sub>4</sub>   O = Other

J value reporting needed  
 Must meet lowest detection limits possible for 8260 compounds

**802f 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	Soil	Water	Oil	Air	Total Number of Containers	Analyses	Preservation	Method	Quantification
<u>QA</u>			<input checked="" type="checkbox"/>										
<u>MW-1</u>		<u>1525</u>	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<u>MW-2</u>		<u>1615</u>	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<u>MW-3</u>		<u>1440</u>	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**Comments / Remarks**

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

<u>STD. TAT</u>	72 hour	48 hour
24 hour	4 day	5 day

**Data Package Options (please circle if required)    EDF/EOD**

QC Summary	Type I - Full
Type VI (Raw Data)	Disk / EOD
WIP (RWQCB)	Standard Format
Disk	Other.

Relinquished by: <u>[Signature]</u>	Date: <u>4/24/10</u>	Time: <u>1730</u>	Received by: <u>[Signature]</u>	Date: _____	Time: _____
Relinquished by: _____	Date: _____	Time: _____	Received by: _____	Date: _____	Time: _____
Relinquished by Commercial Carrier: _____	Date: _____	Time: _____	Received by: <u>Kristi Hartlage</u>	Date: <u>4/25/10</u>	Time: <u>10:00</u>
UPS <input checked="" type="checkbox"/> FedEx <input checked="" type="checkbox"/> Other _____	Temperature Report Receipt: <u>4.7-5.3 C°</u>		Custody Seals Intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		



# Analysis Report

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2661 • www.lancasterlabs.com

RECEIVED

## ANALYTICAL RESULTS

JUN 22 2009

Prepared for:

Chevron  
6001 Bollinger Canyon Road  
L4310  
San Ramon CA 94583

GETTLER-RYAN, INC.  
REGIONAL CONTRACTORS

925-842-8582

Prepared by:

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

June 19, 2009

### SAMPLE GROUP

The sample group for this submittal is 1142104. Samples arrived at the laboratory on Saturday, April 25, 2009. The PO# for this group is 0015045667 and the release number is SKANCE.

<u>Client Description</u>	<u>Lancaster Labs Number</u>
QA Water Sample	5655716
MW-1 Grab Water Sample	5655717
MW-2 Grab Water Sample	5655718
MW-3 Grab Water Sample	5655719

### METHODOLOGY

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Chronicle.

ELECTRONIC COPY TO SAIC c/o Gettler-Ryan

Attn: Cheryl Hansen



## **Analysis Report**

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

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

Respectfully Submitted,

A handwritten signature in black ink, appearing to read "Robin C. Runkle".

**Robin C. Runkle**  
**Senior Specialist**



# Analysis Report

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

Lancaster Laboratories Sample No. WW 5655716

Group No. 1142104

WA

QA Water Sample

Facility# 303189 Job# 385862

7301 Martin Luther King Jr Way S - Seattle, WA

Collected: 04/24/2009

Account Number: 11260

Submitted: 04/25/2009 10:00

Chevron

Reported: 06/19/2009 at 15:10

6001 Bollinger Canyon Road

Discard: 07/20/2009

L4310

San Ramon CA 94583

MLKQA

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
<b>SW-846 8260B</b>	<b>GC/MS Volatiles</b>		<b>ug/l</b>	<b>ug/l</b>	
06054	Benzene	71-43-2	N.D.	0.5	1
06054	Ethylbenzene	100-41-4	N.D.	0.5	1
06054	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1
06054	Toluene	108-88-3	N.D.	0.5	1
06054	Xylene (Total)	1330-20-7	N.D.	0.5	1
<b>ECY 97-602 NWTPH-Gx</b>	<b>GC Volatiles</b>		<b>ug/l</b>	<b>ug/l</b>	
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 Chronicle

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06054	BTEX+MTBE by 8260B	SW-846 8260B	1	Z091192AA	04/29/2009 11:29	Ginelle L Feister	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z091192AA	04/29/2009 11:29	Ginelle L Feister	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	09117A20A	04/27/2009 17:52	Fanella S Zamcho	1
01146	GC VOA Water Prep	SW-846 5030B	1	09117A20A	04/27/2009 17:52	Fanella S Zamcho	1



# Analysis Report

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

Lancaster Laboratories Sample No. WW 5655717  
MW-1 Grab Water Sample  
Facility# 303189 Job# 385862  
7301 Martin Luther King Jr Way S - Seattle, WA

Group No. 1142104  
WA

Collected: 04/24/2009 15:25 by ML

Account Number: 11260

Submitted: 04/25/2009 10:00  
Reported: 06/19/2009 at 15:10  
Discard: 07/20/2009

Chevron  
6001 Bollinger Canyon Road  
L4310  
San Ramon CA 94583

MLKM1

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
<b>SW-846 8260B</b>	<b>GC/MS Volatiles</b>		<b>ug/l</b>	<b>ug/l</b>	
06054	Benzene	71-43-2	N.D.	0.5	1
06054	Ethylbenzene	100-41-4	N.D.	0.5	1
06054	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1
06054	Toluene	108-88-3	N.D.	0.5	1
06054	Xylene (Total)	1330-20-7	N.D.	0.5	1
<b>ECY 97-602 NWTPH-Gx</b>	<b>GC Volatiles</b>		<b>ug/l</b>	<b>ug/l</b>	
08273	NWTPH-Gx water C7-C12	n.a.	N.D.	50	1
<b>ECY 97-602 NWTPH-Dx modified</b>	<b>GC Extractable TPH w/Si Gel</b>		<b>ug/l</b>	<b>ug/l</b>	
02211	DRO C12-C24 w/Si Gel	n.a.	650	33	1
02211	HRO C24-C40 w/Si Gel	n.a.	N.D.	76	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 Chronicle

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06054	BTEX+MTBE by 8260B	SW-846 8260B	1	Z091192AA	04/29/2009 11:54	Ginelle L Feister	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z091192AA	04/29/2009 11:54	Ginelle L Feister	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	09117A20A	04/28/2009 00:25	Fanella S Zamcho	1
01146	GC VOA Water Prep	SW-846 5030B	1	09117A20A	04/28/2009 00:25	Fanella S Zamcho	1
02211	NWTPH-Dx water w/Si Gel	ECY 97-602 NWTPH-Dx modified	1	091260016A	05/08/2009 08:43	Diane V Do	1
02135	Extraction - DRO Water Special	ECY 97-602 NWTPH-Dx 06/97	2	091260016A	05/07/2009 02:00	Roman Kuropatkin	1



# Analysis Report

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

Lancaster Laboratories Sample No. WW 5655718  
MW-2 Grab Water Sample  
Facility# 303189 Job# 385862  
7301 Martin Luther King Jr Way S - Seattle, WA

Group No. 1142104  
WA

Collected: 04/24/2009 16:15 by ML

Account Number: 11260

Submitted: 04/25/2009 10:00  
Reported: 06/19/2009 at 15:10  
Discard: 07/20/2009

Chevron  
6001 Bollinger Canyon Road  
L4310  
San Ramon CA 94583

MLKM2

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
<b>SW-846 8260B</b>	<b>GC/MS Volatiles</b>		<b>ug/l</b>	<b>ug/l</b>	
06054	Benzene	71-43-2	4,100	25	50
06054	Ethylbenzene	100-41-4	1,500	25	50
06054	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	3	5
06054	Toluene	108-88-3	99	3	5
06054	Xylene (Total)	1330-20-7	2,000	3	5
<b>ECY 97-602 NWTPH-Gx</b>	<b>GC Volatiles</b>		<b>ug/l</b>	<b>ug/l</b>	
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 Chronicle

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06054	BTEX+MTBE by 8260B	SW-846 8260B	1	Z091192AA	04/29/2009 12:19	Ginelle L Feister	5
06054	BTEX+MTBE by 8260B	SW-846 8260B	1	Z091192AA	04/29/2009 12:44	Ginelle L Feister	50
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z091192AA	04/29/2009 12:19	Ginelle L Feister	5
01163	GC/MS VOA Water Prep	SW-846 5030B	2	Z091192AA	04/29/2009 12:44	Ginelle L Feister	50
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	09117A20A	04/28/2009 00:46	Fanella S Zamcho	10
01146	GC VOA Water Prep	SW-846 5030B	1	09117A20A	04/28/2009 00:46	Fanella S Zamcho	10



# Analysis Report

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

Lancaster Laboratories Sample No. WW 5655719  
 MW-3 Grab Water Sample  
 Facility# 303189 Job# 385862  
 7301 Martin Luther King Jr Way S - Seattle, WA

Group No. 1142104  
 WA

Collected: 04/24/2009 14:40 by ML

Account Number: 11260

Submitted: 04/25/2009 10:00  
 Reported: 06/19/2009 at 15:10  
 Discard: 07/20/2009

Chevron  
 6001 Bollinger Canyon Road  
 L4310  
 San Ramon CA 94583

MLKM3

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
<b>SW-846 8260B</b>	<b>GC/MS Volatiles</b>		<b>ug/l</b>	<b>ug/l</b>	
06054	Benzene	71-43-2	N.D.	0.5	1
06054	Ethylbenzene	100-41-4	N.D.	0.5	1
06054	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1
06054	Toluene	108-88-3	N.D.	0.5	1
06054	Xylene (Total)	1330-20-7	N.D.	0.5	1
<b>ECY 97-602 NWTPH-Gx</b>	<b>GC Volatiles</b>		<b>ug/l</b>	<b>ug/l</b>	
08273	NWTPH-Gx water C7-C12	n.a.	N.D.	50	1
<b>ECY 97-602 NWTPH-Dx modified</b>	<b>GC Extractable TPH w/Si Gel</b>		<b>ug/l</b>	<b>ug/l</b>	
02211	DRO C12-C24 w/Si Gel	n.a.	58	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 Chronicle

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06054	BTEX+MTBE by 8260B	SW-846 8260B	1	Z091192AA	04/29/2009 13:09	Ginelle L Feister	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z091192AA	04/29/2009 13:09	Ginelle L Feister	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	09126A07A	05/07/2009 02:19	Katrina T Longenecker	1
01146	GC VOA Water Prep	SW-846 5030B	1	09126A07A	05/07/2009 02:19	Katrina T Longenecker	1
02211	NWTPH-Dx water w/Si Gel	ECY 97-602 NWTPH-Dx modified	1	091260016A	05/08/2009 08:43	Diane V Do	1
02135	Extraction - DRO Water Special	ECY 97-602 NWTPH-Dx 06/97	2	091260016A	05/07/2009 02:00	Roman Kuropatkin	1



## Quality Control Summary

 Client Name: Chevron  
 Reported: 06/19/09 at 03:10 PM

Group Number: 1142104

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: Z091192AA	Sample number(s): 5655716-5655719							
Benzene	N.D.	0.5	ug/l	99		80-116		
Ethylbenzene	N.D.	0.5	ug/l	98		80-113		
Methyl Tertiary Butyl Ether	N.D.	0.5	ug/l	88		78-117		
Toluene	N.D.	0.5	ug/l	100		80-115		
Xylene (Total)	N.D.	0.5	ug/l	93		81-114		
Batch number: 09117A20A	Sample number(s): 5655716-5655718							
NWTPH-Gx water C7-C12	N.D.	50.	ug/l	100	100	75-135	0	30
Batch number: 09126A07A	Sample number(s): 5655719							
NWTPH-Gx water C7-C12	N.D.	50.	ug/l	100	100	75-135	0	30
Batch number: 091260016A	Sample number(s): 5655717,5655719							
DRO C12-C24 w/Si Gel	N.D.	30.	ug/l	75	75	61-106	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: Z091192AA	Sample number(s): 5655716-5655719 UNSPK: P655557								
Benzene	108	106	80-126	2	30				
Ethylbenzene	107	106	77-125	1	30				
Methyl Tertiary Butyl Ether	94	93	72-126	1	30				
Toluene	110	107	80-125	2	30				
Xylene (Total)	101	99	79-125	1	30				
Batch number: 09126A07A	Sample number(s): 5655719 UNSPK: P658038								
NWTPH-Gx water C7-C12	109		46-140						

### 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: BTEX+MTBE by 8260B  
 Batch number: Z091192AA

#### \*- 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: 1142104  
 Reported: 06/19/09 at 03:10 PM

### Surrogate Quality Control

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
5655716	87	87	95	87
5655717	87	87	95	87
5655718	85	86	97	88
5655719	87	88	94	86
Blank	86	87	94	85
LCS	85	88	94	89
MS	86	88	94	89
MSD	86	88	94	90
Limits:	80-116	77-113	80-113	78-113

Analysis Name: NWTPH-Gx water C7-C12  
 Batch number: 09117A20A  
 Trifluorotoluene-F

5655716	93
5655717	95
5655718	121
Blank	94
LCS	114
LCSD	114

Limits: 63-135

Analysis Name: NWTPH-Gx water C7-C12  
 Batch number: 09126A07A  
 Trifluorotoluene-F

5655719	94
Blank	95
LCS	103
LCSD	103
MS	102

Limits: 63-135

Analysis Name: NWTPH-Dx water w/Si Gel  
 Batch number: 091260016A  
 Orthoterphenyl

5655717	111
5655719	92
Blank	108
LCS	120
LCSD	118

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.

## Lancaster Laboratories Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

<b>N.D.</b>	none detected	<b>BMQL</b>	Below Minimum Quantitation Level
<b>TNTC</b>	Too Numerous To Count	<b>MPN</b>	Most Probable Number
<b>IU</b>	International Units	<b>CP Units</b>	cobalt-chloroplatinate units
<b>umhos/cm</b>	micromhos/cm	<b>NTU</b>	nephelometric turbidity units
<b>C</b>	degrees Celsius	<b>F</b>	degrees Fahrenheit
<b>Cal</b>	(diet) calories	<b>lb.</b>	pound(s)
<b>meq</b>	milliequivalents	<b>kg</b>	kilogram(s)
<b>g</b>	gram(s)	<b>mg</b>	milligram(s)
<b>ug</b>	microgram(s)	<b>l</b>	liter(s)
<b>ml</b>	milliliter(s)	<b>ul</b>	microliter(s)
<b>m3</b>	cubic meter(s)	<b>fib &gt;5 um/ml</b>	fibers greater than 5 microns in length per ml
<b>&lt;</b>	less than – The number following the sign is the <u>limit of quantitation</u> , the smallest amount of analyte which can be reliably determined using this specific test.		
<b>&gt;</b>	greater than		
<b>ppm</b>	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.		
<b>ppb</b>	parts per billion		
<b>Dry weight basis</b>	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.		

U.S. EPA data qualifiers:

Organic Qualifiers	Inorganic Qualifiers
<b>A</b> TIC is a possible aldol-condensation product	<b>B</b> Value is <CRDL, but ≥IDL
<b>B</b> Analyte was also detected in the blank	<b>E</b> Estimated due to interference
<b>C</b> Pesticide result confirmed by GC/MS	<b>M</b> Duplicate injection precision not met
<b>D</b> Compound quantitated on a diluted sample	<b>N</b> Spike amount not within control limits
<b>E</b> Concentration exceeds the calibration range of the instrument	<b>S</b> Method of standard additions (MSA) used for calculation
<b>J</b> Estimated value	<b>U</b> Compound was not detected
<b>N</b> Presumptive evidence of a compound (TICs only)	<b>W</b> Post digestion spike out of control limits
<b>P</b> Concentration difference between primary and confirmation columns >25%	<b>*</b> Duplicate analysis not within control limits
<b>U</b> Compound was not detected	<b>+</b> Correlation coefficient for MSA <0.995
<b>X,Y,Z</b> Defined in case narrative	

Analytical test results for methods listed on the laboratories' accreditation scope meet all requirements of NELAC unless otherwise noted under the individual analysis.

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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