

The Benham Companies, LLC

A Wholly Owned Subsidiary

March 31, 2010

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

Subject:

First Quarter 2010 Groundwater Monitoring Report Former Tidewater Service Station No. 30-3189 7301 MLK Jr. Way South Seattle, Washington

Dear Ms. Skance:

RECEIVEI APR 2.6 2010 DEPT. UF ECULOG TCP-NWRO

COMPLETED

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 first quarter 2010 groundwater monitoring and sampling event was conducted by Gettler-Ryan Inc. on February 11, 2010.

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*, included as 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 on the property. 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 98.41 feet in monitoring well MW-3 to 92.07 feet in monitoring well MW-2, based on an arbitrary benchmark elevation of 100.00 feet. Groundwater flow at the time of this event was toward the north-northeast at an approximate gradient of 0.08 feet per foot (ft/ft), and groundwater elevation had decreased an average of 0.45 feet since the previous groundwater monitoring event performed in November 2009. Figure 1 of the enclosed Attachment A depicts groundwater elevations and well locations.

Groundwater samples were collected from each of the three monitoring wells on the property 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.

Science Applications International Corporation

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

2.0 ANALYTICAL RESULTS

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

- Gasoline-range hydrocarbons, benzene, ethylbenzene, and total xylenes in monitoring well MW-2; and
- Diesel-range hydrocarbons in monitoring well MW-1.

Diesel- and heavy oil-range hydrocarbons could not be analyzed for in monitoring well MW-2 due to the well dewatering during sampling. None of the other constituents analyzed for were present at concentrations exceeding their respective MTCA Method A CULs. Groundwater analytical results are summarized in Table 1 of Attachment A.

3.0 SUMMARY

Groundwater analytical results are consistent with historical results for the subject Site. The concentrations of gasoline-range hydrocarbons and benzene in monitoring well MW-2 are likely due to residual soil impacts related to the former underground storage tanks (USTs), which were located upgradient from this well.

Groundwater monitoring results indicate an increase in the concentration of gasoline-range hydrocarbons and BTEX in monitoring well MW-2 when compared to the previous sampling event. In addition, dieselrange hydrocarbons were detected in monitoring well MW-1 at a concentration exceeding the MTCA Method A CULs for the first time since April 2009. The increase in concentrations is likely due to the drop in the groundwater elevation suggesting that variations in hydrocarbon concentrations likely correspond with seasonal groundwater fluctuation.

Groundwater monitoring will continue at this site on a quarterly basis in order to establish analytical trends during seasonal high and low groundwater periods. Quarterly groundwater monitoring will continue with the next sampling event planned for May 2010.

Please feel free to contact me at 425-482-3321 or at <u>catterallp@saic.com</u> if you have any questions or comments regarding the information provided.

Sincerely,

SCIENCE APPLICATIONS INTERNATIONAL CORPORATION

Peter Catterall Project Manager

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

Enclosures:

- Attachment A: Gettler-Ryan Inc. Groundwater Monitoring & Sampling Report, Event of February 11, 2010, Former Tidewater Service Station No. 30-3189, 7301 MLK Jr. Way South, Seattle, Washington
 - cc: Ms. Donna Musa, Washington Station Department of Ecology, Northwest Regional Office, Toxics Cleanup Program
 Mr. Larry Hard, Seattle Housing Authority
 File

Attachment A: Gettler-Ryan Inc. – Groundwater Monitoring and Sampling Report Event of February 11, 2010, Former Tidewater Service Station No. 30-3189 7301 MLK Jr. Way South, Seattle, Washington



March 12, 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
4	March 9, 2010	Groundwater Monitoring and Sampling Report Event of February 11, 2010

COMMENTS:

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

- 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
- Ms. Donna Musa, Washington State Department of Ecology, Northwest Region, Toxics Cleanup Program, 3190 160th Avenue SE, Bellevue, WA 98008

Current Site Check List included.

Enclosure

trans/303189-OS



		CHEVRON - S	SITE CHE	CK LIST		
	Facility#:	Chevron #303189		Date: Z	-11-10	
	Address:	7301 Martin Luther King Jr.	Way South		<u> </u>	
	City/St.:	Seattle,WA	/			
	Status of Site:	VACANT OST				
RUMS:	Please list belo location of drui	w ALL DRUMS @ site: i.e., dru m:	im description	, condition	, labeling, co	ntents,
	#	Description	Condition	Labeling	Contents	Location
		10				
		DRums				
ELLS:	Please check t etc.:	he condition of ALL WELLS @	site: i.e., well	box condit	ion, well plug	j, well lock,
	Well ID	Well Box	Bolts	Well Plug	Well Lock	Other
	MW-1	OK	OF	OK	OK	
	MW-2				1	
\heartsuit	MW-3	V V		V	V	
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4	Additional Com	nents/Observations:	1	<u>I_</u>	<u></u>	



March 9, 2010 Job #386795

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

RE: Event of February 11, 2010 Groundwater Monitoring & Sampling Report Chevron Facility (Former Tidewater) #303189 7301 Martin Luther King Jr. Way South Seattle, Washington

Dear Ms. 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 Figure 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,

Wash Deanna L. Harding **Project Coordinator** 2660 onsed Geo Douglas J Lee Douolas J. Lee Senior Geologist, L.G. No. 2660

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





Table 1 Groundwater Monitoring Data and Analytical Results Chevron Facility (Former Tidewater) #303189

7301 Martin Luther King Jr. Way South

			·			Se	eattle, Washing	gton					
WELL ID/		TOC*	DTW	GWE	TPH-DRO	TPH-HRO	TPH-GRO	В	T	E.	X	MTBE	T. LEAD
DATE		(ft.)	(ft.)	(ft.)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
MW-1													
08/31/07 ¹					930	190	<50	<0.5	< 0.5	<0.5	<1.5		0.052
04/24/09	LFP	99.66	2.36	97.30	650	<76	<50	<0.5	< 0.5	<0.5	<0.5	<0.5	
08/12/09	LFP	99.66	4.24	95.42	370	<67	<50	<0.5	<0.5	<0.5	<0.5	<0.5	
11/14/09	LFP	99.66	1.78	97.88	270 ³	<68 ³	<50	<0.5	< 0.5	<0.5	<0.5	<0.5	
02/11/10	LFP	99.66	1.92	97.74	560	<69	<50	<0.5	<0.5	<0.5	<0.5	<0.5	
MW-2													
08/31/07 ¹					2,100	1,200	26,000	3,200	190	1,400	3,300		
04/24/09	PER	99.05	7.34	91.71	2	²	16,000	4,100	99	1,500	2,000	<3	
08/12/09	PER	99.05	8.18	90.87	<u> </u>	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	
02/11/10	PER	99.05	6.98	92.07	2	2	25,000	3,400	97	1,600	2,200	<0.5	
MW-3													
08/31/07 ¹					120	<100	<50	<0.5	<0.5	<0.5	<1.5		0.055
04/24/09	LFP	100.00	2.13	97.87	58	<75	<50	<0.5	<0.5	<0.5	<0.5	<0.5	0.055
08/12/09	LFP	100.00	4.47	95.53	620	170	<50	<0.5	<0.5	<0.5	<0.5	<0.5	
11/14/09	LFP	100.00	1.60	98.40	450	370	<50	<0.5	<0.5	< 0.5	<0.5	<0.5	
02/11/10	LFP	100.00	1.59	98.41	160	130	<50	<0.5	<0.5	<0.5	<0.5	<0.5	
B-9													
05/01/02 ¹					0.660	0.310	32	530	<100	1,600	4,300		
B-10 05/01/02 ¹					5.10	<0.0630	26	240	110	240	330		

1

Table 1 Groundwater Monitoring Data and Analytical Results Chevron Facility (Former Tidewater) #303189

7301 Martin Luther King Jr. Way South Seattle Washington

V R.L.L. ARD/. D & . Thursday	TOC*		GWE	TPH-DRO	TPH-HRO	TPH-GRO	B	1 1	Ĩ.		MTBE	T.LEAD
	(ft.)	(91.)	(91.)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	$(\mu g/L)$	(µg/L)	(µg/L)
RIP BLANK								n mente di seconda da seconda de la si da da segunda de la Constitución de la Constitución de la Constitución d	nine a seu la contra e destala compañía de la la de seu de seu compañía de la compañía de la compañía de la com	and the Construction of th	1.8	(HB).4.1
A												
/24/09	100 m		500 dep	10.00	**	<50	<0.5	<0.5	< 0.5	-0 E	-D 6	
/12/09	100.000	100 Ma	43.60	10 cm	ar as	<50				<0.5	<0.5	10 M
/14/09					ar as		<0.5	<0.5	<0.5	<0.5	< 0.5	
/11/10			dia ma	-tit con	80.00	<50	<0.5	<0.5	<0.5	< 0.5	< 0.5	100 BB
** * ** ** ** **	*****	12.04	ann san	96.00	200 Mail	<50	<0.5	<0.5	<0.5	<0.5	<0.5	de 🚍

Standard Laboratory Reporting Limit		<u>ТРН-НКО</u>	TPH-GRO	B	Т	E	X	MTBE	T. LEAD
			50	0.5	0.5	0.5	0.5	1	In such as the second
MTCA Method A Cleanup Level		500	800/1,000	5	1,000	700	1,000	0.5	15
Current Method	: NWTPH-Dx	+ Extended	a. Ta i Minanja di Mananja di Katalan Mananja di Katalan Mananja di Katalan Mananja di Mananja di Mananja di Katalan Mananja di Katalan Mananja di Katalan Mananja di Katalan Mananja di Kat	NWTPH-	Gx and EPA 80	21B/8260B		2	EPA 7421

nse.

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 Science Application International Corporation prior. Results for wells B-9 and B-10 were provided by GeoEngineers.

TOC = Top of Casing	B = Benzene
(ft.) = Feet	T = Toluene
DTW = Depth to Water	E = Ethylbenzene
GWE = Groundwater Elevation	X = Xylenes
TPH = Total Petroleum Hydrocarbons	MTBE = Methyl Tertiary Butyl Ether
DRO = Diesel Range Organics	$(\mu g/L) = Micrograms per liter$
HRO = Heavy Range Organics	PER = Peristaltic Pump

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

- * TOC elevations are expressed in feet relative to an arbitrary datum.
- ¹ Data provided by SAIC.

3

² Not sampled due to insufficient water.

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 DRO result for the reextraction is 610 ug/L, the HRO result for the reextract is ND.

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

STANDARD OPERATING PROCEDURE -GROUNDWATER SAMPLING

Gettler-Ryan Inc. (GR) field personnel adhere to the following procedures for the collection and handling of groundwater samples prior to analysis by the analytical laboratory. All work is performed in accordance with the GR Health & Safety Plan and all client-specific programs. The scope of work and type of analysis to be performed is determined prior to commencing field work.

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, if purging is to occur, each well is purged a minimum of three well casing volumes of water using pre-cleaned pumps (stack, peristaltic or Grundfos), or disposable bailers. Temperature, pH and electrical conductivity are measured a minimum of three times during the purging (additional parameters such as dissolved oxygen, oxidation reduction potential, turbidity may also be measured, depending on specific scope of work.). Purging continues until these parameters stabilize.

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. 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. 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. The trip blank is analyzed for some or all of the same compounds as the groundwater samples.

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

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 WizardTM (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 (\pm 10%), pH (\pm 0.1 unit), and Ec (\pm 10 uS) are required to stabilize. Additional parameters that may be required are DO (\pm 0.2 mg/l) and ORP (\pm 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.



WELL MONITORING/SAMPLING **FIELD DATA SHEET**

Client/Facility#:	Chevron #	303189		Job Num	ber:	385862		
Site Address:	7301 Marti	n Luther k	King Jr. Way		-	2-11-1	0	(inclusive)
City:	Seattle,WA			Sampler:	-	ML		(inclusive)
Well ID	MW- /			Date Monito	red:	2 - 11 - 1	10	
Well Diameter	.75	in.	5	······································				
Total Depth	11.53	ft.			l"= 0.02 "= 0.66	1"= 0.04 5"= 1.02	2"= 0.17 3"= 6"= 1.50 12"=	0.38
Depth to Water	1.92	ft. 🗋 (LL Check if water co	olumn is less the	1 0.50 ft	_		0.00
		xVF=	=	x3 case volu	ume = Es		e Volume:	gal.
Depth to Water w	// 80% Recharg	ge [(Height of V	Nater Column x 0.3	20) + DTW]:		_		
Purge Equipment:		6				Time Sta	arted: mpleted:	
Disposable Bailer			ampling Equipme	ent:		Depth to	Product:	(2400 hrs) ft
Stainless Steel Bailer			ressure Bailer			ft		
Stack Pump			iscrete Bailer				rbon Thickness: onfirmation/Descrip	ft
Suction Pump		P	eristaltic Pump	X		·		
Grundfos		Q	ED Bladder Pump			Skimmer	/ Absorbant Sock ((circle one)
Peristaltic Pump QED Bladder Pump		0	ther:			Amt Rem	loved from Skimme	er: gal
Other:						Water Re	emoved:	9ui
						Product I	ransferred to:	·
Start Time (purge):	0900		Moothor	Conditions:	<u> </u>	loud	10	
Sample Time/Date		2-11-10		lor: $C(an)$				
Approx. Flow Rate				Description:		dor: Y /	<u> </u>	
Did well de-water?			Vc	bescription.		DTWO	Sampling: 3	70
		, , , , , , , , , , , , , , , , , , , ,			yai.	. נוס ויט	Sampling: <u>3</u>	
Time (2400 hr.)	Volume	pН	Conductivity (µmhos/cm(- µS)			D.O.	ORP	Gauge DTW as parameters
ORIO	1.5	7,06	· ·	<u> </u>)	(mg/L)	(mV)	are recorded
0913	- <u>z</u>	7.17	<u>562</u>	- 10,6		- <u>-</u>		<u> </u>
2916	2.4	7.10	<u></u> 565	10.6			-	- 4.77
							•	- 4.89

		I	ABORATORY IN	FORMATION	
SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW	le x voa vial	YES	HCL	LANCASTER	NWTPH-Gx/BTEX+MTBE(8260)
	2 x 1 liter ambers	YES	HCL		NWTPH-Dx w/sg
	<u> </u>				

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

Add/Replaced Bolt:



WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility#:	Chevron #30318	9	Job Number:	385862	
Site Address:	7301 Martin Luth	er King Jr. Way S	Event Date:	2-11-10	(inclusive)
City:	Seattle,WA		Sampler:		(inclusive)
				_mL	
Well ID	<u> </u>	D	ate Monitored:	2-11-10	
Well Diameter	.75 in.	Volume	3/4"= 0.0;		
Total Depth	9,42 ft.	Factor (411 0.01		3"= 0.38 12"= 5.80
Depth to Water	6,98 ft.	Check if water column	is less then 0.50) ft.	
	xVF		x3 case volume =	Estimated Purge Volume	gal.
Depth to Water w	// 80% Recharge [(Heig	ht of Water Column x 0.20) +	DTW]:	···	(un
Purge Equipment:				Time Started: Time Completed:	(2400 hrs)
Disposable Bailer		Sampling Equipment:		Depth to Product:	(2400 hrs) ft
Stainless Steel Bailer		Disposable Bailer Pressure Bailer		Depth to Water:	n
Stack Pump	Ratter Provement and the second	Discrete Bailer		Hydrocarbon Thicknei	ss: ft
Suction Pump	Allowing grant of the second sec	Peristaltic Pump		Visual Confirmation/D	escription:
Grundfos	let	QED Bladder Pump		Skimmer / Absorbant	Sock (circle one)
Peristaltic Pump	X	Other:		Amt Removed from SI	kimmer: nal
QED Bladder Pump			and a second	Amt Removed from W Water Removed:	/ell:gal
Other:	0/=0			Product Transferred to):
				4	
Start Time (purge)		Weather Cond	litions: (Clardy	4
Sample Time/Date		<u>V</u> Water Color: <u>(</u>	slew -	Odor: (Y) N MA	lim
Approx. Flow Rate	: 100 m gpm.	Sediment Desc	cription:		
Did well de-water?	If yes, T	ime: <u>1052</u> Volume		M. DTW @ Sampling:	8.11
Time	Volume	Conductivity			Course DTM
(2400 hr.)	(gau) L pH	Conductivity (µmhos/cm - uS)	Temperature	D.O. OF (mg/L) (m	NF 26 naramotore
	~~~			(mg/L) (m	v) are recorded
	<u> </u>				+
					f - f - f
SAMPLE ID	(#) CONTAINER   REFRI	LABORATORY INFO			
MW-2	V x voa vial YES		LABORATORY	ANALYSE WTPH-Gx/BTEX+MTBE(826	
				WTPH-Dxw/sg	0)
······					
COBABACNITO.	11 V DOIE		FIN		
COMMENTS: 0/	VLY ABLE	and the second s		MAS DUE T	0
and the second sec	VATERING,		RECHARGE	E. DARK O	IL LIKEN
SUBSTAN	E PRESENT	ON TUBING	1 1 1 2		WELL
Add/Replaced Loc	k: Aç	ld/Replaced Plug:	•	dd/Replaced Bolt:	



# WELL MONITORING/SAMPLING **FIELD DATA SHEET**

Client/Facility#: Site Address: City:	Chevron #303189 7301 Martin Luthe Seattle,WA	r King Jr. Way S	Job Number: Event Date: Sampler:	385862 Z-11-10 _ML	(inclusive)
Well ID Well Diameter Total Depth Depth to Water Depth to Water w	MW-3           .75         in.           9.50         ft.           1.59         ft.           xVF         xVF           # 80% Recharge [(Height)	Volume Factor ( Check if water column	VF) 4"= 0.66 is less then 0.50 x3 case volume = 1	5"= 1.02 6"= 1.50 ft. Estimated Purge Volume:_ Time Started:	12"= 5.80 gal.
Purge Equipment: Disposable Bailer Stainless Steel Bailer Stack Pump Suction Pump Grundfos Peristaltic Pump QED Bladder Pump Other:		Sampling Equipment: Disposable Bailer Pressure Bailer Discrete Bailer Peristaltic Pump QED Bladder Pump Other:		Depth to Water: Hydrocarbon Thickr Visual Confirmation Skimmer / Absorbar Amt Removed from	ftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftftft ft ff ff ff ff ff ff ff f
Approx. Flow Rate	0950 2020 12-11-1 2 <u>150 m( g</u> pm. 2 <u>100</u> If yes, Tir	- Sediment Des	cription:	Claudes Odor: Y I D Ume al. DTW @ Sampling	3.50
Time (2400 hr.) /003 /003	Volume 1970 C pH 1.5 7,00 2 7,09 2.4 7,10		Temperature ( C / F ) //// ////		ORP Gauge DTW as parameters are recorded 3, 96 4, 36

	L	<b>ABORATORY IN</b>	FORMATION	· · · · · · · · · · · · · · · · · · ·
(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
🕼 x voa vial	YES	HCL	LANCASTER	NWTPH-Gx/BTEX+MTBE(8260)
Z x 1 liter ambers	YES	HCL		NWTPH-Dx w/sg
		(#) CONTAINER REFRIG.	(#) CONTAINER REFRIG. PRESERV. TYPE	C x voa vial YES HCL LANCASTER

#### COMMENTS:

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

Add/Replaced Bolt: _____

# Chevron Northwest Region Analysis Request/Chain of Custody



For Lancaster Laboratories use only Acct. #: 11260 Sample #: 5904278-81

SCR#:

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Facility #: SS#303189-OML	. G-R#38	5862	and an and a second second		R I COLCE	Matrix	References and the second s			-	p p	rese	ervati	ion.	Cod	0.0	12.6220	100-200-200		STREET, STREET	COMPANY CONTRACTOR	COLUMN STREET, SOLO	
Site Address: 7301 Martin Lu	ور از برای در میکند به وی پس این کی میکند و بینوی میکند.		Contraction of the second s	E, WA				H			뀌	Ħ					1	i Kati Katalan (seti Ke Li Cati Manana yan tau	among	= HCl	ervativ T	= Thio	sulfate
Chevron PM: OS	Lead	Consultant:	SAICPC		1			ŧ												= HNO ₃ = H ₂ SO		= NaC	
Consultant/Office: G-R, Inc., 67	47 Sierra Co	ourt, Suite J, C	Dublin, CA	9456	ε	ES De			~			e e			ç		-		Secondary 1	J value n		K STATISTICS	
Consultant Prj. Mgr.: Deanna L. I-				TO SHOP STOLEN		Devable	Oil    Air					J Extended Rng. Silica Gel Cleanup	Methoc					ł	10	Must me	et lowes	st detec	tion limit
Consultant Phone # 925-551-755	THE OLD COMPANY AND ADDRESS OF THE OWNER OWNER OF THE OWNER OWN	_ Fax #:	925-551-7	25-551-7899				Ę				tiende lica Ge			lduan				8	possible			ounds
Sampler: MALLE LAF	mbark			Second diversion	-			5 8	8	ates		2 2 2 2 2 2	Diss			}				21 MTBE Confirm I			nalene
Service Order #:		on SAR:	and the second	Grab Composite			Air D	BTEX + MTRE	scan	Oxygenates	XIN TPH GX	₽¥			NWTPH H HCID					Confirm I	highest	hit by 8	260
sample Identification		Date	Time	Grab Comp	Soil	Water		÷	8260 full scan	6	۲. ۲	HdT 1	d Total	VPH/EPH						Confirm a	all hits b oxv s i	oy 8260 on hiah	ast hit
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Lancaster Laboratories, Inc., 2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 (717) 656-2300 Copies: White and yellow should accompany samples to Lancaster Laboratories. The pink copy should be retained by the client.

3468 Rev. 8/6/01



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

#### ANALYTICAL RESULTS

Prepared for:

Chevron 6001 Bollinger Canyon Road L4310 San Ramon CA 94583

925-842-8582

Prepared by:

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

February 23, 2010

Project: 303189

Samples arrived at the laboratory on Friday, February 12, 2010. The PO# for this group is 0015045667 and the release number is SKANCE. The group number for this submittal is 1182233.

Client Sample Description QA Water Sample MW-1 Grab Water Sample MW-2 Grab Water Sample MW-3 Grab Water Sample

Lancaster Labs (LLI) # 5904278 5904279 5904280 5904281

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

ELECTRONIC SAIC c/o Gettler-Ryan COPY TO

Attn: Cheryl Hansen

VERAL CONTRACTORS



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

Respectfully Submitted,

Ausan M Goshert

- 8

Susan M. Goshert Group Leader



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Page 1 of 1

Sample	Description:	QA Water Sample		LLI	Sample #	WW 5904278
		Facility# 303189	Job# 385862		-	1182233
		7301 Martin Luther	King Jr Way S-Seattle, WA		•	WA

#### Project Name: 303189

Collected: 02/11/2010

Submitted: 02/12/2010 10:45 Reported: 02/23/2010 at 17:20 Discard: 03/26/2010 Chevron 6001 Bollinger Canyon Road L4310 San Ramon CA 94583

Account Number: 11260

#### LUTQA

CAT No. Analysis Name C	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS Volatiles SW-846 8260	В	ug/l	ug/l	
	/1-43-2 100-41-4	N.D. N.D.	0.5 0.5	1
	.634-04-4 .08-88-3	N.D. N.D.	0.5	1
06054 Xylene (Total) 1	330-20-7	N.D.	0.5	1
GC Volatiles         ECY 97-602         I           08273         NWTPH-Gx water C7-C12         n	NWTPH-Gx	ug/1 N.D.	<b>ug/l</b> 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
06054	BTEX+MTBE by 8260B	SW-846 8260B	1	F100481AA	02/17/2010 12:59	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	F100481AA	02/17/2010 12:59		1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH Gx	~ 1	10048B20A	02/17/2010 23:29		1
01146	GC VOA Water Prep	SW-846 5030B	1	10048B20A	02/17/2010 23:29	Tyler O Griffin	1



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Page 1 of 1

MW-1 Grab Water Sample	LLI Sample # WW 5904279
Facility# 303189 Job# 385862	LLI Group # 1182233
7301 Martin Luther King Jr Way S-Seattle, WA	WA

Project Name: 303189

Collected: 02/11/2010 09:30 by ML

Account Number: 11260

Submitted: 02/12/2010 10:45 Reported: 02/23/2010 at 17:20 Discard: 03/26/2010

#### Chevron 6001 Bollinger Canyon Road L4310 San Ramon CA 94583

#### LUTM1

CAT No.	Analysis Name		CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS	Volatiles	SW-846 826	0B	ug/l	ug/l	
06054	Benzene		71-43-2	N.D.	0.5	1
06054	Ethylbenzene		100-41-4	N.D.	0.5	1
06054	Methyl Tertiary But	yl 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
GC Vol	atiles	ECY 97-602	NWTPH-Gx	ug/l	ug/l	
08273	NWTPH-Gx water C7-C	212	n.a.	N.D.	50	1
GC Ext w/Si G	ractable TPH	ECY 97-602 modified	NWTPH-Dx	ug/l	ug/1	
02211	DRO C12-C24 w/Si Ge	1	n.a.	560	29	
02211	HRO C24-C40 w/Si Ge	-	n.a.	N.D.	69	1

General Sample Comments

State of Washington Lab Certification No. C259

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06054	BTEX+MTBE by 8260B	SW-846 8260B	1	F100492AA	02/18/2010 08:2	0 Anita M Dale	rector
01163	GC/MS VOA Water Prep	SW-846 5030B	1	F100492AA	02/18/2010 08:2		1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH Gx	- 1	10048B20A	02/18/2010 00:5		1
		SW-846 5030B	1	10048B20A	02/18/2010 00:5	5 Tyler O Griffin	1
02211	NWTPH-Dx water w/Si Gel	ECY 97-602 NWTPH Dx modified	- 1	100490005A	02/19/2010 14:5	Glorines Suarez- Rivera	1
02135	Extraction - DRO Water Special	ECY 97-602 NWTPH Dx 06/97	- 1	100490005A	02/18/2010 14:1		1



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#### Page 1 of 1

Sample Description: MW	W-2 Grab Water Sample	LLI §	Sample # WW 5904280
Fa	acility# 303189 Job# 385862		Group # 1182233
73	301 Martin Luther King Jr Way S-Seattle, WA		WA

#### Project Name: 303189

Collected: 02/11/2010 11:25 by ML

Submitted: 02/12/2010 10:45 Reported: 02/23/2010 at 17:20 Discard: 03/26/2010

Chevron 6001 Bollinger Canyon Road L4310 San Ramon CA 94583

Account Number: 11260

#### LUTM2

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS	Volatiles SW-846	8260B	ug/l	ug/l	
06054	Benzene	71-43-2	3,400	10	20
06054	Ethylbenzene	100-41-4	1,600	10	20
06054	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1
06054	Toluene	108-88-3	97	0.5	1
06054	Xylene (Total)	1330-20-7	2,200	10	20
GC Vo	latiles ECY 97-	602 NWTPH-Gx	ug/l	<b>ug/1</b>	10
08273	NWTPH-Gx water C7-C12	n.a.	25,000	500	

#### 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
06054	BTEX+MTBE by 8260B	SW-846 8260B	1	F100481AA	02/17/2010 14:05	Anita M Dale	1
06054	BTEX+MTBE by 8260B	SW-846 8260B	1	F100492AA	02/18/2010 08:41		20
01163	GC/MS VOA Water Prep	SW-846 5030B	1	F100481AA	02/17/2010 14:05		20
01163	GC/MS VOA Water Prep	SW-846 5030B	2	F100492AA	02/18/2010 08:41		1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH- Gx	- 1	10048B20A	02/18/2010 06:22		20 10
01146	GC VOA Water Prep	SW-846 5030B	1	10048B20A	02/18/2010 06:22	Tyler O Griffin	10



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Page 1 of 1

Sample Description: MW-3 Grab Water Sample		LLI Sample # WW 5904281
Facility# 303189 Job#	385866	LLI Group # 1182233
7301 Martin Luther King	Jr Way S-Seattle, WA	WA

Project Name: 303189

Collected: 02/11/2010 10:20 by ML

Account Number: 11260

San Ramon CA 94583

6001 Bollinger Canyon Road

Chevron

L4310

Submitted: 02/12/2010 10:45 Reported: 02/23/2010 at 17:20 Discard: 03/26/2010

#### LUTM3

CAT No.	Analysis Name		CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS	Volatiles	SW-846 82	260B	ug/l	ug/l	
06054	Benzene		71-43-2	N.D.	0.5	1
06054	Ethylbenzene		100-41-4	N.D.	0.5	
06054	Methyl Tertiary But	yl 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
GC Vol	atiles.	ECY 97-60	2 NWTPH-Gx	ug/l	ug/1	
08273	NWTPH-Gx water C7-C	12	n.a.	N.D.	50	1
GC Ext w/Si G	ractable TPH	ECY 97-60 modified	2 NWTPH-Dx	ug/l	ug/l	
	DRO C12-C24 w/Si Ge		n.a.	160	28	ī
02211	HRO C24-C40 w/Si Ge	1	n.a.	130	66	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 Analysis Name Method Trial# Batch# Analvsis Analyst Dilution No. Date and Time Factor 06054 BTEX+MTBE by 8260B SW-846 8260B 1 F100492AA 02/18/2010 09:03 Anita M Dale 1 01163 GC/MS VOA Water Prep SW-846 5030B 1 F100492AA 02/18/2010 09:03 Anita M Dale 1 08273 NWTPH-Gx water C7-C12 ECY 97-602 NWTPH-1 10048B20A 02/18/2010 01:18 Tyler O Griffin 7  $G\mathbf{X}$ 01146 GC VOA Water Prep SW-846 5030B 1 10048B20A 02/18/2010 01:18 Tvler O Griffin 1 02211 NWTPH-Dx water w/Si Gel ECY 97-602 NWTPH-1 100490005A 02/19/2010 15:13 Glorines Suarez-1 Dx modified Rivera 02135 Extraction - DRO Water ECY 97-602 NWTPH-1 100490005A 02/18/2010 14:10 Timothy J 1 Special Dx 06/97 Attenberger



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Page 1 of 3

# Quality Control Summary

Client Name: Chevron Reported: 02/23/10 at 05:20 PM

Group Number: 1182233

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 <u>Result</u>	Blank <u>MDL</u>	Report <u>Units</u>	LCS <u>%REC</u>	LCSD <u>%REC</u>	LCS/LCSD <u>Limits</u>	RPD	RPD Max
Batch number: F100481AA	Sample num	ber(s): 59	04278,5904	280				
Benzene	N.D.	0.5	ug/l	87	89	79-120	3	30
Ethylbenzene	N.D.	0.5	ug/l	86	88	79-120	2	30
Methyl Tertiary Butyl Ether	N.D.	0.5	ug/l	86	85	76-120	1	30
Toluene	N.D.	0.5	ug/l	87	90	79-120	3	30
Xylene (Total)	N.D.	0.5	ug/l	90	92	80-120	2	30
Batch number: F100492AA	Sample num	ber(s): 59	04279-5904	281				
Benzene	N.D.	0.5	ug/l	90		79-120		
Ethylbenzene	N.D.	0.5	ug/l	91		79-120		
Methyl Tertiary Butyl Ether	N.D.	0.5	ug/l	82		76-120		
Toluene	N.D.	0.5	ug/l	91		79-120		
Xylene (Total)	N.D.	0.5	ug/l	94		80-120		
Batch number: 10048B20A	Sample num	ber(s): 59	04278-5904	281				
NWTPH-Gx water C7-C12	N.D.	50.	ug/l	109	100	75-135	9	30
Batch number: 100490005A	Sample num	oer(s): 590	04279,5904	281				
DRO C12-C24 w/Si Gel	N.D.	30.	ug/l	86	83	50-100	4	20
HRO C24-C40 w/Si Gel	N.D.	70.	ug/l			20 100	т	20

#### 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

<u>Analysis Name</u>	MS <u>%REC</u>	MSD <u>%REC</u>	MS/MSD <u>Limits</u>	RPD	RPD <u>MAX</u>	BKG <u>Conc</u>	DUP <u>Conc</u>	DUP <u>RPD</u>	Dup RPD <u>Max</u>
Batch number: F100481AA Benzene Ethylbenzene Methyl Tertiary Butyl Ether Toluene Xylene (Total)	Sample 93 92 85 93 95	number(s)	): 5904278 80-126 71-134 72-126 80-125 79-125	8,59042	80 UNSP	K: P904250			
Batch number: F100492AA	Sample	number(g)	· 5904270	- 590429		K: P905480			
Benzene	99	94	80-126	5	30	K: P905480			
Ethylbenzene	100	95	71-134	5	30				
Methyl Tertiary Butyl Ether	86	83	72-126	4	30				
Toluene	99	95	80-125	5	30				
Xylene (Total)	104	99	79-125	5	30				
Batch number: 10048B20A	Sample	number(s)	: 5904278	-590428	1 UNSPE	K: P904266			

*- Outside of specification

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.



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# Quality Control Summary

Client Name: Chevron Reported: 02/23/10 at 05:20 PM

Group Number: 1182233

# 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

<u>Analysis Name</u> NWTPH-Gx water C7-C12	<b>MS</b> <u>%REC</u> 91	MSD <u>%REC</u>	MS/MSD Limits 57-157	RPD	RPD <u>MAX</u>	BKG <u>Conc</u>	DUP <u>Conc</u>	DUP RPD	Dup RPD <u>Max</u>
-----------------------------------------------	--------------------------------	--------------------	----------------------------	-----	-------------------	--------------------	--------------------	------------	-----------------------

#### 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: F100481AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzen
5904278	101	105	101	07
5904280	93	91	102	97
Blank	98	98	97	108
LCS	104	101	100	93
LCSD	105	105		100
MS	99	100	100 97	100
		100	97	98
Limits:	80-116	77-113	80-113	78-113
Analysis N	Tame: BTEX+MTBE by 8260B			
satch numb	er: F100492AA			
	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzen
5904279	102	102	99	97
5904281	102	102	101	95
Blank	102	100	100	95 97
LCS	102	101	99	
40	104	102	100	98 100
4D				
	102	100	98	98
MS MSD Limits:				98
4SD Limits: Analysis Na	102 80-116 ame: NWTPH-Gx water C7-C12	100 77-113	98	
MSD Limits: Analysis Na	102 80-116 ame: NWTPH-Gx water C7-C12 er: 10048B20A	100 77-113	98	98
MSD Jimits: Analysis Na	102 80-116 ame: NWTPH-Gx water C7-C12	100 77-113	98	98
4SD Limits: Analysis Na Batch numbe	102 80-116 ame: NWTPH-Gx water C7-C12 er: 10048B20A	100 77-113	98	98
ASD Jimits: Malysis Na Satch numbe 904278	102 80-116 ame: NWTPH-Gx water C7-C12 er: 10048B20A Trifluorotoluene-F	100 77-113	98	98
4SD Simits: Analysis Na Batch numbe 904278 904279	102 80-116 ame: NWTPH-Gx water C7-C12 er: 10048B20A Trifluorotoluene-F 99	100 77-113	98	98
MSD Limits: Analysis N. Batch numbo 5904278 5904279 5904280	102 80-116 ame: NWTPH-Gx water C7-C12 er: 10048B20A Trifluorotoluene-F 99 99	100 77-113	98	98
4SD Analysis Na Batch numbe 904278 904280 904280 904281	102 80-116 ame: NWTPH-Gx water C7-C12 er: 10048B20A Trifluorotoluene-F 99 99 136*	100 77-113	98	98
4SD Simits: Analysis Na Satch numbe 904278 904280 904281 Jank	102 80-116 ame: NWTPH-Gx water C7-C12 er: 10048B20A Trifluorotoluene-F 99 99 136* 100 100	100 77-113	98	98
MSD Limits: Analysis Na Batch numbe 5904278 5904280 5904281 5904281 51ank CS	102 80-116 ame: NWTPH-Gx water C7-C12 er: 10048B20A Trifluorotoluene-F 99 99 136* 100 121	100 77-113	98	98
MSD Limits: Analysis Na	102 80-116 ame: NWTPH-Gx water C7-C12 er: 10048B20A Trifluorotoluene-F 99 99 136* 100 100	100 77-113	98	98

Analysis Name: NWTPH-Dx water w/Si Gel Batch number: 100490005A

*- 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.



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

Page 3 of 3

# Quality Control Summary

Client Name: Chevron Reported: 02/23/10 at 05:20 PM

Group Number: 1182233

Surrogate Quality Control

Orthoterphenyl

5904279	95	
5904281 Blank	90	
LCS	98 111	
LCSD	108	
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:

N.D. TNTC IU umhos/cm C Cal Cal meq g ug ml	none detected Too Numerous To Count International Units micromhos/cm degrees Celsius (diet) calories milliequivalents gram(s) microgram(s) milliliter(s)	BMQL MPN CP Units NTU F Ib. kg mg I ul	Below Minimum Quantitation Level Most Probable Number cobalt-chloroplatinate units nephelometric turbidity units degrees Fahrenheit pound(s) kilogram(s) milligram(s) liter(s) microliter(s)
m3	cubic meter(s)	fib >5 um/ml	fibers greater than 5 microns in length per mi

< 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.

> greater than

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

ppb parts per billion

Dry weight<br/>basisResults printed under this heading have been adjusted for moisture content. This increases the analyte weight<br/>concentration to approximate the value present in a similar sample without moisture.

U.S. EPA 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 quatitated on a diluted sample
- E Concentration exceeds the calibration range of the instrument
- J Estimated value
- 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 amount 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</li>

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.

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 of Lancaster Laboratories and we hereby object to any conflicting terms contained in any acceptance or order submitted by client.

Holly Park Spatte



The Benham Companies, LLC A Wholly Owned Subsidiary

December 1, 2010

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

Subject: Second Quarter 2010 Groundwater Monitoring Report Former Tidewater Service Station No. 30-3189 7301 MLK Jr. Way South Seattle, Washington

RECEIVED

DEC de Z010 DEPT. OF ECOLOGY

Dear Ms. Skance:

The Benham Companies, LLC, an SAIC Company (SAIC-Benham), on behalf of Chevron Environmental Management Company (CEMC), prepared this letter summarizing the latest groundwater monitoring and sampling results from Former Tidewater Service Station No. 30-3189 (the site) in Seattle, Washington. The second quarter 2010 groundwater monitoring and sampling event was conducted by Gettler-Ryan Inc. (Gettler-Ryan) on May 24, 2010.

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 for the May 2010 event (Attachment A).

### **FIELD ACTIVITIES**

Depth-to-groundwater measurements were collected from all three monitoring wells at the site; each monitoring well was checked for the presence of separate-phase hydrocarbons (SPH). SPH were not detected in any of the monitoring wells gauged during this event.

At the time of this monitoring event, groundwater elevations ranged from 91.63 feet in monitoring well MW-2 to 98.17 feet in monitoring well MW-3, based on an arbitrary benchmark elevation of 100.00 feet. Groundwater elevations increased an average of 0.61 foot since the previous monitoring event performed on February 11, 2010. Groundwater flow at the time of this event was towards the north at a gradient of 0.08 feet per foot.



Groundwater samples were collected from all three monitoring wells present at the site and submitted to Lancaster Laboratories, Inc. in 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-Dx extended with silica-gel cleanup; and
- Benzene, toluene, ethylbenzene, and total xylenes (BTEX), and methyl tertiary butyl ether by United States Environmental Protection Agency (USEPA) Method 8260B.

# ANALYTICAL RESULTS

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

- Gasoline-range hydrocarbons, benzene, ethylbenzene, and total xylenes in monitoring well MW-2; and
- Diesel-range hydrocarbons in monitoring well MW-1.

Diesel- and heavy oil-range hydrocarbons could not be analyzed for in monitoring well MW-2 due to the well dewatering during sampling. None of the other analyzed constituents were detected in concentrations exceeding their respective MTCA Method A CULs. Groundwater analytical results are summarized in Table 1 of Attachment A.

# SUMMARY

Groundwater analytical results are consistent with historical results for the site. The highest concentrations of petroleum contamination continue to come from MW-2, likely due to residual soil impacts related to the former underground storage tanks, which were located up gradient from this well.

Gasoline-range hydrocarbons and BTEX remain above MTCA Method A CULs in monitoring well MW-2 with slightly lower concentrations for all analytes from previous levels. Diesel-range hydrocarbons in monitoring well MW-1dropped below MTCA Method A CULs.

Groundwater monitoring will continue at this site on a quarterly basis to establish analytical trends during seasonal high and low groundwater periods. Quarterly groundwater monitoring will continue with the next sampling event planned for August 2010. If you have any questions or comments about the information provided herein, please contact me at (425) 482-3319 or via email at langem@saic.com.

Sincerely,

The Benham Companies, LLC, an SAIC Company

Michael Lange Project Manager

Enclosure:

- Attachment A: Gettler-Ryan Inc. *Groundwater Monitoring & Sampling Report*, Event of May 24, 2010, Former Tidewater Service Station No. 30-3189, 7301 MLK Jr. Way South, Seattle, Washington
- 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

Project File

PLEASE NOTE: In an effort to adopt practices that reduce negative impacts on the environment, SAIC-Benham is in the process of transitioning to an electronic distribution of all Groundwater Monitoring Reports. Please contact me at (425) 482-3319 or via email at <u>langem@saic.com</u> 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.

Attachment A: Gettler-Ryan Inc. – Groundwater Monitoring and Sampling Report Event of May 24, 2010 Former Tidewater Service Station No. 30-3189 7301 MLK JR. Way South, Seattle, Washington



# TRANSMITTAL

June 22, 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
4	June 15, 2010	Groundwater Monitoring and Sampling Report <b>Event of May 24, 2010</b>

#### COMMENTS:

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

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

Ms. Donna Musa, Washington State Department of Ecology, Northwest Region, Toxics Cleanup Program, 3190 160th Avenue SE, Bellevue, WA 98008

Current Site Check List included.

Enclosure

trans/303189-OS



Facility#:	Chevron #303189	Date: 5-24-10
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

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	Othe
MW-1	ok	OF	OF	OK	
MW-2					
MW-3					
	¥				
	· · · · · · · · · · · · · · · · · · ·				
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1 of 1



June 15, 2010 Job #386795

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

# RE: Event of May 24, 2010 Groundwater Monitoring & Sampling Report

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

Dear Ms. 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 Figure 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, Wash Deanna L. Harding Project Coordinator consed Geo 2660 Doualas V. Lee

Senior Geologist, L.G. No. 2660

Figure 1:Potentiometric MapTable 1:Groundwater MonitoAttachments:Standard OperatingField Data Sheets

Groundwater Monitoring Data and Analytical Results Standard Operating Procedure - Groundwater Sampling Field Data Sheets Chain of Custody Document and Laboratory Analytical Reports

Douglas J. Lee




## Table 1 Groundwater Monitoring Data and Analytical Results Chevron Facility (Former Tidewater) #303189

7301 Martin Luther King Jr. Way South

Seattle, Washington													
WELL ID/		TOC*	DTW	GWE	TPH-DRO	TPH-HRO	TPH-GRO	В	T	E	X	MTBE	T. LEAD
DATE		(ft.)	(ft.)	(ft.)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
MW-1													
08/31/07 ¹					930	190	<50	<0.5	<0.5	<0.5	<1.5		0.052
04/24/09	LFP	99.66	2.36	97.30	650	<76	<50	<0.5	<0.5	<0.5	<0.5	<0.5	
08/12/09	LFP	99.66	4.24	95.42	370	<67	<50	<0.5	<0.5	<0.5	<0.5	<0.5 <0.5	
11/14/09	LFP	99.66	1.78	97.88	$270^{3}$	< <b>68</b> ³	<50	<0.5	<0.5	<0.5	<0.5	<0.5 <0.5	
02/11/10	LFP	99.66	1.92	97.74	560	<69	<50	< 0.5	<0.5	<0.5	<0.5	<0.3 <0.5	
05/24/10	LFP	99.66	2.43	97.23	91	<68	<50	<0.5	<0.5	<0.5	<0.5 <0.5	<0.3 <0.5	
MW-2													
08/31/07 ¹					2,100	1,200	26,000	3,200	190	1,400	3,300		<b>10</b> 10.
04/24/09	PER	99.05	7.34	91.71	<b></b> ²	2	16,000	4,100	99	1,500	2,000	<3	
08/12/09	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	<b></b> ²	²	19,000	2,800	62	950	1,300	<3	
02/11/10	PER	99.05	6.98	92.07	<b></b> ²	²	25,000	3,400	97	1,600	2,200	<0.5	
05/24/10	PER	99.05	7.42	91.63	2	2	19,000	2,900	88	1,400	2,200	<0.J <1	
										,			
MW-3								J.					
08/31/07 ¹					120	<100	<50	<0.5	<0.5	<0.5	<1.5		0.055
04/24/09	LFP	100.00	2.13	97.87	58	<75	<50	< 0.5	<0.5	<0.5	<0.5	<0.5	
08/12/09	LFP	100.00	4.47	95.53	620	170	<50	<0.5	<0.5	<0.5	<0.5	<0.5	
11/14/09	LFP	100.00	1.60	98.40	450	370	<50	< 0.5	<0.5	<0.5	<0.5	<0.5	
02/11/10	LFP	100.00	1.59	98.41	160	130	<50	< 0.5	<0.5	<0.5	<0.5	<0.5	
05/24/10	LFP	100.00	1.83	98.17	910	310	<50	<0.5	<0.5	<0.5	<0.5	<0.5	
<b>B-9</b>													
05/01/02 ¹					0.660	0.310	32	530	<100	1,600	4,300		
<b>B-10</b>													
05/01/02 ¹					5.10	<0.0630	26	240	110	240	330		

## Table 1 Groundwater Monitoring Data and Analytical Results Chevron Facility (Former Tidewater) #303189

7301 Martin Luther King Jr. Way South

#### Seattle, Washington

a the state of some state in the second state of the second state of the second state of the second state of the	The second states a fair the second states and states and the second states and	ร่องนั้งแต่มาตั้งแต่งหม่งหนึ่งแล้งแล้วเป็นหนึ่งหนึ่งหนึ่งหนึ่งหนึ่งหนึ่งหนึ่งหนึ่	ข้องาร์การย์ คงกร้องค่างมาโครหรือหรู่การทำเหต่างเริ่ม เหลือกระดังหน	ingerication in its and a low for the first of a first		the country of the country						
WELL ID/		DTW	GWE	TPH-DRO	TPH-HRO	TPH-GRO	B	7.91	an a	X	N/F R 12 E	T. LEAD
DATE	(ft.)	(fi.)	(fi.)	(µg/L)	(µg/L)	(µg/L)	an na hara na hara shisisisisis	(µg/L)		(µg/L)		
TRIP BLANK					an a	e e franken in Brinkerski in sterne stieden openster das si	ระทางรับเทพ ของรับสุดที่ได้สามสระทั่งประกำหนังของมังคร		the vise lands the second s	(#5.1)	(µg/L)	(µg/L)
QA												
04/24/09	en de	an es	ter no	40 54	810	<50	-0.6	-0 <i>(</i> *				
08/12/09						-50	<0.5	<0.5	<0.5	<0.5	< 0.5	mir ana
	40 lip	89.01	<b>69</b> Koo	10.00	100 oda	<50	<0.5	<0.5	< 0.5	< 0.5	< 0.5	
11/14/09	69 115	<b>105 (10</b> )	100	the say	-	<50	<0.5	<0.5	< 0.5			
02/11/10	201 220	30 Apr							~0.5	<0.5	<0.5	60 BK
			III 104	619 (H)		<50	<0.5	<0.5	< 0.5	<0.5	< 0.5	70 GJ
05/24/10	5.00 eqe	NOM CON-	ampo	трук	NN 809	<50	<0.5	<0.5	<0.5	<0.5	<0.5	90 MB

	TPH-DRO	TPH-HRO	TPH-GRO	В	T	E.	X	MTBE	TTEAD	
Standard Laboratory Reporting Limits:	6m 407	ones	50	0.5	0.5	0.5	0.5	1	1. LEAD	
MTCA Method A Cleanup Levels:	500	500	800/1,000	5	1.000	700	1.000	Δ Ω. <i>Ε</i>	1.6	
Current Method: NWTPH-Dx + Extended NWTPH-Gx and EPA 8021B/8260B									13	

 Table 1

 Groundwater Monitoring Data and Analytical Results

 Chevron Facility (Former Tidewater) #303189

 7301 Martin Luther King Jr. Way South

 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 Science Application International Corporation prior. Results for wells B-9 and B-10 were provided by GeoEngineers.

TOC = Top of CasingB = Benzeneft.) = FeetT = TolueneDTW = Depth to WaterE = EthylbenzeneWE = Groundwater ElevationX = XylenesPH = Total Petroleum HydrocarbonsMTBE = Methyl Tertiary Butyl EtherDRO = Diesel Range Organics $(\mu g/L) = Micrograms per liter$ IRO = Heavy Range OrganicsPER = Peristaltic Pump

# <= The analyte was not detected at or above the reported value.</p> -- = 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]

LFP = Low Flow Purge

#### **NALYTICAL METHOD:**

¹rior to April 24, 2009, Benzene, Toluene, Ethylbenzene, Xylene Analysis by USEPA 8021
¹Jasoline-range hydrocarbons (TPH-GRO) Method NWTPH-Gx.
¹Diesel- and lube oil-range hydrocarbons (TPH-DRO) by Method NWTPH-Dx.
¹PH-DRO and TPH-HRO analyzed with silica gel cleanup
³STEX and MTBE Analysis by Method 8260B

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

Data provided by SAIC.

Not sampled due to insufficient water.

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 DRO result for the reextraction is 610 ug/L, the HRO result for the reextract is ND.

#### STANDARD OPERATING PROCEDURE -GROUNDWATER SAMPLING

Gettler-Ryan Inc. (GR) field personnel adhere to the following procedures for the collection and handling of groundwater samples prior to analysis by the analytical laboratory. All work is performed in accordance with the GR Health & Safety Plan and all client-specific programs. The scope of work and type of analysis to be performed is determined prior to commencing field work.

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, if purging is to occur, each well is purged a minimum of three well casing volumes of water using pre-cleaned pumps (stack, peristaltic or Grundfos), or disposable bailers. Temperature, pH and electrical conductivity are measured a minimum of three times during the purging (additional parameters such as dissolved oxygen, oxidation reduction potential, turbidity may also be measured, depending on specific scope of work.). Purging continues until these parameters stabilize.

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. 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. 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. The trip blank is analyzed for some or all of the same compounds as the groundwater samples.

N:\wash\forms\chevron-SOP-Sept 2009



#### WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility#:	Chevron #	303189		Job Nu	umber:			
Site Address:	7301 Marti	n Luther	King Jr. Wa	y S Event	Date [.]	<u>385862</u> <u>5-24-</u>	10	 (inclusive)
City:	Seattle,WA			Sample				
				Oumpr		ML		
Well ID	MW-			Date Mon	itored:	5-24-	10	
Well Diameter	.75	in.	5	Volume	3/4"= 0.02		2"= 0.17 3"= 0.3	-
Total Depth	11.53	ft.		Factor (VF)	4"= 0.66	0		
Depth to Water	2.43	ft.	Check if water c	olumn is less tl	nen 0.50	]		
<b>_</b>		XVF	==	x3 case v	/olume = E	Estimated Purge	Volume:	gal.
Depth to Water	w/ 80% Recharg	<b>JE</b> [(Height of	Water Column x 0	.20) + DTW]:				
Purge Equipment:			ampling Equipm			Time Star Time Com	ted: pleted:	(2400 hrs) (2400 hrs)
Disposable Bailer			Disposable Bailer	ient:		Depth to F	Product:	ft
Stainless Steel Baile	r		ressure Bailer				Vater:	
Stack Pump			iscrete Bailer	·			on Thickness: nfirmation/Description	ft
Suction Pump		F	eristaltic Pump	*				
Grundfos		C	ED Bladder Pump	, <b>(</b>		Skimmer /	Absorbant Sock (cir	cle one)
Peristaltic Pump	<u> </u>	c	ther:			Amt Remo	ved from Skimmer: ved from Well:	gal
QED Bladder Pump						Water Ren	noved:	gal
Other:						Product Tr	ansferred to:	
Stort Time (							,	
Start Time (purge Sample Time/Dat		5 711-11		Conditions:		UNN		-
Approx. Flow Rat				olor: <u>Clu</u>		Ddor: Y / N		
Did well de-water			Sedimen	Description:		vore		
	· /	rycs, rine.	V		ga	ai. DTVV@S	ampling:	98
Time	Volume	pН	Conductivity	. Temperat		D.O.	ORP	Gauge DTW
(2400 hr.)	(SEA) C		(µmhos/cm - yS	÷.		(mg/L)	(mV)	as parameters are recorded
1080		6.92	972					5.69
1055	1.3	6.94	975					5.84
1036	1.(0	6.95	716	7./				5.98
			<b></b>			<u> </u>		
		L	ABORATORY	INFORMATI	ON			
SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TY	E LABORA			ANALYSES	

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW- /</u>	6 x voa vial	YES	HCL	LANCASTER	NWTPH-Gx/BTEX+MTBE(8260)
· <u> </u>	2 x 1 liter ambers	YES	HCL		NWTPH-Dx w/sg
					······································
MMENTS:					
JANAIEN 19.					

Add/Replaced Lock: _____

Add/Replaced Plug: _____

Add/Replaced Bolt:



#### WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility#:	Chevron #303189	Job Number:	385862	
Site Address:	7301 Martin Luther King Jr. Wa	ay S Event Date:	5-24-10	— (inclusive)
City:	Seattle,WA	Sampler:	ML	
Well ID	MW- 2	Date Monitored:	5.24-10	
Well Diameter	.75 in. [	Volume 3/4"= 0.02		
Total Depth	9.42 ft.	Volume 3/4"= 0.02 Factor (VF) 4"= 0.66		
Depth to Water		column is less then 0.50		<u> </u>
Depth to Water v	// 80% Recharge [(Height of Water Column x			gal.
•	a ser the the first and the fi	0.207 · 0100].	Time Started:	(2400 hrs)
Purge Equipment:	Sampling Equip	nent:	Time Completed:	(2400 hrs)
Disposable Bailer	Disposable Bailer		Depth to Product:	
Stainless Steel Bailer	Pressure Bailer		Depth to Water: Hydrocarbon Thickness:	ft
Stack Pump	Discrete Bailer		Visual Confirmation/Description	n:
Suction Pump	Peristaltic Pump			
Grundfos	QED Bladder Pur	5- 	Skimmer / Absorbant Sock (cir Amt Removed from Skimmer:_	cle one)
Peristaltic Pump QED Bladder Pump	Other:		Amt Removed from Well:	yai gal
Other:			Water Removed:	
			Product Transferred to:	
Approx. Flow Rate Did well de-water? Time (2400 hr.)	Volume pH Conductivity (gal.) pH (µmhos/cm /µ	/olume: <u>300 ml g</u>	DTW @ Sampling: 7.	Gauge DTW as parameters are recorded
	LABORATOR	Y INFORMATION		
CONTRACTOR OF THE OWNER OF THE OWNER	(#) CONTAINER REFRIG. PRESERV. TY		ANALYSES	
<u>MW- Z</u>	x voa vial YES HCL x 1 litenambers YES HCL		WTPH-Gx/BTEX+MTBE(8260) WTEH-Dx w/sg	
			THEFT-DX W/Sg	
COMMENTS: 1/	IELL DEMATERED, RETU COLLECT & VOA'S D	IRNED LATE	R TO SAMPLE ON	
ABLE TO	COLLECT & VOA'S J	DUE TO WE	LL DEWATERING	G ,
				<del></del>
Add/Replaced I or	k: Add/Replaced Plug	· 🛆	dd/Replaced Bolt:	



#### WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility#:	Chevron #303189		Job Number:		
Site Address:	7301 Martin Luther King J	r. Way S	Event Date:	5.24-10	(inclusive)
City:	Seattle,WA		Sampler:	mL	(
Well ID	MW- 3	Da	ate Monitored:	5-24-10	)
Well Diameter	<b>.75</b> in.	Volume	3/4"= 0.02		
Total Depth	9,50 ft.	Factor (		50 12"= 5.80	
Depth to Water	1,83 ft. Check if	water column	is less then 0.50	ft.	
			x3 case volume = E	stimated Purge Volume	s: gal.
Depth to Water w	// 80% Recharge [(Height of Water Co	lumn x 0.20) + I	DTW]:		
Purge Equipment:	Sampling	Equipment:		Time Started: Time Completed:	(2400 hrs) (2400 hrs)
Disposable Bailer	Disposable			Depth to Product:	ft
Stainless Steel Bailer	Pressure				ft
Stack Pump	Discrete B	• • • • •		Visual Confirmatio	kness:ft
Suction Pump	Peristaltic	Pump	$\overline{\mathbf{X}}$		
Grundfos	QED Blade	der Pump		Skimmer / Absorb	ant Sock (circle one)
Peristaltic Pump	Other:			Amt Removed from	m Skimmer:gal
QED Bladder Pump				Water Removed:	m Well:gal
Other:	······································			Product Transferre	
Start Time (purge)		eather Cond	litions:	JNNY	
		ater Color: _	den a	Ddor: Y / N	
Approx. Flow Rate	: 100 ml gpm. Se	ediment Des		one	······································
Did well de-water?	If yes, Time:	Volume		I. DTW @ Sampli	ng: 4,09
Time (2400 hr.) 1000 1001	Volume Conc	fuctivity	Temperature (	D.O. (mg/L)	ORP Gauge DTW (mV) as parameters are recorded 3,8% 4,01
					4.09

		I	ABORATORY IN	FORMATION	
SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW3</u>	🖉 🗴 x voa vial	YES	HCL	LANCASTER	NWTPH-Gx/BTEX+MTBE(8260)
	2 x 1 liter ambers	YES	HCL		NWTPH-Dx w/sg
				· · · · · · · · · · · · · · · · · · ·	
MARTNER.					l
MMENTS:					

#### COMMENTS:

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

Add/Replaced Bolt: _____

## Chevron Northwest Region Analysis Request/Chain of Custody

<b>4</b> D	Lancaster Laboratories
	Where quality is a science.

Where quality is a science.			Acc	a. #: ∐	26	<u>2</u>	San	For hple #	Lan	ca <b>st</b>	er Lat 736	orat	ories (	use o <u>S</u>	mly	server	rsa l	196	651
					(Concession)		90.00000000000000000000000000000000000	An	alys	es F	leque	sted		2.999.00.00	ganar S				
Facility #SS#303189-OMLG-R#385862	na an a		Matrix					Pre	ser	vati	on Co	des				Öme	ervativ		STREET, STATE & FRANK
Site Address: 7301 Martin Luther King Jr. Way So	uth, SEATTLE, WA	4			H	ļ	Non the Party of Street, or Stree	HП					NCOCK REAL		20020	H = HCI		e Coa = Thio:	
Chevron PM: OS Lead Consultant:	SAICPC	-		AMIN.0136			-									$N = HNO_3$ $S = H_2SO_3$	8	= NaO	++
Consultant/Office: G-R, Inc., 6747 Sierra Court, Suite		58	e S	es	de 2											3 - ri250.		= Othe	
Consultant Prj. Mgr.: Deanna L. Harding (deanna@gr	Sharps water water and we strong the Canada water and the second state of the second s		Potable NPDES	Oil Air	8021 🗆 8260 🗙 Naphth			ä	Cleanu		<b>ication</b>					O Must me	et lowes	t detect	ion limite
Consultant Phone # 925-551-7555 Fax #:	925-551-7899			ျပိ	Ö			Popula	Extended Rng. Silica Gei Cleanup Ss. CJ Method	D Method						possible for 8260 compounds		unds	
ampler: Mike I omberd				ero	8021		8	a D									021 MTBE Confirmation Confirm MTBE + Naphthalene		
Service Order #: []Non SAR:		composite Soll		Į Į Į Į	mΒΕ	ES .	Oxygenates		Head Total C Diss.		NWTPH H HCID	i,					nighest l	Naphtn hit by 8:	alene 260
	Time 6 Collected 0	ě _			BTEX + MTBE	8260 full scan	8 R				H	5				Confirm a	all hits b	y 8260	
ample Identification Collected		Sol	Ň	A REAL PROPERTY AND	Statement of the local division of the local	8260			ead had		EWN N						_OXYSC _OXYSC	on higha on all hil	əst hit Is
MW-1 5-241			Â	2				KL_						STEREO DA	DOCTORE AND A	Comment	A MARY DESIGNATION.	COLOR COLOR OF STREET	Revelopment across
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Lancaster Laboratories, Inc., 2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 (717) 656-2300 Copies: White and yellow should accompany samples to Lancaster Laboratories. The pink copy should be retained by the client.

3468 Rev. 8/6/01



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## ANALYTICAL RESULTS ECEIVED

Prepared by:

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

Chevron GETOOLBONINGACANON ROAD GENERAL CHROPASSIORS San Ramon CA 94583 ORS

June 09, 2010

Project: 303189

Submittal Date: 05/29/2010 Group Number: 1196651 PO Number: 0015061199 Release Number: SKANCE State of Sample Origin: WA

Client Sample Description QA Water Sample MW-1 Grab Water Sample MW-2 Grab Water Sample MW-3 Grab Water Sample

Lancaster Labs (LLI) # 5993610 5993611 5993612 5993613

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

ELECTRONIC SAIC COPY TO

SAIC c/o Gettler-Ryan

Attn: Cheryl Hansen





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

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Respectfully Submitted,

Sarah Sarah M. Snyder Senior Specialist



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Page 1 of 1

Sample	Description:	QA	Wa	ter	Sa	mple				
		Fac	cil	ity	<b>#</b> 3	03189	9	Job#	385	5862
		730	01	MLK	Jr	Way	S-8	Seattl	е,	WA

LLI	Sample	#	WW 5993610
LLI	Group	#	1196651
Acco	ount	#	11260

#### Project Name: 303189

Collected: 05/24/2010

Submitted: 05/29/2010 10:00 Reported: 06/09/2010 11:46 Discard: 07/10/2010

#### Chevron 6001 Bollinger Canyon Road L4310 San Ramon CA 94583

#### MLK-Q

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS	Volatiles SW-846	8260B	ug/l	ug/l	
10943	Benzene	71-43-2	N.D.	0.5	1
10943	Ethylbenzene	100-41-4	N.D.	0.5	1
10943	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1
10943	Toluene	108-88-3	N.D.	0.5	1
10943	Xylene (Total)	1330-20-7	N.D.	0.5	1
GC Vol	Latiles 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.

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10943	BTEX/MTBE 8260 Water	SW-846 8260B	1	Z101533AA	06/02/2010 23:45	Florida A Cimino	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z101533AA	06/02/2010 23:45		1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH- Gx	1	10152A07A	06/01/2010 14:32		1
01146	GC VOA Water Prep	SW-846 5030B	1	10152A07A	06/01/2010 14:32	Martha L Seidel	. 1



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MW-1 Grab Water Sample	LLI	Sample	斧	WW 5993611
	LLI	Group	#	1196651
7301 MLK Jr Way S-Seattle, WA	Acco	ount	*	11260

#### Project Name: 303189

Collected: 05/24/2010 11:10 by ML

Submitted: 05/29/2010 10:00 Reported: 06/09/2010 11:46 Discard: 07/10/2010 Chevron 6001 Bollinger Canyon Road L4310 San Ramon CA 94583

#### MLK-1

CAT No.	Analysis Name		CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS	Volatiles	SW-846 826	0B	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 But	yl 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 Vol	atiles	ECY 97-602	NWTPH-Gx	ug/l	ug/l	
08273	NWTPH-Gx water C7-C	12	n.a.	N.D.	50	1
GC Ext w/Si G		ECY 97-602 modified	NWTPH-Dx	ug/l	ug/l	
02211	DRO C12-C24 w/Si Ge	1	n.a.	91	29	1
02211	HRO C24-C40 w/Si Ge	1	n.a.	N.D.	68	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.

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10943	BTEX/MTBE 8260 Water	SW-846 8260B	1	Z101533AA	06/03/2010 02:41	Florida A Cimino	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z101533AA	06/03/2010 02:41	Florida A Cimino	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH Gx	- 1	10152A07A	06/01/2010 18:55	Martha L Seidel	1
01146	GC VOA Water Prep	SW-846 5030B	1	10152A07A	06/01/2010 18:55	Martha L Seidel	1
02211	NWTPH-Dx water w/Si Gel	ECY 97-602 NWTPH Dx modified	- 1	101530014A	06/08/2010 01:26	Melissa McDermott	1
02135	Extraction - DRO Water Special	ECY 97-602 NWTPH Dx 06/97	- 1	101530014A	06/03/2010 02:15	Sherry L Morrow	1



Page 1 of 1

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Sample Description:	MW-2 Grab Water Sample	LLI S	ample	# WW !	5993612
	Facility# 303189 Job# 385862	LLI G	roup	# 1190	6651
	7301 MLK Jr Way S-Seattle, WA	Accou	nt	# 112(	60

#### Project Name: 303189

Collected: 05/24/2010 13:00 by ML

Submitted: 05/29/2010 10:00 Reported: 06/09/2010 11:46 Discard: 07/10/2010 Chevron 6001 Bollinger Canyon Road L4310 San Ramon CA 94583

MLK-2

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS	Volatiles SW-846 82	260B	ug/l	ug/l	
10943	Benzene	71-43-2	2,900	13	25
10943	Ethylbenzene	100-41-4	1,400	13	25
10943	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	1	2.5
10943	Toluene	108-88-3	88	1	2.5
10943	Xylene (Total)	1330-20-7	2,000	13	25
GC Vol	atiles ECY 97-60	02 NWTPH-Gx	ug/l	ug/l	
08273	NWTPH-Gx water C7-C12	n.a.	19,000	250	5

#### General Sample Comments

State of Washington Lab Certification No. C259

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

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10943	BTEX/MTBE 8260 Water	SW-846 8260B	1	Z101533AA	06/03/2010 03:06	Florida A Cimino	2.5
10943	BTEX/MTBE 8260 Water	SW-846 8260B	1	Z101533AA	06/03/2010 03:31	Florida A Cimino	25
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z101533AA	06/03/2010 03:06	Florida A Cimino	2.5
01163	GC/MS VOA Water Prep	SW-846 5030B	2	Z101533AA	06/03/2010 03:31	Florida A Cimino	25
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH- Gx	- 1	10152A07A	06/01/2010 19:47	Martha L Seidel	5
01146	GC VOA Water Prep	SW-846 5030B	1	10152A07A	06/01/2010 19:47	Martha L Seidel	5



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Page 1 of 1

MW-3 Grab Water Sample	LLI Sample	拼	WW 5993613
	LLI Group	林	1196651
7301 MLK Jr Way S-Seattle, WA	Account	幹	11260

#### Project Name: 303189

Collected: 05/24/2010 10:20 by ML

Submitted: 05/29/2010 10:00 Reported: 06/09/2010 11:46 Discard: 07/10/2010 Chevron 6001 Bollinger Canyon Road L4310 San Ramon CA 94583

#### MLK-3

CAT No.	Analysis Name		CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS	Volatiles	SW-846 82	60B	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 But	yl 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 Vol	atiles	ECY 97-602	2 NWTPH-Gx	ug/l	ug/l	
08273	NWTPH-Gx water C7-C	12	n.a.	N.D.	50	1
GC Ext w/Si G	ractable TPH el	ECY 97-602 modified	NWTPH-Dx	ug/l	ug/l	
02211	DRO C12-C24 w/Si Ge	1	n.a.	910	29	1
02211	HRO C24-C40 w/Si Ge	1	n.a.	310	67	⊥ 1

#### General Sample Comments

State of Washington Lab Certification No. C259

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

CAT No.	Analysis Name	Method	Trial#	<b>Batch</b> #	Analysis Date and Time	Analyst	Dilution Factor
10943	BTEX/MTBE 8260 Water	SW-846 8260B	1	2101533AA	06/03/2010 03:57	Florida A Cimino	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z101533AA	06/03/2010 03:57	Florida A Cimino	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH Gx	- 1	10152A07A	06/01/2010 19:21	Martha L Seidel	1
01146	GC VOA Water Prep	SW-846 5030B	1	10152A07A	06/01/2010 19:21	Martha L Seidel	1
02211	NWTPH-Dx water w/Si Gel	ECY 97-602 NWTPH Dx modified	- 1	101530014A	06/08/2010 01:46	Melissa McDermott	1
02135	Extraction - DRO Water Special	ECY 97-602 NWTPH Dx 06/97	- 1	101530014A	06/03/2010 02:15	Sherry L Morrow	1



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Page 1 of 2

#### Quality Control Summary

Client Name: Chevron Reported: 06/09/10 at 11:46 AM

Group Number: 1196651

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

<u>Analysis Name</u>	Blank <u>Result</u>	Blank <u>MDL</u>	Report <u>Units</u>	LCS <u>%REC</u>	LCSD <u>%REC</u>	LCS/LCSD <u>Limits</u>	RPD	RPD Max
Batch number: Z101533AA	Sample num	ber(s): 59	93610-5993	613				
Benzene	N.D.	0.5	uq/l	91		79-120		
Ethylbenzene	N.D.	0.5	ug/l	96		79-120		
Methyl Tertiary Butyl Ether	N.D.	0.5	ug/l	92		76-120		
Toluene	N.D.	0.5	ug/l	95		79-120		
Xylene (Total)	N.D.	0.5	ug/l	96		80-120		
Batch number: 10152A07A	Sample num	per(s): 59	93610-5993	613				
NWTPH-Gx water C7-C12	N.D.	50.	ug/l	100	100	75-135	0	30
Batch number: 101530014A	Sample numb	per(s): 59	93611.5993	613				
DRO C12-C24 w/Si Gel	N.D.	30.	ug/l	84	84	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 <u>%REC</u>	MSD <u>%REC</u>	MS/MSD <u>Limits</u>	<u>RPD</u>	RPD <u>MAX</u>	BKG <u>Conc</u>	DUP <u>Conc</u>	DUP <u>RPD</u>	Dup RPD <u>Max</u>
Batch number: Z101533AA	Sample	number(s)	: 5993610	-599361	3 UNSP	K: P993588			
Benzene	99 -	90	80-126	9	30				
Ethylbenzene	100	90	71-134	7	30				
Methyl Tertiary Butyl Ether	95	88	72-126	7	30				
Toluene	104	95	80-125	9	30				
Xylene (Total)	102	92	79-125	7	30				
Batch number: 10152A07A NWTPH-Gx water C7-C12	Sample 86	number(s)	: 5993610 57-157	-599361	.3 UNSPI	K: ₽990965			

#### 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.

	me: UST VOCs by 8260B - Wa r: Z101533AA	ater		
	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
5993610	98	97	100	96

*- Outside of specification

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.



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Quality Control Summary

Client Reporte	Name: Chevron d: 06/09/10 at 11:46 A	Grou	p Number: 1196651	
-	, ,		Out 1 the destates 7	
5993611	96		Quality Control	
5993612		96	100	96
5993613	95	95	100	98
Blank	96	96	100	96
	97	96	100	96
LCS MS	97	98	100	97
	97	97	100	96
MSD	96	98	100	97
Limits:	80-116	77-113	80-113	
		11-113	80-113	78-113
Analvsis M	Name: NWTPH-Gx water C7-C12			
Batch numb	per: 10152A07A			
	Trifluorotoluene-F			
5993610	97		· · · · · · · · · · · · · · · · · · ·	
5993611	99			
5993612	157*			
5993613	95			
Blank	97			
LCS	112			
LCSD	113			
MS	109			
	109			
Limits:	63-135	0		
Analysis N	ame: NWTPH-Dx water w/Si Ge	1		
Batch numb	er: 101530014A			
	Orthoterphenyl			
5993611	101			
5993613	100			
Blank	98			
LCS				
	113			
LCSD	112			
77				

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.



## **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)
С	degrees Celsius	Ē	degrees Fahrenheit
meq	milliequivalents	lb.	pound(s)
g	gram(s)	kg	kilogram(s)
ug	microgram(s)	mg	milligram(s)
ml	milliliter(s)	Ĩ	liter(s)
m3	cubic meter(s)	ul	microliter(s)
<	less than - The number following th	ne sign is the limit of gue	antitation, the smallest amount of analyte which

- < 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.
- > 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
- Presumptive evidence of a compound (TICs only)
   P Concentration difference between primary and
- confirmation columns >25% U Compound was not detected
- V Compound was not detected
- X,Y,Z Defined in case narrative

#### Inorganic Qualifiers

- B Value is <CRDL, but ≥IDL
- E Estimated due to interference
- M Duplicate injection precision not met
- N Spike sample not within control limits
- S Method of standard additions (MSA) used for calculation
- U Compound was not detected
- W Post digestion spike out of control limits
- * Duplicate analysis not within control limits
- + Correlation coefficient for MSA < 0.995

Analytical test results meet all requirements of NELAC unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

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