

June 9, 2009

11 / 1

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

Re: Second Quarter 2009 Groundwater Monitoring Report Chevron Service Station No. 9-0636 5940 East Marginal Way Seattle, Washington

Dear Ms. Skance:

Science Applications International Corporation (SAIC), on behalf of Chevron Environmental Management (Chevron) has prepared this letter summarizing groundwater monitoring at the above referenced property in Seattle, Washington. The second quarter 2009 groundwater monitoring event was conducted by Gettler-Ryan, Inc. (G-R) on April 24, 2009. Included as Attachment 1, is the Gettler-Ryan Inc. *Groundwater Monitoring and Sampling Report* 

#### 1.0 FIELD ACTIVITIES

Depth to groundwater (DTW) and depth to product (DTP) were measured from each of the four groundwater monitoring wells, MW-1 through MW-4, present at the subject property. Separate-phase hydrocarbons (SPH) were not detected in any of the monitoring wells gauged during this field activity. At the time of this monitoring event, groundwater elevations ranged from 91.16 feet in monitoring well MW-3 to 91.38 feet in monitoring well MW-1, based on an arbitrary benchmark elevation of 100.00 feet. The groundwater flow, at the time of the sampling event, was generally towards the southwest with a gradient of 0.002 to 0.003 feet per foot (ft/ft).

Groundwater samples were collected from monitoring wells MW-1 through MW-4, and submitted to Lancaster Laboratories for the following analyses:

- Gasoline-range hydrocarbons by Washington State Department of Ecology (WDOE) Method NWTPH-G;
- Diesel- and oil-range hydrocarbons by WDOE Method NWTPH-D with silica gel cleanup; and
- Benzene, toluene, ethylbenzene, and total xylenes (BTEX) by United States Environmental Protection Agency (USEPA) Method 8021B.

#### 2.0 ANALYTICAL RESULTS

Gasoline-range hydrocarbons and benzene were detected at concentrations exceeding their respective Model Toxics Control Act (MTCA) Method A Cleanup Levels in wells (MW-3 and MW-4). Gasoline-range hydrocarbons were detected in monitoring well MW-4 at a concentration of 1,600 micrograms per liter ( $\mu$ g/L), which exceeds the MTCA Method A Cleanup Level of 800  $\mu$ g/L. Benzene was detected in well MW-3 at a concentration of 1,900  $\mu$ g/L, which exceeds the MTCA Method A Cleanup Level of 5  $\mu$ g/L. None of the other constituents analyzed for were present at concentrations exceeding their respective MTCA Method A Cleanup Levels.

#### 3.0 DISCUSSION

Groundwater elevations and flow direction are consistent with historical data reported at the Site. With the exception of benzene, constituents analyzed during this event were consistent with historical analytical results. The concentration of benzene in monitoring well MW-3 significantly increased, to the highest level reported in this monitoring well. The cause of this increase in benzene concentration may be a recent UST overfilling or may be related to more significant issues with the fuel storage/distribution system at this station. Ongoing monitoring will assist in evaluating the potential cause of this sudden increase. Quarterly monitoring and sampling will continue at the subject Site. The next quarterly monitoring event is scheduled for July 2009.

If you have any questions regarding this letter, please contact the undersigned at 425-482-3321 or at <a href="mailto:catterallp@saic.com">catterallp@saic.com</a>.

Sincerely,

SCIENCE APPLICATIONS INTERNATIONAL CORPORATION

Peter Catterall

Senior Project Manager

**Enclosures:** 

Attachment 1: Gettler-Ryan Inc. - Groundwater Monitoring and Sampling Report, Event of April 24,

2009, Chevron Service Station #9-0636, 5940 East Marginal Way, Seattle, Washington

cc: Mr. John Wietfeld, WDOE Northwest Region, Toxics Cleanup Program

Accession #: 16102.20090424.001

Attachment 1: Gettler-Ryan Inc. – Groundwater Monitoring and Sampling Report

# GETTLER-RYAN INC.

### TRANSMITTAL

May 27, 2009 G-R #386789

TO:

Mr. Peter Catterall

SAIC

18912 North Creek Parkway, Suite 101

Bothell, Washington 98011

FROM:

Deanna L. Harding

**Project Coordinator** Gettler-Ryan Inc.

6747 Sierra Court, Suite J Dublin, California 94568

**RE:** Chevron Service Station

#9-0636

5940 East Marginal Way Seattle, Washington

#### WE HAVE ENCLOSED THE FOLLOWING:

COPIES	DATED	DESCRIPTION
3	May 20, 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, Room 3636, San Ramon, CA 94583

Mr. John Wietfeld, WDOE Northwest Region, Toxics Cleanup Program, 3190 160th Avenue S.E., Bellevue, WA 98008

Current Site Check List included.

Enclosure

trans/9-0636-OS

		CHEVRON -	SITE CH	ECK LIS	ST	
		Chevron #9-0636		Date: り	-24-09	
		5940 East Marginal Way				
•	City/St.:					<del></del>
D'DUILE.	Status of	Site: Active Chewon	1 81a	+100		<del> </del>
DRUMS:	location o	t below ALL DRUMS @ site: i.e. f drum:	, drum desc	ription, con	dition, label	ing, contents
	#	Description	Condition	Labeling	Contents	Location
	2_	55 gallon	OV	fltz waste	RQ wask	Storage &
		36 gallon			4	1
WELLS:	Please ch lock, etc.:	eck the condition of ALL WELLS	l 3 @ site: i.e	., well box	condition, w	ell plug, well
1	Well ID	Well Box	Bolts	Well Plug	Well Lock	Other
	MW-1	Z Broken flages	OK	OV	Ok	<del></del>
. //	MW-2	OK			1	
$\sim$	MW-3					
V	MW-4	¥	_ V		V	<u> </u>
		<u> </u>				
ŀ			_		<del></del>	<del></del> _
						-
•						
						<del></del>
ľ						
]						
+					<del></del>	
-						
-			<u>.                                      </u>			
}-						
	Additional	Comments/Observations:				
	- Additional	Comments/Observations:	<del></del>	<del> ,</del>	<del></del>	<del></del>
_				•		<del></del>

May 20, 2009 Job #386789

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

RE: Event of April 24, 2009

Groundwater Monitoring & Sampling Report Chevron Service Station #9-0636 5940 East Marginal Way 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,

Deanna L. Harding Project Coordinator

Douglas J. Lee

Senior Geologist, L.G. No. 2660

. 2000

Figure 1:

Potentiometric Map

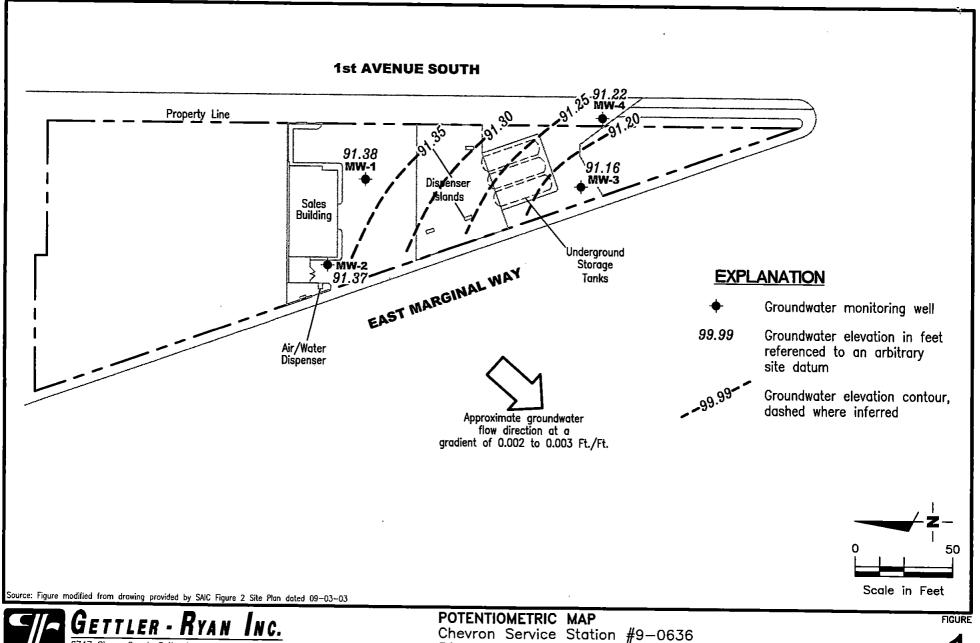
Table 1:
Attachments:

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





5940 East Marginal Way Seattle, Washington

PROJECT NUMBER 386789

REVIEWED BY

DATE April 24, 2009

REVISED DATE

Table 1
Groundwater Monitoring Data and Analytical Results

Chevron Service Station #9-0636 5940 East Marginal Way

Seattle, Washington											
WELL ID/	TOC*	DTW	GWE	TPH-DRO	TPH-HRO	TPH-GRO	В	T. C.	<b>i</b>	X	MTBE
DATE	(ft)	(fi)	(ft.)	(μg/L)	(µg/L)	(µg/L)	(μg/L)	(µg/L)	(µg/L)	(µg/L)	(μg/L)
MW-1						· · · · · · · · · · · · · · · · · · ·			· · · · · · · · · · · · · · · · · · ·		
08/20/031	101.01	9.85	91.16	$210^{2}$	<100 <sup>2</sup>	330	<0.5	<0.5	∠0. <i>E</i>	.1 E	
02/25/04	101.01	8.82	92.19	<250 <sup>2</sup>	<250 <sup>2</sup>	< <b>5</b> 0	<0.5	<0.5 <0.5	<0.5	<1.5	<2.5
05/15/04	101.01	9.62	91.39	<250 <sup>2</sup>	$<250^{2}$	98	<0.5	<0.5 <0.5	<0.5	<1.5	<2.5
08/05/04	101.01	9.90	91.11	<250 <sup>2</sup>	<250 <sup>2</sup>	99	<0.5	<0.5 <0.5	<0.5	<1.5	<2.5
11/12/04	101.01	9.86	91.15	SAMPLED AN					<0.5	<1.5	<2.5
02/11/05	101.01	9.43	91.58	SAMPLED AN							
06/06/05	101.01	9.39	91.62	SAMPLED AN							
08/10/05	101.01	9.89	91.12	<250 <sup>2</sup>	<250 <sup>2</sup>	 60			-0.5		
10/14/05	101.01	10.02	90.99	SAMPLED AN			<0.5	<0.5	<0.5	<1.5	<2.5
02/23/06	101.01	9.08	91.93	SAMPLED AN							
08/22/07	101.01	9.75	91.26	110 <sup>2</sup>	<99 <sup>2</sup>	 52		-0.5			
08/15/08	101.01	9.98	91.03	<78 <sup>2</sup>	<98 <sup>2</sup>	53 <50	<0.5	<0.5	<0.5	<1.5	<2.5
01/30/09	101.01	9.51	91.50				<0.5	<0.5	<0.5	<1.5	<2.5
04/24/09	101.01	9.63	91.38	<32 <sup>2</sup>	 <74 <sup>2</sup>	 <50			<del></del>		
		<b>7102</b>	71.50	152	~/-	<b>\50</b>	<0.5	<0.5	<0.5	<1.5	
	•										
MW-2											
08/20/03 <sup>1</sup>	101.18	10.02	91.16	<76 <sup>2</sup>	<95 <sup>2</sup>	<50	<0.5	<0.5	<0.5	~1.5	<0.5
02/25/04	101.18	9.04	92.14	<250 <sup>2</sup>	<250 <sup>2</sup>	<50	<0.5	<0.5 <0.5	<0.5 <0.5	<1.5	<2.5
05/15/04	101.18	9.82	91.36	<250 <sup>2</sup>	<250 <sup>2</sup>	<50	<0.5	<0.5	<0.5 <0.5	<1.5	<2.5
08/05/04	101.18	10.09	91.09	<250 <sup>2</sup>	<250 <sup>2</sup>	<50	<0.5	<0.5	<0.5 <0.5	<1.5	<2.5
11/12/04	101.18	10.06	91.12	SAMPLED AN				~0.3 	-	<1.5	<2.5
02/11/05	101.18	9.63	91.55	SAMPLED AN							
06/06/05	101.18	9.61	91.57	SAMPLED AN							
08/10/05	101.18	10.02	91.16	<250 <sup>2</sup>	<250 <sup>2</sup>	<50	<0.5	<0.5			
10/14/05	101.18	10.18	91.00	SAMPLED AN		~50 <del></del>			<0.5	<1.5	<2.5
02/23/06	101.18	9.29	91.89	SAMPLED AN							
08/22/07	101.18	9.96	91.22	83 <sup>2</sup>	<97 <sup>2</sup>	<50	<0.5				
08/15/08	101.18	10.18	91.00	<79 <sup>2</sup>	<99 <sup>2</sup>	<50 <50		<0.5	<0.5	<1.5	<2.5
01/30/09	101.18	9.69	91.49	~/ <i>&gt;</i>	~27		<0.5	<0.5	<0.5	<1.5	<2.5
04/24/09	101.18	9.81	91.49	<30 <sup>2</sup>	 <71²		-0.5		<del></del>	<b>a.</b>	
	202120	7.01	71.37	730	~/1	<50	<0.5	<0.5	<0.5	<1.5	

Table 1
Groundwater Monitoring Data and Analytical Results

Chevron Service Station #9-0636 5940 East Marginal Way Seattle Washington

1949 Charles	<u> </u>	·			Seattle, W	/ashington					
WELL ID/	TOC*	DTW	GWE	TPH-DRO	TPH-HRO	TPH-GRO	В		10	X	MTBE
DATE	(fi)	(fi.)	(ft)	(µg/L)	(µg/L)	(µg/L)	(μg/L)	(µg/L)	(μg/L)	(µg/L)	(μg/L)
MW-3					-		<u> </u>		W.8		
08/20/03 <sup>1</sup>	100.30	9.40	90.90	320 <sup>2</sup>	<95 <sup>2</sup>	2,400	3.9	<2	12	4.6	.0. =
02/25/04	100.30	8.34	91.96	1,100 <sup>2</sup>	<250 <sup>2</sup>	5,000	3.5		13	46	<2.5
05/15/04	100.30	9.11	91.19	490 <sup>2</sup>	$<250^{2}$	1,000	4.3	0.7	20	31	<2.5
08/05/04	100.30	9.36	90.94	<250 <sup>2</sup>	$<250^{2}$	640	4.3 2.7	<0.5	4.6	2.4	<2.5
11/12/04	100.30	9.34	90.96	450 <sup>2</sup>	<500 <sup>2</sup>	5,700		<0.5	1.9	10	<2.5
02/11/05	100.30	8.89	91.41	340 <sup>2</sup>	<250 <sup>2</sup>		20	6.4	120	130	<2.5
06/06/05	100.30	8.81	91.49	$2,100^2$	$< 250^{\circ}$	1,800	8.7	1.7	3.8	<6.0	<2.5
08/10/05	100.30	9.25	91.05	$1,100^{2,3}$		4,800	15	3.9	64	29	<2.5
10/14/05	100.30	9.49	90.81	1,100°	<250 <sup>2</sup>	4,500	<10	1.9	35	24	<2.5
02/23/06	100.30	8.60			110 <sup>2</sup>	3,600	7.2	1.5	9.5	7.6	<2.5
08/22/07	100.30		91.70	$620^{2}$	<100 <sup>2</sup>	1,700	8.2	<1.0	1.0	2.0	<2.5
08/22/07	100.30	9.31	90.99	380 <sup>2</sup>	<97 <sup>2</sup>	360	4.1	0.7	<2.0	<5.0	<2.5
01/30/09		9.43	90.87	$260^{2}$	<99 <sup>2</sup>	200	1.5	< 0.5	0.6	<5.0 <sup>5</sup>	<2.5
04/24/09	100.30	9.00	91.30	390 <sup>2</sup>	<70 <sup>2</sup>	810	810	36	1.2	5.9	
U4/24/U9	100.30	9.14	91.16	160 <sup>2</sup>	<68 <sup>2</sup>	430	1,900	31	13	16	
MW-4											
08/20/03 <sup>1</sup>	100.00	9.02	90.98	<160 <sup>2</sup>	<200²	1 200	_	_			
02/25/04	100.00	8.00	92.00	400 <sup>2</sup>		1,300	<2	<2	7.9	<10	<2.5
05/15/04	100.00	8.76			<250 <sup>2</sup>	2,300	<5.0	1.8	13	15	<10
08/05/04	100.00	8.76 8.99	91.24	540 <sup>2</sup>	<250 <sup>2</sup>	1,900	<2.0	1.3	5.5	6.3	<2.5
11/12/04	100.00		91.01	$680^{2}$	<250 <sup>2</sup>	1,500	<2.0	1	6.0	8.9	<2.5
02/11/05		9.00	91.00	420 <sup>2</sup>	<250 <sup>2</sup>	2,000	<5.0	<2.0	11	17	<2.5
06/06/05	100.00	8.52	91.48	850 <sup>2</sup>	300 <sup>2</sup>	2,600	<5.0	<5.0	8.4	<15	<2.5
	100.00	8.52	91.48	$3,800^2$	<250 <sup>2</sup>	4,400	<5.0	2.1	24	15	<2.5
08/10/05	100.00	8.91	91.09	980 <sup>2,3</sup>	<250 <sup>2</sup>	1,800	<5.0	<1.0	18	17	<2.5
10/14/05	100.00	9.16	90.84	940 <sup>2,4</sup>	170 <sup>2</sup>	2,000	<5.0	1.0	18	9.8	<10
02/23/06	100.00	8.13	91.87	580 <sup>2</sup>	<99 <sup>2</sup>	2,700	<2.5	<2.5	12	9.5	<13
08/22/07	100.00	8.92	91.08	860 <sup>2</sup>	210 <sup>2</sup>	530	<2.0	0.8	1.7	4.2	<2.5
08/15/08	100.00	9.09	90.91	640 <sup>2</sup>	$260^{2}$	720	1.2	1.1	1.6	<10 <sup>5</sup>	<2.5
01/30/09	100.00	8.66	91.34	$680^{2}$	93 <sup>2</sup>	2,100	2.6	1.5	4.4	6.5	
04/24/09	100.00	8.78	91.22	320 <sup>2</sup>	<71²	1,600	<4.0 <sup>6</sup>	2.1	3.8	12	
										***	<del></del>

Table 1
Groundwater Monitoring Data and Analytical Results

Chevron Service Station #9-0636 5940 East Marginal Way

Seattle, Washington

TENERY IN THE STREET			<u> </u>		Scattle, w						
WELL ID/	TOC*	DTW	GWE	TPH-DRO	TPH-HRO	TPH-GRO	В	T	<b>E</b>	X	MTBE
ATE	(ft)	(fi.)	(ft.)	(μg/ <b>L</b> )	(µg/L)	(μg/L)	(µg/L)	(µg/L)	(µg/L)	(ng/L)	(μg/L)
RIP BLANK								<u> </u>	······································		
QA .											
2/25/04						<50	<0.5	<0.5	<0.5	<1.5	<2.5
5/15/04						<50	<0.5	<0.5	<0.5	<1.5	<2.5 <2.5
8/05/04						<50	<0.5	<0.5	<0.5	<1.5	<2.5
1/12/04					~=	<50	< 0.5	< 0.5	< 0.5	<1.5	<2.5
2/11/05						<50	< 0.5	< 0.5	< 0.5	<1.5	<2.5
6/06/05						<50	<0.5	<0.5	<0.5	<1.5	<2.5
8/10/05						<50	< 0.5	< 0.5	<0.5	<1.5	<2.5
0/14/05						<48	<0.5	<0.5	<0.5	<1.5	<2.5
2/23/06						<48	< 0.5	< 0.5	<0.5	<1.5	<2.5
8/22/07						<50	< 0.5	<0.5	<0.5	<1.5	<2.5
8/15/08						<50	<0.5	<0.5	<0.5	<1.5	<2.5
1/30/09						<50	<0.5	<0.5	<0.5	<1.5	~2.5
1/24/09				-		<50	<0.5	<0.5	<0.5	<1.5	

	TPH-DRO	TPH-HRO	TPH-GRO	В	T	E	X	MTBE
Standard Laboratory Reporting Limits:			50	0.5	0.5	0.5	1.5	2.5
MTCA Method A Cleanup Levels:	500	500	800/1.000	5	1,000	700	1,000	2.3
Current Method:	NWTPH-Dx + Extended		NWTPH-GRO and EPA 8021B					
			<del></del>		THE GRO	and El A 0021D		

#### Table 1

#### Groundwater Monitoring Data and Analytical Results

Chevron Service Station #9-0636 5940 East Marginal Way Seattle, Washington

#### **EXPLANATIONS:**

TOC = Top of Casing  (ft.) = Feet  GRO = Gasoline Range Organics  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 = 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].
---	--

<sup>\*</sup> TOC elevations are expressed in feet relative to an arbitrary datum.

Analyzed with silica gel cleanup.

Laboratory report indicates the observed sample pattern is not typical of #2 fuel/diesel. It elutes in the DRO range earlier and later than #2 fuel.

Data provided by SAIC.

Laboratory report indicates the observed sample pattern is not typical of #2 fuel/diesel. It elutes in the DRO range earlier than #2 fuel.

Laboratory report indicates due to the presence of an interferent near its retention time, the normal reporting limit was not attained for total xylenes. The presence or concentration of this compound cannot be determined due to the presence of this interferent.

Laboratory report indicates due to the presence of an interferent near its retention time, the normal reporting limit was not attained for benzene. The presence or concentration of this compound cannot be determined due to the presence of this interferent.

#### 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.



Client/Facility#:	Chevron #9-06	36	Job Number:	386789	
Site Address:	5940 East Marg	inal Way	Event Date:	4-2409	(inclusive)
City:	Seattle, WA		Sampler:	ML	(\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\
		,	<del></del>		<del></del>
Well iD	MW-		Date Monitored:	4.7401	
Well Diameter	2 in.	Г	Volume 3/4"= 0.	02 1"= 0.04 2"= 0.	17 3"= 0.38
Total Depth	14.85 ft.	1	Factor (VF) 4"= 0.	66 5"= 1.02 6"= 1.5	
Depth to Water	9.63 ft.		column is less then 0.5		
Depth to Water	_ <u>5.2.7</u> _x∨ w/ 80% Recharge ((H	eight of Water Column x (	x3 case volume ; 0.20) + DTWI: \0^6	= Estimated Purge Volume	e: <u> </u>
	<b>5</b>	•		Time Started:	(2400 hrs)
Purge Equipment:	X	Sampling Equipr		Time Completed: Depth to Product	(2400 hrs)
Disposable Bailer Stainless Steel Bailer		Disposable Bailer	_X	Depth to Water:_	
Stack Pump	<del></del>	Pressure Bailer Discrete Bailer	<del></del>	Hydrocarbon Thio	
Suction Pump		Peristaltic Pump	<del></del>	Visual Confirmati	on/Description:
Grundfos		QED Bladder Pum		Skimmer / Absort	pant Sock (circle one)
Peristaltic Pump		Other:		Amt Removed fro	m Skimmer: gal m Well: gal
QED Bladder Pump				Water Removed:	
Other:				Product Transferr	ed to:
Start Time (purge	): 0900	Weatho	r Conditions:	ims,	
	te: <u>0975 14-</u>	<del></del>	color: Clav	Odor: Y /(N)	<del></del>
Approx. Flow Rat				_Oddi. + My	
Did well de-water		, Time:\	· · · · · · · · · · · · · · · · · · ·	gal. DTW @ Sampli	ing: 9,76
<del>_</del> ,				gan 2111 @ Campii	ng
Time (2400 hr.)	Volume (gal.)	oH Conductivity (μmhos/cm - [β		D.O. (mg/L)	ORP (mV)
0904	1 /	.98 490		(mg/L)	(IIIV)
2908	7 1/3	$\frac{1}{91} - \frac{1}{497}$			<del></del>
0911	2.5	92 490	17.2		
					<del></del>
		LABORATOR	Y INFORMATION		
SAMPLE ID		FRIG. PRESERV. T	YPE LABORATORY		LYSES
MW-		YES HCL YES HCL	LANCASTER LANCASTER	NWTPH-Gx/BTEX(8021)	
	D X Tiller difficers	TEG TICE	LANCASTER	NWTPH-Dx w/sgc	
<del></del>	<del></del>				
COMMENTS:				L	
, <u>-</u>	<del></del>		<del></del>	<del></del>	
			· · · · · · · · · · · · · · · · · · ·	<del></del>	
Add/Replaced Lo	ock:	Add/Replaced Plug	n:	Add/Replaced Bolt:	<del></del>
•			· <del></del>	· war replaced DOIL	



Client/Facility#:	Chevron #9	-0636		Job I	Number:	386789		
Site Address:	5940 East N	<i>l</i> larginal	Way	Ever	it Date:	4-240	9	 (inclusive)
City:	Seattle, WA			Sam	pler:	ML	<del></del>	
								<del>-</del>
Well ID	<u>MW- Z</u>	_		Date Mo	onitored:	4.24-	1	_
Well Diameter		<u>n.</u>	ſ	Volume	3/4"≃ 0.02		= 0.17 3"= 0.3	
Total Depth	15.26 t	<u>t.</u>		Factor (VF)	4"= 0.66		= 1.50 12"= 5.8	
Depth to Water		t. 🔲	Check if water				<del></del>	J
Depth to Water	<u>5.45</u> w/ 80% Recharg	xVF, <b>e</b> [(Height of	= <u>O</u> . Water Column x	1 x3 cas 0.20) + DTW]:	e volume =     0 . 9 0	Estimated Purge Vo	<del>********</del>	
Purge Equipment:			O. 11 PP 1		•	Time Started Time Comple	:	(2400 hrs) (2400 hrs)
Disposable Bailer	~		Sampling Equip		<b>Y</b>		duct:	(2400 firs)
Stainless Steel Baile			Disposable Bailer		<u> </u>	Depth to Wat	er:	
Stack Pump	· ——		Pressure Bailer Discrete Bailer				Thickness:	ft
Suction Pump			Peristaltic Pump			Visual Contin	mation/Description	n:
Grundfos	<del></del> _		QED Bladder Pun	a		Skimmer / Ab	sorbant Sock (cir	cle one)
Peristaltic Pump						Amt Remove	from Skimmer:	gal
QED Bladder Pump						Amt Removed	d from Well:	gal
Other:						Product Trans	ferred to:	<del></del>
			·					
Start Time (purge Sample Time/Da Approx. Flow Rat Did well de-water	te: 1005 / te:	y-Zy-s( gpm. yes, Time	Water C	r Conditions: Color: <u>CCC</u> nt Descriptio Volume:	av n:	Odor: Y I(N)  Ook  al. DTW @ Sar	npling: _9.	96
Time (2400 hr.)	Volume (gal.)	рН	Conductivity (μmhos/cm - μ		rature	D.O. (mg/L)	ORP (mV)	
2944	1	6.89	381		7.		()	
2948	<del>-</del> 2	2.92	374	$-\frac{1}{17}$	<del>u</del> -	<del></del>		
0.951	2.75	6.93	376	17.4	<del>/</del>	<del></del>		
							<del></del>	
			LABORATOR	VINEODMA	TION			
SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. T		ATORY		NALYSES	
MW- 2	3 x voa vial	YES	HCL			IWTPH-Gx/BTEX(80		
	2 x 1 liter ambers	YES	HCL	LANC	ASTER N	WTPH-Dx w/sgc		
	·		<del> </del>					
			<del> </del>	-		<u>-</u>		
	<del></del>		<del> </del> -	<del></del>	<del></del>			
			<del></del>	<del></del>	<del>-  </del>	<del></del>	·	<del></del>
COMMENTS: _								
Add/Replaced Lo		 Add/f	Replaced Plug	 1:		.dd/Replaced Bo		



Client/Facility#:	Chevron #9	9-0636		Job Number	er: <b>386789</b>				
Site Address:	5940 East I	<b>Marginal</b>	Way	Event Date:	4-24	09	 (inclusive)		
City:	Seattle, WA	١		Sampler:	ML		()		
<del></del>				<del></del>	<del></del>		<del></del>		
Well ID	MW-3			Date Monitored	1: 4-24	709			
Well Diameter		<u>in.</u>	F	Volume 3/4"= 0	0.02 1"= 0.04	2"= 0.17 3"= 0.	387		
Total Depth	15.11	<u>ft.</u>	1.	Factor (VF) 4"= 0		6"= 1.50 12"= 5.			
Depth to Water				olumn is less then 0.			J		
Depth to Water	<u> </u>	xVFi Je [(Height of	Water Column x 0	20) + DTW]: 10 · 3	3		gal.		
Duras Equipments					Time Sta		(2400 hrs)		
Purge Equipment:	X		Sampling Equipm	ient:	ja –	mpleted: Product:	(2400 hrs)		
Disposable Bailer Stainless Steel Baile			Disposable Bailer			Water:	ft ft		
Stack Pump	<u> </u>		Pressure Bailer			bon Thickness:	ft		
Suction Pump			Discrete Bailer Peristaltic Pump		Visual Co	onfirmation/Description	n:		
Grundfos			QED Bladder Pumi		Skimmer	/ Absorbant Sock (ci	rcle one)		
Peristaltic Pump			Other:		Amt Rem	oved from Skimmer:	gal		
QED Bladder Pump					Amt Rem	oved from Well:	gal		
Other:					Water Re Product T	moved: ransferred to:	<del></del>		
Start Time (purge Sample Time/Da Approx. Flow Rat Did well de-water	te: 1055 / r	gpm.	Water Co Sedimen	Conditions: Color: Cloudy t Description: Colume: Colum	Odor: VI N Light gal. DTW @ 8	Sampling: 9.	 		
Time (2400 hr.)	Volume (gal.)	рН	Conductivity (µmhos/cm - 15	Temperature	D.O. (mg/L)	ORP (mV)			
1029	1	6,107	539	15.5	( 5,	(****)			
1033	2	79	547	- <del>/ J. J</del>		· <del></del> -			
1037	3	2.75	545	15.7		·			
				- <del> </del>					
	<del></del>		LABORATORY	INFORMATION					
SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TY	PE LABORATORY	<del></del>	ANALYSES	<del></del> 1		
MW- 3	3 x voa vial	YES	HCL	LANCASTER	NWTPH-Gx/BTE		<del></del>		
	2 x 1 liter ambers	YES	HCL	LANCASTER	NWTPH-Dx w/sg	С	<del></del>		
<del></del>	· <del>- · · · · · · · · · · · · · · · · · ·</del>		ļ						
	<del></del>	<del></del>		<del>-  </del>	<del> </del>				
					<del></del>		<del></del>		
COMMENTS:									
<del>-</del>									
Add/Replaced Lo	ock:	Add/F	Replaced Plug	· <u> </u>	Add/Panlaged	Polt			



Site Address:	:Chevron = 5940 East Seattle,	Margine	al Way	Job Number: Event Date: Sampler:	385862 4-24 ML	38678°	) (inclusive) 
Well ID Well Diameter Total Depth Depth to Water	8.78 ft 5.66	t. t.	Volum Facto eck if water colum	r (VF) 4"= 0.6 an is less then 0.5 x3 case volume =	02 1"= 0.04 66 5"= 1.02 0 ft. = Estimated Purge	2"= 0.17 3"= 0.3 6"= 1.50 12"= 5.8 e Volume: Z-7	ō
Purge Equipment: Disposable Bailer Stainless Steel Bail Stack Pump Suction Pump Grundfos Peristaltic Pump QED Bladder Pump Other:	ег	Sar Disj Pre Disc Peri QEI	ater Column x 0.20) - mpling Equipment: posable Bailer ssure Bailer crete Bailer istaltic Pump D Bladder Pump er:	+ DTWJ; <u>9.91</u>	Time Sta Time Cor Depth to Depth to Hydrocar Visual Co Skimmer Amt Rem Amt Rem Water Re	mpleted: Product: Water: bon Thickness: pnfirmation/Description / Absorbant Sock (cir oved from Skimmer: oved from Well:	(2400 hrs) ftftftftftgalgal
Start Time (purg Sample Time/Da Approx. Flow Ra Did well de-wate Time (2400 hr.) 1//4 1//8	ate: 1140 / 1	лЫ	Weather Cor Water Color: Sediment De Volur Conductivity (µmhos/cm -{µS}) 3 9 (µ V 0 2	Clear escription:	Odor 1 N Vone gal. DTW @:	Sampling: 8.	Gardie DTW esparameters are recorded
SAMPLE ID MW-	(#) CONTAINER  3 x voa vial  2 x 1 liter ambers	REFRIG.	BORATORY IN PRESERV. TYPE HCL HCL	FORMATION LABORATORY LANCASTER LANCASTER	NWTPH-Gx/BTE NWTPH-Dx w/sg		
COMMENTS:  Add/Replaced I	Lock:	Add/Re	placed Plug:		Arid/Renlaced	1 Rolt	

## Chevron Northwest Region Analysis Request/Chain of Carody



For Lancaster Laboratories use of	niv
Acct. #: 11260 Sample #: 5655720-24	SCR#:
	UCRIT

SC #0 0626 OMI C D #206708	·	<del></del>		Analy	ses Requested	] Grp#1142105
Facility #: SS#9-0636-OML G-R#386789		Matrix		Prese	rvation Codes	Preservative Codes
Site Address: 5940 East Marginal Way, SEATTLE,	WĄ		掛一	$\mathcal{H}\mathcal{H}$		H = HCl T = Thiosulfate
Chevron PM: OS Lead Consultant:						$N = HNO_3$ $B = NaOH$ $S = H_2SO_4$ $O = Other$
Consultant/Office: G-R, Inc., 6747 Sierra Court, Suite J		Potable NPDES ontainers		운	<u>s</u> <u>8</u>	☐ J value reporting needed
Consultant Prj. Mgr.:Deanna L. Harding (deanna@grin	onta NP Pot	928 828	s Extended Rrg. Silica Gel Cleenup	iss.	☐ Must meet lowest detection limits possible for 8260 compounds	
Consultant Phone #925-551-7555 Fax #:	925-551-7899			X dande		8021 MTBE Confirmation
sampler: Mike Lombord			90.			Confirm MTBE + Naphthalene
Service Order #: Non SAR:		N A P	1 Scan	Oxygenates TPH G		☐ Confirm highest hit by 8260☐ Confirm all hits by 8260
Sample Identification Date Collected	Time Collected CO	Soil  Water    Potable   NPDES   Oil   Air   Air	81EX + <b>(                                   </b>	WWPH & DEXE	VPWEPH NWTPHHHCID	☐ Run oxy s on highest hit ☐ Run oxy s on all hits
QA 4-24-3	X	X 2	X			Comments / Remarks
Mw-I	0925 X	X 5	X	XX		- Administra
MW-2 /	1005 X	X 5		XX		
MW-U	1055 X	X 5	X	KTX.		_{
		1-1-1-3		- XX	╾╁╌╂╼╂╼╂╼╂	-{ · ·
				111	<del>─┤</del> ┤┼┼┼	-
	<u> </u>					1
	<del></del>	┡╌┼╌╁┼╌┆				
		┠═┼═┼═┤	┞╾╂╼╂	-	╼╄╼╁╼┾╼╁╼	4
				+++	╼╁╼╁╼╁╼╁╼╁	-
						1
Turnaround Time Requested (TAT) (please circle)	Relinquished by:	_ //		Date T	ime Received by:	Date Time
STD. TAY 72 hour 48 hour 24 hour 4 day 5 day	Relinquished by:	0	— <del></del> -[		ime Received by:	/
Data D. J. Co.	<del>- </del>		/			Date Time
Data Package Options (please circle if required) EDF/ED  QC Summary Type I - Full	Relinquished by:			Date Ti	ime Received by:	Date Time
Type VI (Raw Data) Disk / EDD		ommercial Carrier:			Received by:	
WIP (RWQCB) Standard Format  DiskOther.	UPS Fed				- Katie Ha	Have Place Time
OSAOSO.	Temperative Upon	Receipt 4.7-5.	3c°		Custody Seals Intact?	



2425 New Holland Pike, PO Box 12425, Lancoster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2861 • www.lancesterlabs.com

#### ANALYTICAL RESULTS

Prepared for:

REGEIVED

Chevron

6001 Bollinger Canyon Road

MAY 1 1 2009

L4310 San Ramon CA 94583

~ ZUU9

925-842-8582

GENERAL CONTRACTORS

Prepared by:

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

May 11, 2009

#### **SAMPLE GROUP**

The sample group for this submittal is 1142105. Samples arrived at the laboratory on Saturday, April 25, 2009. The PO# for this group is 0015040041 and the release number is SKANCE.

Client Description	<u>Lancaster</u> Labs Number				
QA Water Sample	5655720				
MW-1 Grab Water Sample	5655721				
MW-2 Grab Water Sample	5655722				
MW-3 Grab Water Sample	5655723				
MW-4 Grab Water Sample	5655724				

#### **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



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

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

Respectfully Submitted,

Sarah Snyder



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

Page 1 of 1

Lancaster Laboratories Sample No. WW 5655720

Group No. 1142105

WA

QA Water Sample

Facility# 90636 Job# 386789 5940 E Marginal Way - Seattle, WA

Collected: 04/24/2009

Account Number: 11260

Submitted: 04/25/2009 10:00

Reported: 05/11/2009 at 08:27

Discard: 06/11/2009

Chevron

6001 Bollinger Canyon Road

L4310

San Ramon CA 94583

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
ECY 97	7-602 NWTPH-Gx GC	Volatiles	ug/1	ug/l	
08274	NWTPH-Gx water C7-C12	n.a.	N.D.	50	1
SW-846	8021B GC	Volatiles	ug/1	ug/l	
05879	Benzene	71-43-2	N.D.	0.5	1
05879	Ethylbenzene	100-41-4	N.D.	0.5	1
05879	Toluene	108-88-3	N.D.	0.5	1
05879	Total Xylenes	1330-20-7	N.D.	1.5	1

#### General Sample Comments

State of Washington Lab Certification No. C259

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

Laboratory Chronicle							
CAT No.	Analysis Name	Method Tris	al#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
08274	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH- Gx	1	09118A94A	04/29/2009 16:02	Tyler O Griffin	1
05879 01146	BTEX GC VOA Water Prep	SW-846 8021B SW-846 5030B	1	09118A94A 09118A94A	04/29/2009 16:02 04/29/2009 16:02	Tyler O Griffin	1



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

Page 1 of 1

Lancaster Laboratories Sample No. WW 5655721

Group No. 1142105

WA

MW-1 Grab Water Sample

Facility# 90636 Job# 386789 5940 E Marginal Way - Seattle, WA

Collected: 04/24/2009 09:25 by

Account Number: 11260

Submitted: 04/25/2009 10:00

Reported: 05/11/2009 at 08:27

Discard: 06/11/2009

Chevron

6001 Bollinger Canyon Road

L4310

San Ramon CA 94583

MWSM1

CAT No. Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
ECY 97-602 NWTPH-Gx	GC Volatiles	ug/l	ug/l	
08274 NWTPH-Gx water C7-0	212 n.a.	N.D.	50	1
SW-846 8021B	GC Volatiles	ug/l	ug/l	
05879 Benzene	71-43-2	N.D.	0.5	1
05879 Ethylbenzene	100-41-4	N.D.	0.5	ī
05879 Toluene	108-88-3	N.D.	0.5	1
05879 Total Xylenes	1330-20-7	N.D.	1.5	ī
ECY 97-602 NWTPH-Dx modified	GC Extractable TPH w/Si Gel	ug/l	ug/l	
02211 DRO C12-C24 w/Si Ge		N.D.	32	1
02211 HRO C24-C40 w/Si Ge	l n.a.	N.D.	74	1

#### General Sample Comments

State of Washington Lab Certification No. C259

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

	Laboratory Chronicle								
CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor		
08274	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH- Gx	1	09118A94A	04/29/2009 20:28	Tyler O Griffin	1		
05879		SW-846 8021B	1	09118A94A	04/29/2009 20:28	Tyler O Griffin	1		
	GC VOA Water Prep	SW-846 5030B	1	09118A94A	04/29/2009 20:28	Tyler O Griffin	ī		
02211	NWTPH-Dx water w/Si Gel	ECY 97-602 NWTPH- Dx modified	1	091260016A	05/08/2009 09:04	Diane V Do	ī		
02135	Extraction - DRO Water Special	ECY 97-602 NWTPH- Dx 06/97	2	091260016A	05/07/2009 02:00	Roman Kuropatkin	1		



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

Page 1 of 1

Lancaster Laboratories Sample No. WW 5655722

Group No. 1142105

WA

MW-2 Grab Water Sample

Facility# 90636 Job# 386789 5940 E Marginal Way - Seattle, WA

Collected: 04/24/2009 10:05

by ML

Account Number: 11260

Submitted: 04/25/2009 10:00

Reported: 05/11/2009 at 08:27

Discard: 06/11/2009

Chevron

6001 Bollinger Canyon Road

L4310

San Ramon CA 94583

MWSM2

CAT No.	Analysis Name		CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
ECY 9	7-602 NWTPH-Gx	GC Volatile	98	ug/l	ug/l	
08274	NWTPH-Gx water C7-C	12	n.a.	N.D.	50 ·	1
SW-84	6 8021B	GC Volatile	35	ug/1	ug/l	
05879	Benzene		71-43-2	N.D.	0.5	1
05879	Ethylbenzene		100-41-4	N.D.	0.5	1
05879	Toluene		108-88-3	N.D.	0.5	ī
05879	Total Xylenes		1330-20-7	N.D.	1.5	ī
ECY 97		GC Extracta w/Si Gel	ble TPH	ug/l	ug/l	
02211		-				
	DRO C12-C24 w/Si Ge]		n.a.	N.D.	30	1
02211	HRO C24-C40 w/Si Gel	- :	n.a.	N.D.	71	1

#### General Sample Comments

State of Washington Lab Certification No. C259

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

#### Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
08274	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH	- 1	09118A94A	04/29/2009 20:55	Tyler O Griffin	1
05879	BTEX	SW-846 8021B	1	09118A94A	04/29/2009 20:55	Tyler O Griffin	1
01146	GC VOA Water Prep	SW-846 5030B	1	09118A94A	04/29/2009 20:55	Tyler O Griffin	ī
02211	NWTPH-Dx water w/Si Gel	ECY 97-602 NWTPH Dx modified	- 1	091260016A	05/08/2009 09:25	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



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

Page 1 of 1

Lancaster Laboratories Sample No. WW 5655723

Group No. 1142105

WA

MW-3 Grab Water Sample

Facility# 90636 Job# 386789 5940 E Marginal Way - Seattle, WA

Collected: 04/24/2009 10:55 by ML

Submitted: 04/25/2009 10:00

Reported: 05/11/2009 at 08:27

Discard: 06/11/2009

Account Number: 11260

Chevron

6001 Bollinger Canyon Road

05/07/2009 02:00

Roman Kuropatkin

L4310

San Ramon CA 94583

MWSM3

CAT No.	Analysis Name		CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
ECY 9	7-602 NWTPH-Gx	GC Volatil	es	ug/1	ug/l	
08274	NWTPH-Gx water C7-	C12	n.a.	430	250	5
SW-846	8021B	GC Volatil	es	ug/l	ug/l	
05879	Benzene		71-43-2	1,900	2.5	5
05879	Ethylbenzene		100-41-4	13	2.5	5
05879	Toluene		108-88-3	31	2.5	5
05879	Total Xylenes		1330-20-7	16	7.5	5
	-602 NWTPH-Dx	GC Extract	able TPH	ug/1	ug/l	
modifi	led	w/Si Gel				
02211	DRO C12-C24 w/si G	el el	n.a.	160	29	1
02211	HRO C24-C40 w/Si G	el .	n.a.	N.D.	68	ī

#### General Sample Comments

Laboratory Chronicle

State of Washington Lab Certification No. C259

02135 Extraction - DRO Water

Special

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

ECY 97-602 NWTPH-

Dx 06/97

#### CAT Analysis Name Method Trial# Batch# Analysis Analyst Dilution No. Date and Time Factor 08274 NWTPH-Gx water C7-C12 ECY 97-602 NWTPH-1 09118A94A 04/29/2009 23:08 Tyler O Griffin SW-846 8021B 1 09118A94A 04/29/2009 23:08 Tyler O Griffin 5 01146 GC VOA Water Prep SW-846 5030B 7 09118A94A 04/29/2009 23:08 Tyler O Griffin 02211 NWTPH-Dx water w/Si Gel ECY 97-602 NWTPH-1 091260016A 05/08/2009 08:00 Diane V Do 1 Dx modified

2 091260016A



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

Page 1 of 1

Lancaster Laboratories Sample No. WW 5655724

Group No. 1142105

WA

MW-4 Grab Water Sample

Facility# 90636 Job# 386789

5940 E Marginal Way - Seattle, WA

Collected: 04/24/2009 11:40

by ML Account Number: 11260

Submitted: 04/25/2009 10:00

Reported: 05/11/2009 at 08:27

Discard: 06/11/2009

Chevron

6001 Bollinger Canyon Road

L4310

San Ramon CA 94583

MWSM4

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution · Factor
ECY 97	7-602 NWTPH-Gx GC Volatil	.es	ug/l	ug/1	
08274	NWTPH-Gx water C7-C12	n.a.	1,600	50	1
SW-846	8021B GC Volatil	es	ug/l	ug/1	
05879	Benzene	71-43-2	N.D.	4.0	1
05879	Ethylbenzene	100-41-4	3.8	0.5	1
05879	1711111	108-88-3	2.1	0.5	1
05879	·	1330-20-7	12	1.5	1
repor	to the presence of an interferent ting limit was not attained for h compound cannot be determined due	enzene. The pr	esence or concentration of		
ECY 97 modifi	-602 NWTPH-Dx GC Extract ed w/Si Gel	able TPH	ug/l	ug/l	
02211	DRO C12-C24 w/Si Gel	n.a.	320	30	1
	HRO C24-C40 w/Si Gel		N.D.	71	1

#### General Sample Comments

State of Washington Lab Certification No. C259

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

#### Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Tim	ie .	Analyst	Dilution Factor
08274	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH	- 1	09118A94A	04/29/2009	21:48	Tyler O Griffin	1
05879	BTEX	SW-846 8021B	1	09118A94A	04/29/2009	21:48	Tyler O Griffin	7
01146		SW-846 5030B	1	09118A94A		21:48	Tyler O Griffin	ı
02211	NWTPH-Dx water w/Si Gel	ECY 97-602 NWTPH Dx modified	- 1	091260016A	05/08/2009	08:21	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



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

Page 1 of 2

### Quality Control Summary

Client Name: Chevron

Group Number: 1142105

Reported: 05/11/09 at 08:27 AM

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 %REC	LCSD <u>%REC</u>	LCS/LCSD <u>Limits</u>	RPD	RPD Max
Batch number: 09118A94A	Sample nu	umber(s):	5655720-56	55724				
Benzene	N.D.	0.5	ug/l	110	110	80-120	0	30
Ethylbenzene	N.D.	0.5	ug/1	105	105	80-120	Ö	30
NWTPH-Gx water C7-C12	N.D.	50.	ug/l	100	100	75-135	ō	30
Toluene	N.D.	0.5	ug/l	105	105	80-120	Ō	30
Total Xylenes	N.D.	1.5	ug/l	107	108	80-120	2	30
Batch number: 091260016A	Sample nu	mber(s):	5655721-56	55724				
DRO C12-C24 w/Si Gel HRO C24-C40 w/Si Gel	N.D. N.D.	30. 70.	ug/l ug/l	75	<b>7</b> 5	61-106	0	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

Analysis Name	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 Max
Batch number: 09118A94A Benzene Ethylbenzene NWTPH-Gx water C7-C12 Toluene Total Xylenes	Sample: 120 120 109 120 120	number(s)	: 5655720 70-152 75-133 48-140 78-129 67-155	-565572	24 UNSP	K: P655659,	P655663		

#### 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 Batch number: 09118A94A

Datell Hall	Trifluorotoluene-P	Trifluorotoluene-F	
5655720	97	83	
5655721	98	82	
5655722	99	82	
5655723	102	101	
5655724	90	97	•
Blank	98	83	
LCS	98	91	

#### \*- Outside of specification

- (1) The result for one or both determinations was less than five times the LOO.
- (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 2 of 2

### Quality Control Summary

Client Name: Chevron Group Number: 1142105 Reported: 05/11/09 at 08:27 AM Surrogate Quality Control LCSD 99 97 90 MS 92 Limits: 69-129 63-135 Analysis Name: NWTPH-Dx water w/Si Gel Batch number: 091260016A Orthoterphenyl 5655721 5655722 98 5655723 100 5655724 102

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:

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

- 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 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.

U.S. EPA data qualifiers:

#### **Organic Qualifiers**

### **Inorganic Qualifiers**

0 1 / 3

A B C D E	TIC is a possible aldol-condensation product Analyte was also detected in the blank Pesticide result confirmed by GC/MS Compound quatitated on a diluted sample Concentration exceeds the calibration range of the instrument	B E M N S	Value is <crdl, (msa)="" additions="" amount="" but="" calculation<="" control="" due="" duplicate="" estimated="" for="" injection="" interference="" limits="" met="" method="" not="" of="" precision="" spike="" standard="" th="" to="" used="" within="" ≥idl=""></crdl,>
J	Estimated value	U	Compound was not detected
N	Presumptive evidence of a compound (TICs only)	W	Post digestion spike out of control limits
P	Concentration difference between primary and	*	Duplicate analysis not within control limits
	confirmation columns >25%	+	Correlation coefficient for MSA <0,995
U	Compound was not detected		c.a cocincient for MOA 40,000
X,Y,Z	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.

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.