March 23, 2013

Mr. Scott Rose
VCP Unit Manager
Washington State Department of Ecology – Southwest Region
Toxics Cleanup Program
PO Box 47775
Olympia, WA 98504-7775

Subject: **Post Excavation Groundwater Monitoring Report**
Former Union Oil Bulk Plant No. 306490
333 6th Avenue
Woodland, Washington

Dear Mr. Rose:

SAIC Energy, Environment & Infrastructure, LLC (SAIC), on behalf of Chevron Environmental Management Company (CEMC) prepared this letter summarizing groundwater monitoring and sampling activities performed at the Former Union Oil Bulk Plant No. 306490.

Remedial activities conducted in 2001 excavated soil in three areas at the Site. Monitoring wells MW-2 and MW-7 were abandoned and excavated as part of this action. MW-1 was abandoned in 2005 in preparation for a subsequent remedial excavation. Following 2012 remedial excavation activities, MW-1A was installed 5ft east of abandoned MW-1, in an effort to re-evaluate current groundwater conditions. All other groundwater monitoring wells at the Site have achieved several years of compliance with MTCA Method A cleanup levels. In addition, the spatial distribution of down gradient wells indicates petroleum constituents have not migrated offsite.

SAIC conducted two groundwater monitoring and sampling events at MW-1A. Sampling took place on August 28, 2012 and February 27, 2013 and depth-to-groundwater measurements were recorded. Groundwater flow direction at the site is well established and known to flow to the southeast, based on previous historical sampling activities.

Laboratory analytical results from two consecutive groundwater sampling events were non-detect. Groundwater data and laboratory analytical results are summarized in Table 1. Laboratory analytical data is included as Attachment A and B.

Please contact Don Wyll, the SAIC project manager, at (425) 482-3315 or wylld@saic.com if you have any questions or comments about the information provided herein.

Sincerely,

SAIC Energy, Environment & Infrastructure, LLC

Julie Wartes
Project Scientist

Enclosures:
Figure 1 – Site Map
Table 1 – Post Excavation Groundwater Monitoring Data and Analytical Results
Attachment A – Laboratory Analytical Data, August 28, 2012
Attachment B – Laboratory Analytical Data, February 27, 2012

cc: Project File

REPORT LIMITATIONS

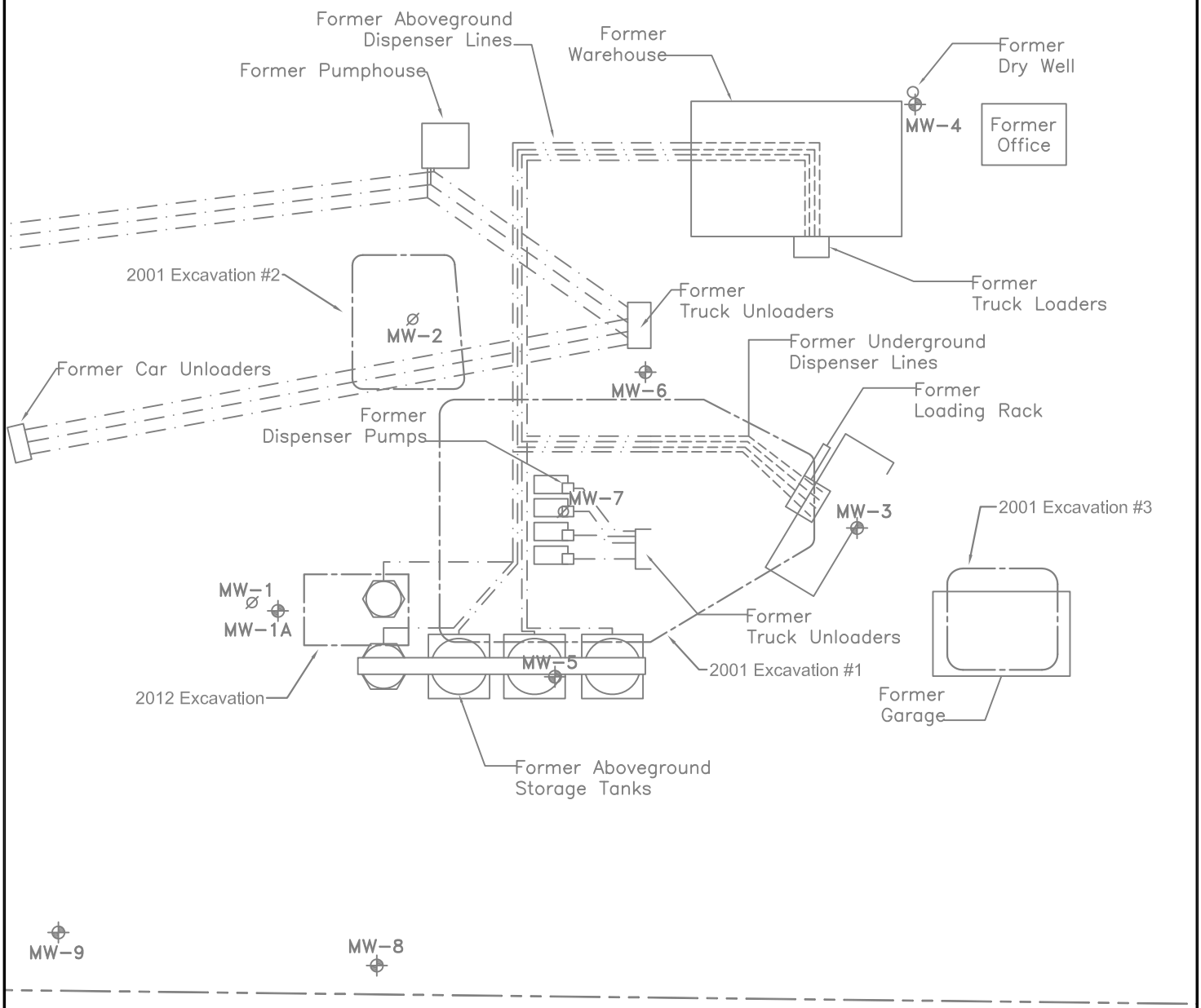
This technical document was prepared on behalf of Chevron and is intended for its sole use and for use by the local, state or federal regulatory agency that the technical document was sent to by SAIC. Any other person or entity obtaining, using, or relying on this technical document hereby acknowledges that they do so at their own risk, and that SAIC Energy, Environment & Infrastructure, LLC (SAIC) shall have no responsibility or liability for the consequences thereof.

Site history and background information provided in this technical document are based on sources that may include interviews with environmental regulatory agencies and property management personnel and a review of acquired environmental regulatory agency documents and property information obtained from CEMC and others. SAIC has not made, nor has it been asked to make, any independent investigation concerning the accuracy, reliability, or completeness of such information beyond that described in this technical document.

Recognizing reasonable limits of time and cost, this technical document cannot wholly eliminate uncertainty regarding the vertical and lateral extent of impacted environmental media.

Opinions and recommendations presented in this technical document apply only to site conditions and features as they existed at the time of SAIC's site visits or site work and cannot be applied to conditions and features of which SAIC is unaware and has not had the opportunity to evaluate.

All sources of information on which SAIC has relied in making its conclusions (including direct field observations) are identified by reference in this technical document or in appendices attached to this technical document. Any information not listed by reference or in appendices has not been evaluated or relied upon by SAIC in the context of this technical document. The conclusions, therefore, represent our professional opinion based on the identified sources of information.



LEGEND

- Excavation Limit
- MW-3 — Monitoring Well Location
- MW-2 ∅ — Abandoned Monitoring Well Location
- Property Boundary

N

0 30'

Feet

SAIC

Former Union Oil Bulk Plant No. 0885
Chevron Site No. 306490
333 6th Street
Woodland, Washington

FIGURE 1
Site Map

DATE: 3/22/2013

FILE NAME: 306490 Site Map 8.5x11.dwg

TABLE 1
POST EXCAVATION GROUNDWATER MONITORING ANALYTICAL RESULTS
FORMER UNOCAL BULK PLANT NO. 306490
333 6th Street, Woodland, Washington
Concentrations reported in µg/L

Sample Location ID	Date Sampled	Top of Well Casing Elevation (ft)	Depth to Groundwater (ft)	Groundwater Elevation (ft)	Benzene	Toluene	Ethyl-benzene	Total Xylenes	TPH-GRO	TPH-DRO	TPH-HRO
MW-1A	08/15/12	--	8.61	--	<0.5	<0.5	<0.5	<1.5	<50	<29	<67
	02/13/13	--	6.44	--	<0.5	<0.5	<0.5	<0.5	<50	<29	<67
MTCA Method A Cleanup Levels:					5	1,000	700	1,000	800	500	500

EXPLANATIONS:

TPH = Total petroleum hydrocarbons
TPH-GRO = TPH as gasoline-range organics
TPH-DRO = TPH as diesel-range organics
TPH-HRO = TPH as heavy oil-range organics
MTCA = Model Toxics Control Act
< = Analyte not detected at or above the laboratory reporting limit
µg/L = micrograms per liter

BTEX analyzed by USEPA Methods 8260 or 8021.
TPH-GRO analyzed by USEPA Method 8015 modified or Northwest Methods WTPH-G or NWTPH-Gx.
TPH-DRO analyze by USEPA Method 8015 modified or Northwest Methods WTPH-D or NWTPH-Dx (after sulfuric acid/silica gel cleanup).
TPH-HRO analyzed by USEPA Method 418.1 or Northwest Methods WTPH-418.1 or NWTPH-Dx (after sulfuric acid/silica get cleanup).
Total Lead analyzed by USEPA 6000/7000 series Methods.

Attachment A:
Laboratory Analytical Data
August 28, 2012

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Analysis Report

ANALYTICAL RESULTS

Prepared by:

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

Prepared for:

Chevron
L4310
6001 Bollinger Canyon Road
San Ramon CA 94583

August 28, 2012

Project: 306490

Submittal Date: 08/16/2012
Group Number: 1329297
PO Number: 0015094807
Release Number: HARMON
State of Sample Origin: WA

Client Sample Description	Lancaster Labs (LLI) #
MW-1A-9 Grab Soil Sample	6756886
MW-1A_081512 Grab Water Sample	6756888
QA-081512 Water Sample	6756889

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

ELECTRONIC COPY TO	SAIC	Attn: Julie Wartes
ELECTRONIC COPY TO	SAIC	Attn: Don Wyll

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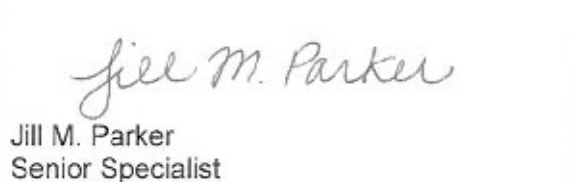
Respectfully Submitted,



Jill M. Parker
Senior Specialist

(717) 556-7262

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Analysis Report

Sample Description: MW-1A-9 Grab Soil Sample
Facility# 306490
333 6th Ave - Woodland, WA

LLI Sample # SW 6756886
LLI Group # 1329297
Account # 11255

Project Name: 306490

Collected: 08/15/2012 11:20 by AL

Submitted: 08/16/2012 09:20
Reported: 08/28/2012 13:16

Chevron
L4310
6001 Bollinger Canyon Road
San Ramon CA 94583

6W1A9

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC Volatiles	**ECY 97-602 NWTPH-Gx**		**mg/kg**	**mg/kg**	
02006	NWTPH-Gx soil C7-C12	n.a.	N.D.	1.3	28.59
GC Volatiles	**SW-846 8021B**		**mg/kg**	**mg/kg**	
08179	Benzene	71-43-2	N.D.	0.0064	28.59
08179	Ethylbenzene	100-41-4	N.D.	0.0064	28.59
08179	Toluene	108-88-3	N.D.	0.0064	28.59
08179	Total Xylenes	1330-20-7	N.D.	0.019	28.59
GC Petroleum Hydrocarbons	**ECY 97-602 NWTPH-Dx modified**		**mg/kg**	**mg/kg**	
08272	Diesel Range Organics C12-C24	n.a.	N.D.	3.3	1
08272	Heavy Range Organics C24-C40	n.a.	N.D.	11	1
Wet Chemistry	**SM20 2540 G**		**%**	**%**	
00111	Moisture	n.a.	10.6	0.50	1

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

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
02006	NWTPH-Gx soil C7-C12	ECY 97-602 NWTPH-Gx	1	12229A31A	08/17/2012 09:25	Marie D John	28.59
08179	BTEX by 8021	SW-846 8021B	1	12229A31A	08/17/2012 09:25	Marie D John	28.59
06647	GC-5g Field Preserved MeOH	SW-846 5035A	1	201222928522	08/15/2012 11:20	Client Supplied	n.a.
08272	NWTPH-Dx soil	ECY 97-602 NWTPH-Dx modified	1	122290029A	08/17/2012 14:40	Christine E Dolman	1
11234	WA DRO NW DX Soils (Non SG)	SW-846 3550B	1	122290029A	08/16/2012 22:00	Karen L Beyer	1
00111	Moisture	SM20 2540 G	1	12230820002A	08/17/2012 18:48	Scott W Freisher	1

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Analysis Report

Sample Description: MW-1A_081512 Grab Water Sample
Facility# 306490
333 6th Ave - Woodland, WA

LLI Sample # WW 6756888
LLI Group # 1329297
Account # 11255

Project Name: 306490

Collected: 08/15/2012 14:00 by AL

Submitted: 08/16/2012 09:20
Reported: 08/28/2012 13:16

Chevron
L4310
6001 Bollinger Canyon Road
San Ramon CA 94583

6W1A-

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC Volatiles	**ECY 97-602 NWTPH-Gx**		**ug/l**	**ug/l**	
08274	NWTPH-Gx water C7-C12	n.a.	N.D.	50	1
GC Volatiles	**SW-846 8021B**		**ug/l**	**ug/l**	
02102	Benzene	71-43-2	N.D.	0.5	1
02102	Ethylbenzene	100-41-4	N.D.	0.5	1
02102	Toluene	108-88-3	N.D.	0.5	1
02102	Total Xylenes	1330-20-7	N.D.	1.5	1
GC Petroleum Hydrocarbons w/Si	**ECY 97-602 NWTPH-Dx modified**		**ug/l**	**ug/l**	
12005	DRO C12-C24 w/Si Gel	n.a.	N.D.	29	1
12005	HRO C24-C40 w/Si Gel	n.a.	N.D.	67	1

The reverse surrogate, capric acid, is present at <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
08274	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	12231A94A	08/18/2012 16:33	Marie D John	1
02102	Method 8021 Water Master	SW-846 8021B	1	12231A94A	08/18/2012 16:33	Marie D John	1
01146	GC VOA Water Prep	SW-846 5030B	1	12231A94A	08/18/2012 16:33	Marie D John	1
12005	NWTPH-Dx water w/ 10g Si Gel	ECY 97-602 NWTPH-Dx modified	1	122310001A	08/20/2012 14:28	Christine E Dolman	1
12007	NW Dx water w/ 10g column	ECY 97-602 NWTPH-Dx 06/97	1	122310001A	08/19/2012 16:30	Elaine F Stoltzfus	1

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Analysis Report

Sample Description: QA-081512 Water Sample
Facility# 306490
333 6th Ave - Woodland, WA

LLI Sample # WW 6756889
LLI Group # 1329297
Account # 11255

Project Name: 306490

Collected: 08/15/2012 14:10

Submitted: 08/16/2012 09:20
Reported: 08/28/2012 13:16

Chevron
L4310
6001 Bollinger Canyon Road
San Ramon CA 94583

6WQA-

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC Volatiles	**ECY 97-602 NWTPH-Gx**		**ug/l**	**ug/l**	
08274	NWTPH-Gx water C7-C12	n.a.	N.D.	50	1
GC Volatiles	**SW-846 8021B**		**ug/l**	**ug/l**	
02102	Benzene	71-43-2	N.D.	0.5	1
02102	Ethylbenzene	100-41-4	N.D.	0.5	1
02102	Toluene	108-88-3	N.D.	0.5	1
02102	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 Sample Analysis Record

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	12231A94A	08/18/2012 15:16	Marie D John	1
02102	Method 8021 Water Master	SW-846 8021B	1	12231A94A	08/18/2012 15:16	Marie D John	1
01146	GC VOA Water Prep	SW-846 5030B	1	12231A94A	08/18/2012 15:16	Marie D John	1

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Quality Control Summary

Client Name: Chevron Group Number: 1329297
Reported: 08/28/12 at 01:16 PM

Matrix QC may not be reported if insufficient sample or 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.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 12229A31A	Sample number(s): 6756886							
Benzene	N.D.	0.0050	mg/kg	112	115	76-118	2	30
Ethylbenzene	N.D.	0.0050	mg/kg	103	109	77-115	5	30
NWTPH-Gx soil C7-C12	N.D.	1.0	mg/kg	94	101	67-119	7	30
Toluene	N.D.	0.0050	mg/kg	102	107	80-120	5	30
Total Xylenes	N.D.	0.015	mg/kg	101	106	78-115	5	30
Batch number: 12231A94A	Sample number(s): 6756888-6756889							
Benzene	N.D.	0.5	ug/l	101	99	80-120	2	30
Ethylbenzene	N.D.	0.5	ug/l	101	99	80-120	2	30
NWTPH-Gx water C7-C12	N.D.	50.	ug/l	100	101	75-135	1	30
Toluene	N.D.	0.5	ug/l	101	99	80-120	2	30
Total Xylenes	N.D.	1.5	ug/l	104	101	80-120	3	30
Batch number: 122290029A	Sample number(s): 6756886							
Diesel Range Organics C12-C24	N.D.	3.0	mg/kg	78		60-120		
Heavy Range Organics C24-C40	N.D.	10.	mg/kg					
Batch number: 122310001A	Sample number(s): 6756888							
DRO C12-C24 w/Si Gel	N.D.	30.	ug/l	61	71	50-120	14	20
HRO C24-C40 w/Si Gel	N.D.	70.	ug/l					
Batch number: 12230820002A	Sample number(s): 6756886							
Moisture				100		99-101		

Sample Matrix Quality Control

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

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: 122290029A	Sample number(s): 6756886			BKG: 6756886					
Diesel Range Organics C12-C24						N.D.	N.D.	0 (1)	20
Heavy Range Organics C24-C40						N.D.	N.D.	0 (1)	20
Batch number: 12230820002A	Sample number(s): 6756886			BKG: P756150					
Moisture						18.3	18.9	3	13

*- 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 Group Number: 1329297
Reported: 08/28/12 at 01:16 PM

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: NWTPH-Gx soil C7-C12
Batch number: 12229A31A

	Trifluorotoluene-F	Trifluorotoluene-P
6756886	86	89
Blank	85	90
LCS	83	89
LCSD	87	92
Limits:	61-122	73-117

Analysis Name: Method 8021 Water Master
Batch number: 12231A94A

	Trifluorotoluene-P	Trifluorotoluene-F
6756888	86	77
6756889	87	99
Blank	86	75
LCS	86	90
LCSD	86	91
Limits:	51-120	63-135

Analysis Name: NWTPH-Dx soil
Batch number: 122290029A

	Orthoterphenyl
6756886	97
Blank	98
DUP	101
LCS	97
Limits:	50-150

Analysis Name: NWTPH-Dx water w/ 10g Si Gel
Batch number: 122310001A

	Orthoterphenyl
6756888	86
Blank	81
LCS	83
LCSD	93
Limits:	50-150

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

Chevron Northwest Region Analysis Request/Chain of Custody

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Acct. # 11255 Group # ~~67 1329247~~ 1329297 Sample # ~~6756673-74~~ 6756885-89 For Lancaster Laboratories use only

Instructions on reverse side correspond with circled numbers.

(3) KM 8-16-12

SCR #:

(1) Client Information

- Facility #: 306490
- WBS: NWRTB-306490-0-LAB
- Site Address: 333 6th Avenue Woodland, WA
- Chevron PM: M Harmon
- Lead Consultant: SAIC
- Consultant/Office: Bothell, WA
- Consultant Project Mgr.: D Wyll
- Consultant Phone #: 425-482-3315
- Sampler: A. Lembrick / J Green

(4) Matrix: Sediment ☐, Ground ☒, Surface ☐; Potable ☐, NPDES ☐, Air ☐; Soil ☒, Water, Oil ☐

(5) Analyses Requested: BTEX + ~~MTBE~~ 8021 ☒ 8260 ☐ Naphth ☐; 8260 full scan; Oxygenates; NWTPH GX; NWTPH DX Silica Gel Cleanup ☒ extd; Lead Total ☐ Diss. ☐ Method; WAVPH ☐ WAEPH ☐; Moisture

(2) Sample Identification	Location	Collected Date	Collected Time	(3) Grab	Composite	Soil	Water	Oil	Total Number of Containers	BTEX + MTBE	8260 full scan	Oxygenates	NWTPH GX	NWTPH DX	Lead	WAVPH	Moisture
MW-1A-6	MW-1A	8/15/12	1110	X		X			3	X			X	X			X
MW-1A-9	MW-1A	8/15/12	1120	X		X			3	X			X	X			X
MW-1A-15	MW-1A	8/15/12	1130	X		X			3	X			X	X			X
MW-1A-081512	MW-1A	8/15/12	1400	X			X		5	X			X	X			
QA-081512	—	8/15/12	1410	X			X		2	X			X				

Amber Lemke 8/15/12

☐ Results in Dry Weight
☐ J value reporting needed
☐ Must meet lowest detection limits possible for 8260 compounds
☐ 8021 MTBE Confirmation
☐ Confirm MTBE + Naphthalene
☐ Confirm highest hit by 8260
☐ Confirm all hits by 8260
☐ Run ______ oxy's on highest hit
☐ Run ______ oxy's on all hits

(6) Remarks

NWRTB-Dx extd

Please send analytical results to Julie Wartes at wartesj@saic.com in addition to the consultant PM

Please hold soil samples until groundwater sample results are processed.

MW-1A-9 entered per S Brown. Dx w/SGC on water per S. Brown. AMP 8/17/12

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

Standard 5 day 4 day

72 hour (48 hour) 24 hour

Relinquished by	Date	Time	Received by	Date	Time
[signature]	8/15/12	1600			

(8) Data Package Options (please circle if required)

Type I - Full Type VI (Raw Data)

Relinquished by Commerical Carrier: UPS ____ FedEx X Other ______

Received by: [signature] Date: 8-16-12 Time: 0920 (9)

Temperature Upon Receipt 3.4 °C

Custody Seals Intact? (Yes) No

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Explanation of Symbols and Abbreviations

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

RL	Reporting Limit	**BMQL**	Below Minimum Quantitation Level
N.D.	none detected	**MPN**	Most Probable Number
TNTC	Too Numerous To Count	**CP Units**	cobalt-chloroplatinate units
IU	International Units	**NTU**	nephelometric turbidity units
umhos/cm	micromhos/cm	**ng**	nanogram(s)
C	degrees Celsius	**F**	degrees Fahrenheit
meq	milliequivalents	**lb.**	pound(s)
g	gram(s)	**kg**	kilogram(s)
µg	microgram(s)	**mg**	milligram(s)
mL	milliliter(s)	**L**	liter(s)
m3	cubic meter(s)	**µL**	microliter(s)
		pg/L	picogram/liter

< less than - The number following the sign is the limit of quantitation, the smallest amount of analyte which can be reliably determined using this specific test.

> greater than

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.

Data Qualifiers:

C – result confirmed by reanalysis.

J - estimated value – The result is ≥ the Method Detection Limit (MDL) and < the Limit of Quantitation (LOQ).

U.S. EPA CLP Data Qualifiers:

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

Times are local to the area of activity. Parameters listed in the 40 CFR part 136 Table II as “analyze immediately” are not performed within 15 minutes.

Attachment B:
Laboratory Analytical Data
February 27, 2012

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

Analysis Report

ANALYTICAL RESULTS

Prepared by:

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

Prepared for:

Chevron
L4310
6001 Bollinger Canyon Road
San Ramon CA 94583

February 27, 2013

Project: 306490

Submittal Date: 02/15/2013
Group Number: 1369226
PO Number: 0015117901
Release Number: HARMON
State of Sample Origin: WA

Client Sample Description	Lancaster Labs (LLI) #
MW-1A-021313 Grab Groundwater	6954901
TB-1-021313 Water	6954902

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

ELECTRONIC COPY TO	SAIC	Attn: Don Wyll
ELECTRONIC COPY TO	SAIC	Attn: Julie Wartes

Respectfully Submitted,

Jill M. Parker
Senior Specialist

(717) 556-7262

Sample Description: MW-1A-021313 Grab Groundwater
Facility# 306490
333 6th Ave - Woodland, WA

LLI Sample # WW 6954901
LLI Group # 1369226
Account # 11255

Project Name: 306490

Collected: 02/13/2013 09:00 by AL

Submitted: 02/15/2013 09:20
Reported: 02/27/2013 16:39

Chevron
L4310
6001 Bollinger Canyon Road
San Ramon CA 94583

6AW1A

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	Toluene	108-88-3	N.D.	0.5	1
10943	Xylene (Total)	1330-20-7	N.D.	0.5	1
GC Volatiles	**ECY 97-602 NWTPH-Gx**		**ug/l**	**ug/l**	
08273	NWTPH-Gx water C7-C12	n.a.	N.D.	50	1
GC Petroleum Hydrocarbons w/Si	**ECY 97-602 NWTPH-Dx modified**		**ug/l**	**ug/l**	
12005	DRO C12-C24 w/Si Gel	n.a.	N.D.	29	1
12005	HRO C24-C40 w/Si Gel	n.a.	N.D.	67	1

The reverse surrogate, capric acid, is present at <1%.

General Sample Comments

State of Washington Lab Certification No. C259

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10943	BTEX 8260B Water	SW-846 8260B	1	P130503AA	02/19/2013 21:40	Brett W Kenyon	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	P130503AA	02/19/2013 21:40	Brett W Kenyon	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	13056A20A	02/25/2013 19:31	Catherine J Schwarz	1
01146	GC VOA Water Prep	SW-846 5030B	1	13056A20A	02/25/2013 19:31	Catherine J Schwarz	1
12005	NWTPH-Dx water w/ 10g Si Gel	ECY 97-602 NWTPH-Dx modified	1	130500019A	02/24/2013 11:53	Michele D Hamilton	1
12007	NW Dx water w/ 10g column	ECY 97-602 NWTPH-Dx 06/97	1	130500019A	02/20/2013 11:05	Denise L Trimby	1

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Analysis Report

Sample Description: TB-1-021313 Water
Facility# 306490
333 6th Ave - Woodland, WA

LLI Sample # WW 6954902
LLI Group # 1369226
Account # 11255

Project Name: 306490

Collected: 02/13/2013 09:15

Submitted: 02/15/2013 09:20
Reported: 02/27/2013 16:39

Chevron
L4310
6001 Bollinger Canyon Road
San Ramon CA 94583

6AWT1

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	Toluene	108-88-3	N.D.	0.5	1
10943	Xylene (Total)	1330-20-7	N.D.	0.5	1
GC Volatiles	**ECY 97-602 NWTPH-Gx**		**ug/l**	**ug/l**	
08273	NWTPH-Gx water C7-C12	n.a.	N.D.	50	1

General Sample Comments

State of Washington Lab Certification No. C259

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10943	BTEX 8260B Water	SW-846 8260B	1	P130503AA	02/19/2013 21:12	Brett W Kenyon	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	P130503AA	02/19/2013 21:12	Brett W Kenyon	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	13052B20A	02/22/2013 16:33	Catherine J Schwarz	1
01146	GC VOA Water Prep	SW-846 5030B	1	13052B20A	02/22/2013 16:33	Catherine J Schwarz	1

Quality Control Summary

Client Name: Chevron Group Number: 1369226
Reported: 02/27/13 at 04:39 PM

Matrix QC may not be reported if insufficient sample or 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.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: P130503AA	Sample number(s): 6954901-6954902							
Benzene	N.D.	0.5	ug/l	94		77-121		
Ethylbenzene	N.D.	0.5	ug/l	93		79-120		
Toluene	N.D.	0.5	ug/l	95		79-120		
Xylene (Total)	N.D.	0.5	ug/l	95		77-120		
Batch number: 13052B20A	Sample number(s): 6954902							
NWTPH-Gx water C7-C12	N.D.	50.	ug/l	95	94	75-135	1	30
Batch number: 13056A20A	Sample number(s): 6954901							
NWTPH-Gx water C7-C12	N.D.	50.	ug/l	93	90	75-135	3	30
Batch number: 130500019A	Sample number(s): 6954901							
DRO C12-C24 w/Si Gel	N.D.	30.	ug/l	72	79	50-120	8	20
HRO C24-C40 w/Si Gel	N.D.	70.	ug/l					

Sample Matrix Quality Control

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

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: P130503AA	Sample number(s): 6954901-6954902 UNSPK: 6954901								
Benzene	99	98	72-134	2	30				
Ethylbenzene	98	97	71-134	1	30				
Toluene	101	99	80-125	2	30				
Xylene (Total)	100	98	79-125	2	30				

Surrogate Quality Control

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

Analysis Name: UST VOCs by 8260B - Water
Batch number: P130503AA

Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene

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

Quality Control Summary

Client Name: Chevron Group Number: 1369226
Reported: 02/27/13 at 04:39 PM

Surrogate Quality Control

6954901	101	100	97	95
6954902	100	100	98	97
Blank	102	101	96	95
LCS	101	100	98	99
MS	101	103	98	99
MSD	101	102	98	98
Limits:	80-116	77-113	80-113	78-113

Analysis Name: NWTPH-Gx water C7-C12
Batch number: 13052B20A
Trifluorotoluene-F

6954902	83
Blank	83
LCS	102
LCSD	82
Limits:	63-135

Analysis Name: NWTPH-Gx water C7-C12
Batch number: 13056A20A
Trifluorotoluene-F

6954901	72
Blank	73
LCS	100
LCSD	98
Limits:	63-135

Analysis Name: NWTPH-Dx water w/ 10g Si Gel
Batch number: 130500019A
Orthoterphenyl

6954901	86
Blank	85
LCS	91
LCSD	99
Limits:	50-150

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

Chevron Northwest Region Analysis Request/Chain of Custody

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For Lancaster Laboratories use only
Acct. # 11255 Group # 1369226 Sample # 695490 1-02
Instructions on reverse side correspond with circled numbers.

SCR #: _____

1 Client Information

Facility # 306490 WBS NWRTB-306490-0-LAB
Site Address 333 6th Avenue Woodland, WA
Chevron PM M Harmon Lead Consultant SAIC
Consultant/Office Bothell, WA
Consultant Project Mgr. DWyll
Consultant Phone # 425-482-3315
Sampler A Lenbrick

2 Sample Identification | Collected Date | Time | **3** Grab | Composite

4 Matrix: Soil | Sediment | Water | Ground | Potable | Surface | NPDES | Oil | Air

5 Analyses Requested: Total Number of Containers | BTEX + MTBE — 8021 | 8260 ~~Naphth~~ | 8260 full scan | Oxygenates ____ | NWTPH GX | NWTPH DX | Silica Gel Cleanup | Lead | Total | Diss. | Method ____ | WAVPH | WAEPH

Sample Identification	Date	Time	Grab	Composite	Soil	Sediment	Water	Ground	Potable	Surface	NPDES	Oil	Air	Total Number of Containers	BTEX + MTBE — 8021	~~Naphth~~ 8260	8260 full scan	Oxygenates	NWTPH GX	NWTPH DX	Silica Gel Cleanup	Lead	Total	Diss.	Method	WAVPH	WAEPH
MW-1A-021313	2/13/13	0900	X				X							8	X				X		X						
TB-1-021313	2/13/13	0915	X				X							2	X				X								

2/14/13

6 Remarks

Please cc Julie Wartes on Analytical results in addition to the consultant PM.
DX w/SiGel per J. Wartes. gmp 2/18/13

7 Turnaround Time Requested (TAT) (please circle)

Standard | 5 day | 4 day | 72 hour | 48 hour | 24 hour

8 Data Package Options (please circle if required)

Type I - Full | Type VI (Raw Data)

	Relinquished by	Date	Time	Received by	Date	Time
9		2/14/13	1200			
	Relinquished by	Date	Time	Received by	Date	Time

Relinquished by Commerical Carrier: UPS ____ FedEx ✓ Other ____

Received by: Date 2/15/13 Time 0920

Temperature Upon Receipt 2.1 °C

Custody Seals Intact? Yes No

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Explanation of Symbols and Abbreviations

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

RL	Reporting Limit	**BMQL**	Below Minimum Quantitation Level
N.D.	none detected	**MPN**	Most Probable Number
TNTC	Too Numerous To Count	**CP Units**	cobalt-chloroplatinate units
IU	International Units	**NTU**	nephelometric turbidity units
umhos/cm	micromhos/cm	**ng**	nanogram(s)
C	degrees Celsius	**F**	degrees Fahrenheit
meq	milliequivalents	**lb.**	pound(s)
g	gram(s)	**kg**	kilogram(s)
µg	microgram(s)	**mg**	milligram(s)
mL	milliliter(s)	**L**	liter(s)
m3	cubic meter(s)	**µL**	microliter(s)
		pg/L	picogram/liter

< less than - The number following the sign is the limit of quantitation, the smallest amount of analyte which can be reliably determined using this specific test.

> greater than

J estimated value – The result is ≥ the Method Detection Limit (MDL) and < the Limit of Quantitation (LOQ).

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

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
C	Pesticide result confirmed by GC/MS
D	Compound quantitated on a diluted sample
E	Concentration exceeds the calibration range of the instrument
N	Presumptive evidence of a compound (TICs only)
P	Concentration difference between primary and confirmation columns >25%
U	Compound was not detected
X,Y,Z	Defined in case narrative

Inorganic Qualifiers

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

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

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

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

Times are local to the area of activity. Parameters listed in the 40 CFR part 136 Table II as “analyze immediately” are not performed within 15 minutes.