SUPPLEMENTAL SITE INVESTIGATION REPORT

Former Unocal Bulk Plant/Chevron Facility No. 306563
101 NW Coveland Street
Coupeville, Washington

June 15, 2011

Prepared for:

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TABLE OF CONTENTS

FIGURE

TABLE

APPENDICES

SUPPLEMENTAL SITE INVESTIGATION REPORT

1.0 INTRODUCTION

The purpose of this report is to document supplemental site investigation activities that were performed at the former Unocal Bulk Plant/Chevron Facility No. 306563 located in Coupeville, Washington. The work was performed between May 6 and May 11, 2011 by SAIC Energy, Environment & Infrastructure, LLC (SAIC) on behalf of Chevron Environmental Management Company (CEMC). The objective of this investigation was to close data gaps in the vicinity of the former above ground storage tanks (ASTs).

2.0 SITE BACKGROUND

2.1 SITE DESCRIPTION

The property is located just west of the main residential and retail business district of the Town of Coupeville, Washington. It is a fully developed residential and retail property. Four structures are built on the property: a primary residence, a garage and "mother-in-law" apartment, and two single story retail shops. The property is fully landscaped with a paved parking area, sidewalks, garden landscaping, and a gazebo.

The property is surrounded by a public library to the south, residential properties to the east and northeast, a park to the north, and a commercial auto repair shop and fuel island to the west.

In late September 2010, four vapor points were installed and sampled in order to investigate soil vapors beneath the current residential housing, which is located in the vicinity of the former ASTs (Figure 1). The soil vapor samples collected contained concentrations of gasoline, benzene, toluene, ethylbenzene, and xylene (BTEX) above the laboratory detection limits. The soil vapor analytical data were entered into the Johnson and Ettinger (J&E) model using conservative inputs. The J&E model results indicate that incremental carcinogenic risk from vapor intrusion to indoor air is insignificant for occupants living in the current residential housing.

3.0 SOIL BORING INSTALLATION ACTIVITIES

3.1 SCOPE OF WORK

The goal of this investigation was to install a series of soil borings in the vicinity of former ASTs. The following scope of work was completed for the investigation activities:

- Notified the Utilities Underground Location Center and supervised a private locating service to locate all underground utilities on the site;
- Supervised and documented the installation of nine (9) soil borings using a hand auger and a limited-access geoprobe drilling rig;
- Collected soil samples;
- Field screened soil samples for the presence of petroleum hydrocarbons by visual, sheen and combustible vapors measurement (photoionization detector [PID]) methods;

- Submitted soil samples to an accredited chemical analytical laboratory to be analyzed for gasoline-, diesel- , and heavy oil- range hydrocarbons, BTEX, and lead; and
- Coordinated offsite transportation and disposal of soil and water waste generated during field activities.

3.2 SUBSURFACE UTILITY LOCATION

Prior to beginning of the soil boring installation activities, SAIC contacted the Utilities Underground Location Center and requested that all underground utilities entering the property be marked. In addition, a private utility locating contractor located and marked underground utilities on site.

3.3 SOIL BORING INSTALLATION AND SAMPLING

On May 6, 9, and 10, 2011, Cascade Drilling Inc., a Washington State licensed driller, completed nine (9) soil borings, SB-9 through SB-17, at locations shown on Figure 1. Drilling was performed using a hand auger and/or a limited-access geoprobe drilling rig. The borings were advanced to depths between 5.5 and 11.5 feet below ground surface (bgs). Soil samples were collected from all soil borings at one-foot intervals for field screening of volatile petroleum hydrocarbons and for soil classification. Grab samples were collected in the first eight feet bgs with a hand auger and samples were collected continuously with geoprobe at depths greater than eight feet bgs. Field screening was performed by placing a portion of soil in a plastic Ziploc bag, and then observing presence of sheen and odor and measuring ionizable soil gases in the headspace using a PID.

All soil boring locations were backfilled with bentonite chips after the samples were collected. Soil boring logs including field screening data are presented in Appendix A.

3.4 LABORATORY ANALYSES

Soil samples collected during the soil boring installation activities were analyzed for the following:

- Gasoline-range hydrocarbons by Washington State Department of Ecology (Ecology) Method NWTPH-Gx;
- Diesel- and heavy oil-range hydrocarbons by Ecology Method NWTPH-Dx extended;
- BTEX compounds by United States Environmental Protection Agency (USEPA) Method 8021; and
- Lead by USEPA Method 6020.

3.5 SAMPLING RESULTS

Gasoline-range hydrocarbons was detected in soil samples collected from borings SB-10 at a depth of 11 feet bgs and SB-11 at depths of 5 and 9 feet bgs at concentrations greater than the Model Toxic Control Act (MTCA) Method A cleanup level.

All other analytical results were either less than MTCA Method A cleanup levels or laboratory detection limits.

Analytical data are presented in Table 1. The laboratory report is presented as Appendix B.

3.6 WASTE DISPOSAL

Soil cuttings and decontamination and development water were placed in 55-gallon drums. The drums were left on site awaiting disposal by a vendor contracted by Conestoga-Rovers and Associates (CRA). Drums will be disposed at a Chevron approved facility.

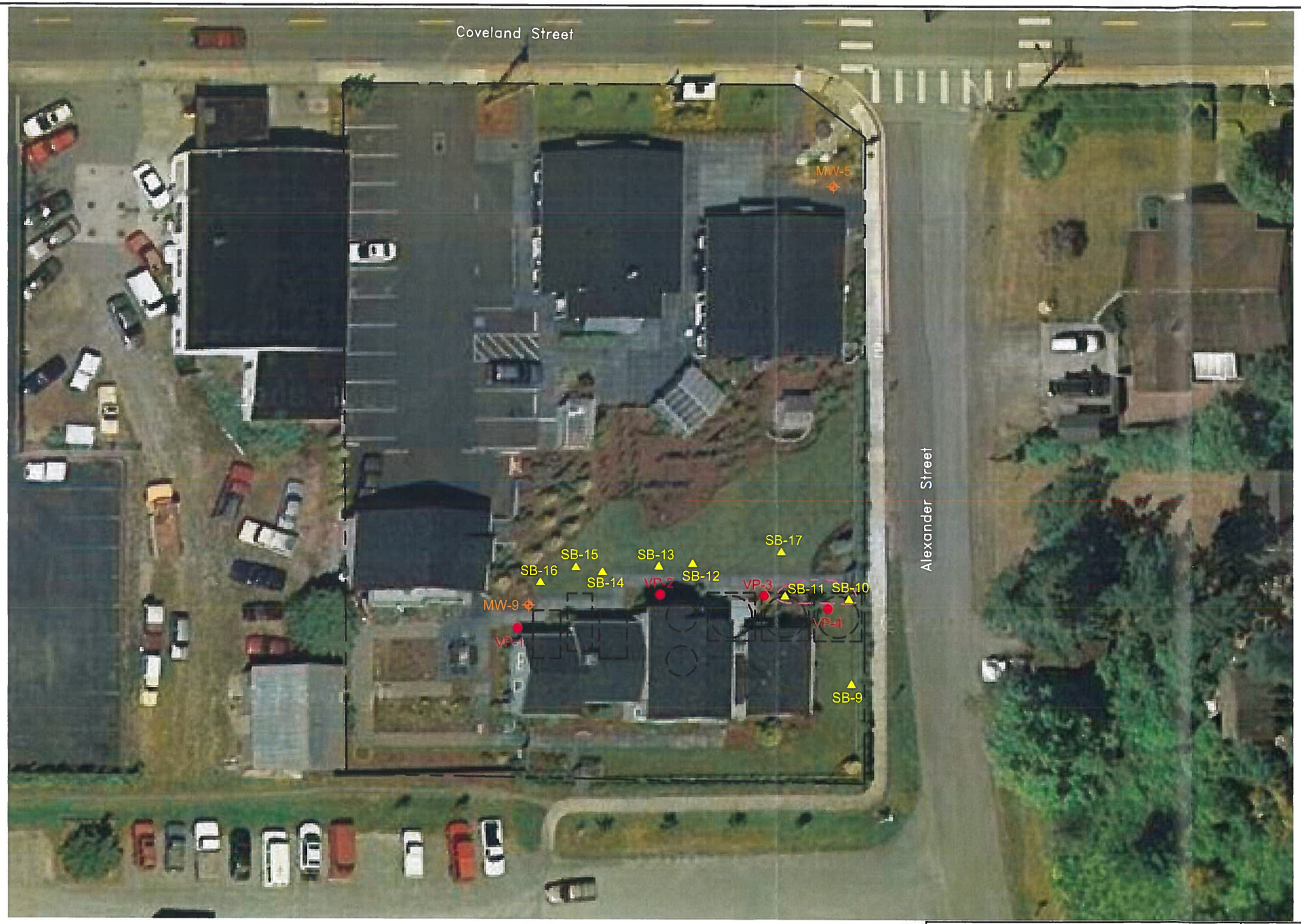
4.0 SUMMARY

Analytical results indicate that gasoline-range hydrocarbons concentrations greater than MTCA Method A cleanup level were detected in two (SB-10 and SB-11) of the nine soil borings (Figure 1). The maximum detected concentration was 890 milligrams per kilogram (mg/kg) in boring SB-11 at 5 feet bgs.

Since benzene concentrations were below the laboratory reporting limits in all of the soil samples submitted to the laboratory, SAIC will develop MTCA Method B cleanup level for gasoline-range hydrocarbons for the site as described in Washington Administrative Code (WAC) 173-340-747. For that purpose additional soil sample will be collected close to SB-11 location at approximately 5 feet bgs.

Upon receiving laboratory analytical results, SAIC will prepare a Site Summary Report, which will be submitted to Ecology along with a Voluntary Cleanup Program (VCP) application and request for opinion.

Figure



N

0 15 30

Feet
Scale 1" = 30'

LEGEND:

- SB-9 — 2011 Soil Boring Locations
- MW-5 — Monitoring Well Locations
- VP-1 — September 2010 Vapor Point Locations
- Former ASTs and USTs
- Site Boundary
- Approximate Extent of Soil Exceeding MTCA Method A Cleanup Level

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101 NW Coveland Street
Coupeville, Washington

FIGURE 1
2011 Soil Boring Locations

DATE: 06/15/2011 | DRAWING: 306563_Site Map 2010.dwg

Table

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TABLE 1
SOIL ANALYTICAL RESULTS – BTEX, TPH, AND LEAD
FORMER CHEVRON SERVICE STATION NO. 306563
101 NW Coveland Street, Coupeville, Washington
Concentrations reported in mg/kg

Sample ID/Depth (ft)	Date Sampled	Benzene[1]	Toluene[1]	Ethylbenzene[1]	Total Xylenes[1]	TPH-GRO[2]	TPH-DRO[3]	TPH-HRO[3]	LEAD[4]
MTCA Method A Cleanup Level		**0.03**	**7**	**6**	**9**	**100/30**	**2,000**	**2,000**	**250**
SB-9-5	05/06/11	<0.0024	**0.0040**	<0.0024	**0.0091**	<1.2	**33**	<12	**11.1**
SB-9-8	05/10/11	<0.0022	<0.0022	<0.0022	<0.0056	<1.1	<3.4	<11	**11.5**
SB-9-11	05/10/11	<0.0020	<0.0020	<0.0020	**0.0063**	<1.0	<3.3	<11	**8.1**
SB-10-4	05/06/11	<0.0028	<0.0028	<0.0028	**0.011**	<1.4	<3.4	<11	**6.93**
SB-10-6	05/06/11	<0.0030	<0.0030	**0.0054**	**0.022**	**9.4**	<3.4	<11	**5.48**
SB-10-9	05/09/11	<0.0022	<0.0022	**0.0040**	**0.012**	**4.7**	<3.5	<12	**4.68**
SB-10-11	05/09/11	<0.049[5]	<0.049[5]	**0.19**[5]	**1.1**[5]	**430**	<41	<140	**7.62**
SB-11-5	05/06/11	<0.026[5]	<0.026[5]	**0.18**[5]	**0.93**[5]	**890**	**810**	<140	**5.35**
SB-11-9	05/09/11	<0.010[5]	**0.012**[5]	<0.070[5]	**0.80**[5]	**250**	**66**	<12	**13.9**
SB-11-11	05/09/11	<0.0025	<0.0025	<0.0025	**0.021**	**11**	**13**	<12	**13.9**
SB-12-4	05/06/11	<0.0022	<0.0022	<0.0022	<0.0055	<1.1	<3.1	<10	**3.60**
SB-12-7	05/06/11	<0.0021	**0.0025**	<0.0021	<0.0053	<1.1	<3.1	<10	**3.27**
SB-12-10	05/09/11	<0.0021	<0.0021	<0.0021	**0.0086**	**26**	**44**	<11	**11.2**
SB-13-5	05/09/11	<0.0022	<0.0022	<0.0022	<0.0055	<1.1	<3.2	<11	**5.2**
SB-13-10	05/09/11	<0.0023	**0.0049**	<0.0023	**0.023**	**6.1**	<3.4	<11	**12.2**
SB-14-5	05/09/11	<0.0021	<0.0021	<0.0021	<0.0052	<1.0	**5.5**	<11	**5.4**
SB-14-10	05/09/11	<0.0022	<0.0022	<0.0022	**0.0061**	<1.1	**3.9**	<12	**15.8**
SB-15-5	05/09/11	<0.0022	<0.0022	<0.0022	<0.0056	<1.1	<3.6	<12	**16.0**
SB-15-9	05/10/11	<0.0025	<0.0025	<0.0025	<0.0062	<1.2	<3.5	<12	**14.6**
SB-16-5	05/10/11	<0.0024	**0.0037**	<0.0024	<0.0060	<1.2	**42**	**13**	**12.7**
SB-17-5	05/10/11	<0.023[6]	**0.036**[6]	<0.023[6]	**0.15**[6]	<12[6]	**61**	<12	**16.8**
SB-17-6	05/10/11	<0.0026	**0.0075**	<0.0026	<0.0064	<1.3	**4.4**	<11	**10.7**
SB-17-9	05/10/11	<0.0021	<0.0021	**0.0030**	**0.014**	**45**	**18**	<11	**12.0**

Appendix A:
Soil Boring Logs

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18912 North Creek Parkway, Suite 101
Bothell, WA 98011

Boring: SB-9

Project: Chevron 306563
Client: Chevron EMC
Location: 101 Coveland Street, Coupeville, WA

Logged By: GC/SMB
Date Started: 5/6/2011
Date Completed: 5/10/2011

Driller: Cascade Drilling
Drill Method: Hand Auger/Geoprobe
Total Boring Depth: 11.5 ft
TOC: ft

MOISTURE CONTENT	ORGANIC VAPOR (ppm)	SAMP. INTERVAL	ANALYTICAL SAMPLE	Analyical Results (mg/kg)	U.S.C.S. SYMBOL	GRAPHIC LOG	DEPTH (ft)	LITHOLOGY/DESCRIPTION
								Grass and Topsoil
M	0.2						1	(ML) Dark brown, soft, sandy, gravelly SILT; no odor, no sheen. (FILL)
M	0.6						2	
M	0.3				ML		3	
M	0.2						4	
M	0.4		SB-9-5	G = ND D = 33 HO = ND B = ND	ML		5	(ML) Light gray, very hard, sandy SILT with gravel and cobbles. (TILL)
M	3.3						6	(ML) Light gray, very hard, gravelly, sandy SILT; no odor, no sheen.
M	1.8				ML		7	
M	3.2		SB-9-8	G = ND D = ND HO = ND B = ND			8	(ML) Olive gray, very hard SILT with 10% sand and 15% gravel; no odor, no sheen. Refusal at 11.5 feet.
M	3.0						9	
M	5.0				ML		10	
M	6.3		SB-9-11	G = ND D = ND HO = ND B = ND			11	
							12	Bottom of borehole at 11.5 feet.

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18912 North Creek Parkway, Suite 101
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Boring: SB-10

Project: Chevron 306563
Client: Chevron EMC
Location: 101 Coveland Street, Coupeville, WA

Logged By: GC/SMB
Date Started: 5/6/2011
Date Completed: 5/9/2011

Driller: Cascade Drilling
Drill Method: Hand Auger/Geoprobe
Total Boring Depth: 11.5 ft
TOC: ft

MOISTURE CONTENT	ORGANIC VAPOR (ppm)	SAMP. INTERVAL	ANALYTICAL SAMPLE	Analyical Results (mg/kg)	U.S.C.S. SYMBOL	GRAPHIC LOG	DEPTH (ft)	LITHOLOGY/DESCRIPTION
							0	Grass and Topsoil
M	0.8						1	(ML) Dark brown, soft, gravelly SILT with fine to medium sand; no odor, no sheen. (FILL)
M	0.7				ML		2	
M	3.6						3	
M	3.8		SB-10-4	G = ND D = ND HO = ND B = ND	ML		4	(ML) Light brown, hard, sandy SILT with 10% gravel; no odor, no sheen. (TILL)
M	3.6				ML		5	(ML) Light brown, hard, sandy SILT with 10% gravel and trace of large gravel and cobbles; no odor, no sheen. (TILL)
M	37.1		SB-10-6	G = 9.4 D = ND HO = ND B = ND			6	(ML) Light brown, hard, sandy SILT with 10% gravel; slight odor, no sheen. (TILL)
M	23.1				ML		7	
M	34.9				ML		8	(ML) Dark gray, very hard SILT with 10% fine sand and 5% gravel; slight odor, no sheen. (TILL)
M	9.1		SB-10-9	G = 4.7 D = ND HO = ND B = ND			9	(ML) Dark gray, very hard SILT with 10% fine sand and 5% gravel; no odor, no sheen. (TILL)
					ML		10	
M	22.1		SB-10-11	G = 430 D = ND HO = ND B = ND	ML		11	(ML) Dark gray, very hard, sandy SILT; no odor, no sheen. Refusal at 11.5 feet.
							12	Bottom of borehole at 11.5 feet.

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18912 North Creek Parkway, Suite 101
Bothell, WA 98011

Boring: SB-11

Project: Chevron 306563
Client: Chevron EMC
Location: 101 Coveland Street, Coupeville, WA

Logged By: GC/SMB
Date Started: 5/6/2011
Date Completed: 5/9/2011

Driller: Cascade Drilling
Drill Method: Hand Auger/Geoprobe
Total Boring Depth: 11.25 ft
TOC: ft

MOISTURE CONTENT	ORGANIC VAPOR (ppm)	SAMP. INTERVAL	ANALYTICAL SAMPLE	Analyical Results (mg/kg)	U.S.C.S. SYMBOL	GRAPHIC LOG	DEPTH (ft)	LITHOLOGY/DESCRIPTION
							0	Mulch and Topsoil
W	0.0						1	
W	0.1						2	(ML) Dark brown, stiff, gravelly, sandy SILT; no odor, no sheen.
M	0.1				ML		3	
M	116						4	(ML) Bluish gray, stiff, sandy SILT; strong odor, heavy sheen.
M	166		SB-11-5	G = 890 D = 810 HO = ND B = ND	ML		5	
M	103						6	
M	24.3				ML		7	(ML) Bluish gray, stiff, sandy SILT; moderate odor, moderate sheen.
M	35.9				ML		8	(ML) Olive gray, very hard SILT with 5% sand and 15% gravel; slight odor, no sheen.
M	52.9		SB-11-9	G = 250 D = 66 HO = ND B = ND			9	(ML) Olive gray, very hard SILT with 5% sand and 15% gravel; no odor, no sheen. Refusal at 11.25 feet.
M	12.1				ML		10	
M	9.3		SB-11-11	G = 11 D = 13 HO = ND B = ND			11	
							12	Bottom of borehole at 11.3 feet.

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18912 North Creek Parkway, Suite 101
Bothell, WA 98011

Boring: SB-12

Project: Chevron 306563
Client: Chevron EMC
Location: 101 Coveland Street, Coupeville, WA

Logged By: GC/SMB
Date Started: 5/6/2011
Date Completed: 5/9/2011

Driller: Cascade Drilling
Drill Method: Hand Auger/Geoprobe
Total Boring Depth: 11 ft
TOC: ft

MOISTURE CONTENT	ORGANIC VAPOR (ppm)	SAMP. INTERVAL	ANALYTICAL SAMPLE	Analyical Results (mg/kg)	U.S.C.S. SYMBOL	GRAPHIC LOG	DEPTH (ft)	LITHOLOGY/DESCRIPTION
							0	Grass and Topsoil
M	2.5				ML		1	(ML) Dark brown, soft, gravelly SILT with fine to medium sand; no odor, no sheen.
M	2.0				ML		2	(ML) Light brown, hard, sandy SILT with 5% gravel; no odor, no sheen.
M	1.8						3	(SP) Brown, loose SAND with 10% silt and trace cobbles; no odor, no sheen.
M	1.9		SB-12-4	G = ND D = ND HO = ND B = ND			4	
M	2.7				SP		5	
M	4.9						6	
M	2.2		SB-12-7	G = ND D = ND HO = ND B = ND			7	
M	1.8						8	(SP) Gray, dense, fine to medium SAND with 20% gravel; no odor, no sheen.
M	3.1				SP		9	
M	8.2		SB-12-10	G = 26 D = 44 HO = ND B = ND	ML		10	(ML) Dark olive gray, very hard SILT with 15% gravel; no odor, no sheen. Refusal at 11 feet.
							11	Bottom of borehole at 11.0 feet.
							12	

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18912 North Creek Parkway, Suite 101
Bothell, WA 98011

Boring: SB-13

Project: Chevron 306563
Client: Chevron EMC
Location: 101 Coveland Street, Coupeville, WA

Logged By: GC/SMB
Date Started: 5/9/2011
Date Completed: 5/9/2011

Driller: Cascade Drilling
Drill Method: Hand Auger/Geoprobe
Total Boring Depth: 11.5 ft
TOC: ft

MOISTURE CONTENT	ORGANIC VAPOR (ppm)	SAMP. INTERVAL	ANALYTICAL SAMPLE	Analyical Results (mg/kg)	U.S.C.S. SYMBOL	GRAPHIC LOG	DEPTH (ft)	LITHOLOGY/DESCRIPTION
							0	Grass and Topsoil
M	0.0				ML		1	(ML) Dark brown, sandy, gravelly SILT; no odor, no sheen. Large cobbly fill. (FILL)
M	0.0						2	(ML) Dark brown, hard, sandy SILT; no odor, no sheen.
M	5.8				ML		3	
M	5.9						4	(SP) Gray, dense, gravelly, fine to medium SAND; no odor, no sheen.
M	3.5		SB-13-5	G = ND D = ND HO = ND B = ND	SP		5	
M	2.0						6	
M	1.8						7	
M	6.0						8	(SP) Gray, dense, fine to medium SAND with 20% gravel; no odor, no sheen.
M	3.6				SP		9	
M	5.7		SB-13-10	G = 6.1 D = ND HO = ND B = ND	ML		10	(ML) Olive gray, very hard SILT with 10% gravel; no odor, no sheen. Refusal at 11.5 feet.
							11	
							12	Bottom of borehole at 11.5 feet.

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18912 North Creek Parkway, Suite 101
Bothell, WA 98011

Boring: SB-14

Project: Chevron 306563
Client: Chevron EMC
Location: 101 Coveland Street, Coupeville, WA

Logged By: GC/SMB
Date Started: 5/9/2011
Date Completed: 5/9/2011

Driller: Cascade Drilling
Drill Method: Hand Auger/Geoprobe
Total Boring Depth: 11 ft
TOC: ft

MOISTURE CONTENT	ORGANIC VAPOR (ppm)	SAMP. INTERVAL	ANALYTICAL SAMPLE	Analyical Results (mg/kg)	U.S.C.S. SYMBOL	GRAPHIC LOG	DEPTH (ft)	LITHOLOGY/DESCRIPTION
							0	Grass and Topsoil
M							1	(ML) Dark brown, hard, sandy, gravelly SILT; no odor, no sheen. (FILL)
M	0.0				ML		2	
M	5.3						3	
M	6.1				SW		4	(SW) Dark gray, dense, silty, gravelly, fine to coarse SAND; no odor, no sheen.
M	7.6		SB-14-5	G = ND D = 5.5 HO = ND B = ND	SP		5	(SP) Light brown, medium dense, fine to medium SAND with 20% gravel; no odor, no sheen.
M	5.1				ML		6	(ML) Dark olive gray, very hard, gravelly, sandy SILT; no odor, no sheen.
M	6.5						7	(ML) Dark olive gray, very hard, gravelly SILT with low plasticity; no odor, no sheen. Refusal at 11 feet.
							8	
					ML		9	
M	3.9		SB-14-10	G = ND D = 3.9 HO = ND B = ND			10	
							11	Bottom of borehole at 11.0 feet.
							12	

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18912 North Creek Parkway, Suite 101
Bothell, WA 98011

Boring: SB-15

Project: Chevron 306563
Client: Chevron EMC
Location: 101 Coveland Street, Coupeville, WA

Logged By: GC/SMB
Date Started: 5/9/2011
Date Completed: 5/10/2011

Driller: Cascade Drilling
Drill Method: Hand Auger/Geoprobe
Total Boring Depth: 10.5 ft
TOC: ft

MOISTURE CONTENT	ORGANIC VAPOR (ppm)	SAMP. INTERVAL	ANALYTICAL SAMPLE	Analyical Results (mg/kg)	U.S.C.S. SYMBOL	GRAPHIC LOG	DEPTH (ft)	LITHOLOGY/DESCRIPTION
							0	Grass and Topsoil
							1	(ML) Dark brown, very hard SILT with cobbles and rocks; no odor, no sheen. (FILL)
	1.3				ML		2	
	1.7						3	
	5.9				SW		4	(SW) Dark brown gray, dense, silty, gravelly, fine to coarse SAND; no odor, no sheen.
	16.1		SB-15-5	G = ND D = ND HO = ND B = ND			5	(ML) Gray olive, very hard, sandy SILT with 20% gravel; no odor, no sheen.
	5.6				ML		6	
	3.2						7	(SP) Light brown, dense, fine to medium SAND with 20% gravel; no odor, no sheen. Increasing silt with depth.
	0.9				SP		8	
					SM			(SM) Olive gray, very dense, silty, gravelly SAND; no odor, no sheen.
	2.4		SB-15-9	G = ND D = ND HO = ND B = ND	ML		9	(ML) Olive gray, very hard, sandy SILT with 15% gravel; no odor, no sheen.
	1.8				ML		10	(ML) Olive gray, very hard SILT with 5% sand and 15% gravel, low plasticity; no odor, no sheen. Refusal at 10.5 feet.
							11	Bottom of borehole at 10.5 feet.
							12	

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18912 North Creek Parkway, Suite 101
Bothell, WA 98011

Boring: SB-16

Project: Chevron 306563
Client: Chevron EMC
Location: 101 Coveland Street, Coupeville, WA

Logged By: GC/SMB
Date Started: 5/10/2011
Date Completed: 5/10/2011

Driller: Cascade Drilling
Drill Method: Hand Auger/Geoprobe
Total Boring Depth: 5.5 ft
TOC: ft

MOISTURE CONTENT	ORGANIC VAPOR (ppm)	SAMP. INTERVAL	ANALYTICAL SAMPLE	Analyical Results (mg/kg)	U.S.C.S. SYMBOL	GRAPHIC LOG	DEPTH (ft)	LITHOLOGY/DESCRIPTION
							0	Bark and Topsoil
M	0.8						1	(ML) Dark brown, soft SILT; no odor, no sheen. (FILL)
M	1.0				ML		2	
M	0.8						3	(ML) Dark brown, hard SILT with cobbles; no odor, no sheen. (FILL)
M	5.5				ML		4	(SW) Dark gray, very dense, gravelly, silty, fine to coarse SAND; no odor, no sheen. Refusal at 5.5 feet. (FILL - concrete and asphalt debris)
M	5.0		SB-15-5	G = ND D = 42 HO = 12 B = ND	SW		5	
								Bottom of borehole at 5.5 feet.
							6	
							7	
							8	
							9	
							10	
							11	
							12	

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18912 North Creek Parkway, Suite 101
Bothell, WA 98011

Boring: SB-17

Project: Chevron 306563
Client: Chevron EMC
Location: 101 Coveland Street, Coupeville, WA

Logged By: GC/SMB
Date Started: 5/10/2011
Date Completed: 5/10/2011

Driller: Cascade Drilling
Drill Method: Hand Auger/Geoprobe
Total Boring Depth: 10 ft
TOC: ft

MOISTURE CONTENT	ORGANIC VAPOR (ppm)	SAMP. INTERVAL	ANALYTICAL SAMPLE	Analytical Results (mg/kg)	U.S.C.S. SYMBOL	GRAPHIC LOG	DEPTH (ft)	LITHOLOGY/DESCRIPTION
							0	Grass and Topsoil
					ML		1	(ML) Dark brown, soft SILT; no odor, no sheen. (FILL)
M	2.6				ML		2	(ML) Dark brown, hard SILT with cobbles; no odor, no sheen. (FILL)
M	1.5				SW		3	(SW) Dark brown, stiff, gravelly SAND; no odor, no sheen.
M	3.4				ML		4	(ML) Dark brown, hard, gravelly SILT; no odor, no sheen.
M	1.6		SB-17-5	G = ND D = 61 HO = ND B = ND			5	
M	1.7		SB-17-6	G = ND D = 4.4 HO = ND B = ND	SP		6	(SP) Light brown, dense, fine to medium SAND with 5% gravel; no odor, no sheen.
M	3.8				ML		7	(ML) Light brown, orange mottled, hard, gravelly SILT; no odor, no sheen.
M							8	(ML) Olive gray, very hard, sandy, gravelly SILT with low plasticity; no odor, no sheen. Sand and gravel decreasing with depth. Refusal at 10 feet.
M			SB-17-9	G = 45 D = 18 HO = ND B = ND	ML		9	
							10	Bottom of borehole at 10.0 feet.
							11	
							12	

Appendix B:
Laboratory Reports

SAIC
From Science to Solutions

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Analysis Report

ANALYTICAL RESULTS

Prepared by:

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

Prepared for:

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

May 20, 2011

Project: 306563

Submittal Date: 05/10/2011
Group Number: 1246099
PO Number: 0015061824
Release Number: HUNTER
State of Sample Origin: WA

Client Sample Description	Lancaster Labs (LLI) #
SB-10-4 Grab Soil Sample	6281757
SB-10-6 Grab Soil Sample	6281758
SB-9-5 Grab Soil Sample	6281759
SB-11-5 Grab Soil Sample	6281760
SB-12-4 Grab Soil Sample	6281761
SB-12-7 Grab Soil Sample	6281762

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: Mike Lange
ELECTRONIC COPY TO	CRA	Attn: Cortlandt Toczylowski

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Analysis Report

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

Respectfully Submitted,

Tracy A. Cole
Senior Specialist

Lancaster Laboratories

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Analysis Report

Sample Description: SB-10-4 Grab Soil Sample
Facility# 306563
101 NW Coveland St - Coupeville, WA

LLI Sample # SW 6281757
LLI Group # 1246099
Account # 11255

Project Name: 306563

Collected: 05/06/2011 12:30 by GC

Submitted: 05/10/2011 10:15
Reported: 05/20/2011 08:39

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

CC104

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.	1.4	30.76
GC Volatiles	**SW-846 8021B**		**mg/kg**	**mg/kg**	
08179	Benzene	71-43-2	N.D.	0.0028	30.76
08179	Ethylbenzene	100-41-4	N.D.	0.0028	30.76
08179	Toluene	108-88-3	N.D.	0.0028	30.76
08179	Total Xylenes	1330-20-7	0.011	0.0071	30.76
GC Extractable TPH w/Si Gel	**ECY 97-602 NWTPH-Dx modified**		**mg/kg**	**mg/kg**	
02214	DRO C12-C24 w/Si Gel	n.a.	N.D.	3.4	1
02214	HRO C24-C40 w/Si Gel	n.a.	N.D.	11	1
Metals	**SW-846 6020**		**mg/kg**	**mg/kg**	
06135	Lead	7439-92-1	6.93	0.0119	2
Wet Chemistry	**SM20 2540 G**		**%**	**%**	
00111	Moisture	n.a.	13.2	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	11133A31B	05/16/2011 13:32	Carrie E Miller	30.76
08179	BTEX by 8021	SW-846 8021B	1	11133A31B	05/16/2011 13:32	Carrie E Miller	30.76
06647	GC-5g Field Preserved MeOH	SW-846 5035A	1	201113124371	05/06/2011 12:30	Client Supplied	n.a.
06647	GC-5g Field Preserved MeOH	SW-846 5035A	2	201113124371	05/06/2011 12:30	Client Supplied	n.a.
02214	NWTPH-Dx soil w/Si Gel	ECY 97-602 NWTPH-Dx modified	1	111320021A	05/16/2011 12:58	Glorines Suarez-Rivera	1
07024	DRO Alternate Soil Extraction	ECY 97-602 NWTPH-Dx 06/97	1	111320021A	05/13/2011 10:10	Denise L Trimby	1
06135	Lead	SW-846 6020	1	111311026001A	05/12/2011 11:07	Choon Y Tian	2
11026	SW SW846 ICP-MS Digest	SW-846 3050B	1	111311026001	05/11/2011 20:31	Annamaria Stipkovits	1
00111	Moisture	SM20 2540 G	1	11133820003A	05/13/2011 19:54	Scott W Freisher	1

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Analysis Report

Sample Description: SB-10-6 Grab Soil Sample
Facility# 306563
101 NW Coveland St - Coupeville, WA

LLI Sample # SW 6281758
LLI Group # 1246099
Account # 11255

Project Name: 306563

Collected: 05/06/2011 12:40 by GC

Submitted: 05/10/2011 10:15
Reported: 05/20/2011 08:39

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

CC106

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.	9.4	1.5	33.28
GC Volatiles	**SW-846 8021B**		**mg/kg**	**mg/kg**	
08179	Benzene	71-43-2	N.D.	0.0030	33.28
08179	Ethylbenzene	100-41-4	0.0054	0.0030	33.28
08179	Toluene	108-88-3	N.D.	0.0030	33.28
08179	Total Xylenes	1330-20-7	0.022	0.0076	33.28
GC Extractable TPH w/Si Gel	**ECY 97-602 NWTPH-Dx modified**		**mg/kg**	**mg/kg**	
02214	DRO C12-C24 w/Si Gel	n.a.	N.D.	3.4	1
02214	HRO C24-C40 w/Si Gel	n.a.	N.D.	11	1
Metals	**SW-846 6020**		**mg/kg**	**mg/kg**	
06135	Lead	7439-92-1	5.48	0.0117	2
Wet Chemistry	**SM20 2540 G**		**%**	**%**	
00111	Moisture	n.a.	12.6	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	11133A31B	05/16/2011 14:09	Carrie E Miller	33.28
08179	BTEX by 8021	SW-846 8021B	1	11133A31B	05/16/2011 14:09	Carrie E Miller	33.28
06647	GC-5g Field Preserved MeOH	SW-846 5035A	1	201113124371	05/06/2011 12:40	Client Supplied	n.a.
06647	GC-5g Field Preserved MeOH	SW-846 5035A	2	201113124371	05/06/2011 12:40	Client Supplied	n.a.
02214	NWTPH-Dx soil w/Si Gel	ECY 97-602 NWTPH-Dx modified	1	111320021A	05/16/2011 14:28	Dustin A Underkoffler	1
07024	DRO Alternate Soil Extraction	ECY 97-602 NWTPH-Dx 06/97	1	111320021A	05/13/2011 10:10	Denise L Trimby	1
06135	Lead	SW-846 6020	1	111311026001A	05/12/2011 11:09	Choon Y Tian	2
11026	SW SW846 ICP-MS Digest	SW-846 3050B	1	111311026001	05/11/2011 20:31	Annamaria Stipkovits	1
00111	Moisture	SM20 2540 G	1	11133820003A	05/13/2011 19:54	Scott W Freisher	1

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Analysis Report

Sample Description: SB-9-5 Grab Soil Sample
Facility# 306563
101 NW Coveland St - Coupeville, WA

LLI Sample # SW 6281759
LLI Group # 1246099
Account # 11255

Project Name: 306563

Collected: 05/06/2011 13:00 by GC

Submitted: 05/10/2011 10:15
Reported: 05/20/2011 08:39

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

CC95-

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.	1.2	25.31
GC Volatiles	**SW-846 8021B**		**mg/kg**	**mg/kg**	
08179	Benzene	71-43-2	N.D.	0.0024	25.31
08179	Ethylbenzene	100-41-4	N.D.	0.0024	25.31
08179	Toluene	108-88-3	0.0040	0.0024	25.31
08179	Total Xylenes	1330-20-7	0.0091	0.0059	25.31
GC Extractable TPH w/Si Gel	**ECY 97-602 NWTPH-Dx modified**		**mg/kg**	**mg/kg**	
02214	DRO C12-C24 w/Si Gel	n.a.	33	3.5	1
02214	HRO C24-C40 w/Si Gel	n.a.	N.D.	12	1
Metals	**SW-846 6020**		**mg/kg**	**mg/kg**	
06135	Lead	7439-92-1	11.1	0.0118	2
Wet Chemistry	**SM20 2540 G**		**%**	**%**	
00111	Moisture	n.a.	14.4	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	11133A31B	05/16/2011 14:57	Carrie E Miller	25.31
08179	BTEX by 8021	SW-846 8021B	1	11133A31B	05/16/2011 14:57	Carrie E Miller	25.31
06647	GC-5g Field Preserved MeOH	SW-846 5035A	1	201113124371	05/06/2011 13:00	Client Supplied	n.a.
06647	GC-5g Field Preserved MeOH	SW-846 5035A	2	201113124371	05/06/2011 13:00	Client Supplied	n.a.
02214	NWTPH-Dx soil w/Si Gel	ECY 97-602 NWTPH-Dx modified	1	111320021A	05/16/2011 17:00	Dustin A Underkoffler	1
07024	DRO Alternate Soil Extraction	ECY 97-602 NWTPH-Dx 06/97	1	111320021A	05/13/2011 10:10	Denise L Trimby	1
06135	Lead	SW-846 6020	1	111311026001A	05/12/2011 11:11	Choon Y Tian	2
11026	SW SW846 ICP-MS Digest	SW-846 3050B	1	111311026001	05/11/2011 20:31	Annamaria Stipkovits	1
00111	Moisture	SM20 2540 G	1	11133820003A	05/13/2011 19:54	Scott W Freisher	1

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Analysis Report

Sample Description: SB-11-5 Grab Soil Sample
Facility# 306563
101 NW Coveland St - Coupeville, WA

LLI Sample # SW 6281760
LLI Group # 1246099
Account # 11255

Project Name: 306563

Collected: 05/06/2011 15:00 by GC

Submitted: 05/10/2011 10:15
Reported: 05/20/2011 08:39

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

CC115

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.	890	52	1107.38
GC Volatiles	**SW-846 8021B**		**mg/kg**	**mg/kg**	
08179	Benzene	71-43-2	N.D.	0.026	276.84
08179	Ethylbenzene	100-41-4	0.18	0.026	276.84
08179	Toluene	108-88-3	N.D.	0.026	276.84
08179	Total Xylenes	1330-20-7	0.93	0.065	276.84
	Reporting limits were raised due to interference from the sample matrix.				
GC Extractable TPH w/Si Gel	**ECY 97-602 NWTPH-Dx modified**		**mg/kg**	**mg/kg**	
02214	DRO C12-C24 w/Si Gel	n.a.	810	42	1
02214	HRO C24-C40 w/Si Gel	n.a.	N.D.	140	1
Metals	**SW-846 6020**		**mg/kg**	**mg/kg**	
06135	Lead	7439-92-1	5.35	0.0120	2
Wet Chemistry	**SM20 2540 G**		**%**	**%**	
00111	Moisture	n.a.	14.2	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	11133A31B	05/16/2011 20:23	Elizabeth J Marin	1107.38
08179	BTEX by 8021	SW-846 8021B	1	11133A31B	05/16/2011 16:45	Carrie E Miller	276.84
06647	GC-5g Field Preserved MeOH	SW-846 5035A	1	201113124371	05/06/2011 15:00	Client Supplied	n.a.
06647	GC-5g Field Preserved MeOH	SW-846 5035A	2	201113124371	05/06/2011 15:00	Client Supplied	n.a.
02214	NWTPH-Dx soil w/Si Gel	ECY 97-602 NWTPH-Dx modified	1	111320021A	05/16/2011 14:50	Dustin A Underkoffler	1
07024	DRO Alternate Soil Extraction	ECY 97-602 NWTPH-Dx 06/97	1	111320021A	05/13/2011 10:10	Denise L Trimby	1
06135	Lead	SW-846 6020	1	111311026001A	05/12/2011 11:12	Choon Y Tian	2
11026	SW SW846 ICP-MS Digest	SW-846 3050B	1	111311026001	05/11/2011 20:31	Annamaria Stipkovits	1
00111	Moisture	SM20 2540 G	1	11133820003A	05/13/2011 19:54	Scott W Freisher	1

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Analysis Report

Sample Description: SB-12-4 Grab Soil Sample
Facility# 306563
101 NW Coveland St - Coupeville, WA

LLI Sample # SW 6281761
LLI Group # 1246099
Account # 11255

Project Name: 306563

Collected: 05/06/2011 16:00 by GC

Submitted: 05/10/2011 10:15
Reported: 05/20/2011 08:39

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

CC124

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.	1.1	26.64
GC Volatiles	**SW-846 8021B**		mg/kg	mg/kg	
08179	Benzene	71-43-2	N.D.	0.0022	26.64
08179	Ethylbenzene	100-41-4	N.D.	0.0022	26.64
08179	Toluene	108-88-3	N.D.	0.0022	26.64
08179	Total Xylenes	1330-20-7	N.D.	0.0055	26.64
GC Extractable TPH w/Si Gel	**ECY 97-602 NWTPH-Dx modified**		mg/kg	mg/kg	
02214	DRO C12-C24 w/Si Gel	n.a.	N.D.	3.1	1
02214	HRO C24-C40 w/Si Gel	n.a.	N.D.	10	1
Metals	**SW-846 6020**		mg/kg	mg/kg	
06135	Lead	7439-92-1	3.60	0.0107	2
Wet Chemistry	**SM20 2540 G**		%	%	
00111	Moisture	n.a.	3.7	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	11133A31B	05/16/2011 15:33	Carrie E Miller	26.64
08179	BTEX by 8021	SW-846 8021B	1	11133A31B	05/16/2011 15:33	Carrie E Miller	26.64
06647	GC-5g Field Preserved MeOH	SW-846 5035A	1	201113124371	05/06/2011 16:00	Client Supplied	n.a.
06647	GC-5g Field Preserved MeOH	SW-846 5035A	2	201113124371	05/06/2011 16:00	Client Supplied	n.a.
02214	NWTPH-Dx soil w/Si Gel	ECY 97-602 NWTPH-Dx modified	1	111320021A	05/16/2011 16:38	Dustin A Underkoffler	1
07024	DRO Alternate Soil Extraction	ECY 97-602 NWTPH-Dx 06/97	1	111320021A	05/13/2011 10:10	Denise L Trimby	1
06135	Lead	SW-846 6020	1	111311026001A	05/12/2011 11:14	Choon Y Tian	2
11026	SW SW846 ICP-MS Digest	SW-846 3050B	1	111311026001	05/11/2011 20:31	Annamaria Stipkovits	1
00111	Moisture	SM20 2540 G	1	11133820003A	05/13/2011 19:54	Scott W Freisher	1

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Analysis Report

Sample Description: SB-12-7 Grab Soil Sample
Facility# 306563
101 NW Coveland St - Coupeville, WA

LLI Sample # SW 6281762
LLI Group # 1246099
Account # 11255

Project Name: 306563

Collected: 05/06/2011 16:00 by GC

Submitted: 05/10/2011 10:15
Reported: 05/20/2011 08:39

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

CC127

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.	1.1	25.39
GC Volatiles	**SW-846 8021B**		mg/kg	mg/kg	
08179	Benzene	71-43-2	N.D.	0.0021	25.39
08179	Ethylbenzene	100-41-4	N.D.	0.0021	25.39
08179	Toluene	108-88-3	0.0025	0.0021	25.39
08179	Total Xylenes	1330-20-7	N.D.	0.0053	25.39
GC Extractable TPH w/Si Gel	**ECY 97-602 NWTPH-Dx modified**		mg/kg	mg/kg	
02214	DRO C12-C24 w/Si Gel	n.a.	N.D.	3.1	1
02214	HRO C24-C40 w/Si Gel	n.a.	N.D.	10	1
Metals	**SW-846 6020**		mg/kg	mg/kg	
06135	Lead	7439-92-1	3.27	0.0107	2
Wet Chemistry	**SM20 2540 G**		%	%	
00111	Moisture	n.a.	4.1	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	11133A31B	05/16/2011 16:09	Carrie E Miller	25.39
08179	BTEX by 8021	SW-846 8021B	1	11133A31B	05/16/2011 16:09	Carrie E Miller	25.39
06647	GC-5g Field Preserved MeOH	SW-846 5035A	1	201113124371	05/06/2011 16:00	Client Supplied	n.a.
06647	GC-5g Field Preserved MeOH	SW-846 5035A	2	201113124371	05/06/2011 16:00	Client Supplied	n.a.
02214	NWTPH-Dx soil w/Si Gel	ECY 97-602 NWTPH-Dx modified	1	111320021A	05/16/2011 16:17	Dustin A Underkoffler	1
07024	DRO Alternate Soil Extraction	ECY 97-602 NWTPH-Dx 06/97	1	111320021A	05/13/2011 10:10	Denise L Trimby	1
06135	Lead	SW-846 6020	1	111311026001A	05/12/2011 11:16	Choon Y Tian	2
11026	SW SW846 ICP-MS Digest	SW-846 3050B	1	111311026001	05/11/2011 20:31	Annamaria Stipkovits	1
00111	Moisture	SM20 2540 G	1	11133820003A	05/13/2011 19:54	Scott W Freisher	1

Lancaster Laboratories

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Analysis Report

Quality Control Summary

Client Name: Chevron
Group Number: 1246099
Reported: 05/20/11 at 08:39 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 Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 11133A31B	Sample number(s): 6281757-6281762							
Benzene	N.D.	0.0020	mg/kg	97	97	76-118	1	30
Ethylbenzene	N.D.	0.0020	mg/kg	104	104	77-115	1	30
NWTPH-Gx soil C7-C12	N.D.	1.0	mg/kg	84	95	67-119	11	30
Toluene	N.D.	0.0020	mg/kg	103	103	80-120	0	30
Total Xylenes	N.D.	0.0050	mg/kg	106	106	78-115	0	30
Batch number: 111320021A	Sample number(s): 6281757-6281762							
DRO C12-C24 w/Si Gel	N.D.	3.0	mg/kg	82		60-120		
HRO C24-C40 w/Si Gel	N.D.	10.	mg/kg					
Batch number: 111311026001A	Sample number(s): 6281757-6281762							
Lead	N.D.	0.0104	mg/kg	103		83-110		
Batch number: 11133820003A	Sample number(s): 6281757-6281762							
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: 111320021A	Sample number(s): 6281757-6281762					BKG: 6281757			
DRO C12-C24 w/Si Gel						N.D.	N.D.	0 (1)	20
HRO C24-C40 w/Si Gel						N.D.	N.D.	0 (1)	20
Batch number: 111311026001A	Sample number(s): 6281757-6281762					UNSPK: P279920	BKG: P279920		
Lead	164*	141*	75-125	9	20	2.95	4.26	36*	20
Batch number: 11133820003A	Sample number(s): 6281757-6281762					BKG: 6281760			
Moisture						14.2	14.4	1	15

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: 11133A31B

*- 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: 1246099
Reported: 05/20/11 at 08:39 AM

Surrogate Quality Control

	Trifluorotoluene-F	Trifluorotoluene-P
6281757	92	91
6281758	92	88
6281759	87	84
6281760	108	97
6281761	96	95
6281762	91	92
Blank	99	100
LCS	87	96
LCSD	98	95
Limits:	61-122	73-117

Analysis Name: NWTPH-Dx soil w/Si Gel
Batch number: 111320021A

	Orthoterphenyl
6281757	89
6281758	86
6281759	86
6281760	99
6281761	90
6281762	90
Blank	95
DUP	97
LCS	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

221600

Lancaster Laboratories
Where quality is a science.

Acct. #: 11255 For Lancaster Laboratories use only Sample #: 6281756-62 SCR#:

Grp# 1246099

Facility #: Former Unocal Bulk Plant No. 306563
Site Address: 101 NW Cleveland St., Coupeville, WA
Chevron PM: Marlea Hamon Lead Consultant: SAIC
Consultant/Office: Bothell
Consultant Prj. Mgr.: Don Wyll
Consultant Phone #: 425-482-3315 Fax #: 425-485-5566
Sampler: G. Cisneros / S. Brown
Service Order #: ☐ Non SAR:

Sample Identification	Date Collected	Time Collected	Grab	Composite	Matrix: Soil	Matrix: Water	Matrix: Oil	Matrix: Air	Total Number of Containers	BTEX ☐ MTBE 8021 ☐ 8260 ☐ Naphth	8260 full scan	Oxygenates	TPH G	TPH D Extended Rng. Silica Gel Cleanup	Lead Total ☐ Diss. ☐ Method 6020	VPH/EPH	NWTPH HCID ☐ quantification	Moisture
TB-1	5/6	1200				/			2	/			/					
SB-10-4		1230	/		/				7	/			/	/	/			/
SB-10-6		1240	/		/				7	/			/	/	/			/
SB-9-5		1300	/		/				7	/			/	/	/			/
SB-11-5		1500→1500	/		/				7	/			/	/	/			/
SB-12-4		1600	/		/				7	/			/	/	/			/
SB-12-7		1600	/		/				7	/			/	/	/			/

Analyses Requested

Preservation Codes

Preservative Codes
H = HCl T = Thiosulfate
N = HNO_3 B = NaOH
S = H_2SO_4 O = Other

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

8021 MTBE Confirmation
☐ Confirm MTBE + Naphthalene
☐ Confirm highest hit by 8260
☐ Confirm all hits by 8260
☐ Run ____ oxy s on highest hit
☐ Run ____ oxy s on all hits

Comments / Remarks

Trip blank not analyzed per G. Cisneros. jmp 5/11/11

Turnaround Time Requested (TAT) (please circle)
STD. TAT 72 hour 48 hour
24 hour 4 day 5 day

Data Package Options (please circle if required)
QC Summary Type I - Full
Type VI (Raw Data) Disk / EDD
WIP (RWQCB) Standard Format
Disk ____ Other.

	Date	Time		Date	Time
Relinquished by:	5/6	1840	Received by:		
Relinquished by:			Received by:		
Relinquished by:			Received by:		
Relinquished by Commercial Carrier: UPS (FedEx) Other ____			Received by:	5/10/11	1015
Temperature Upon Receipt 4.7 C°			Custody Seals Intact? (Yes) No		

Lancaster Laboratories

Explanation of Symbols and Abbreviations

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

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

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

> greater than

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

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

ppb parts per billion

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

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers

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

Inorganic Qualifiers

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

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

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

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

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Quality Control Summary

Client Name: Chevron
Reported: 05/26/11 at 04:06 PM

Group Number: 1246413

Surrogate Quality Control

6283496	89
6283497	103
6283498	101
6283499	86
Blank	112
DUP	85
LCS	114
Limits:	50-150

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

Chevron Northwest Region Analysis Request/Chain of Custody

Lancaster Laboratories
Where quality is a science.

For Lancaster Laboratories use only
Acct. #: 11255 Sample #: 6283490-99 SCR#: 221599

Grp #1246413

Facility #: 306563
Site Address: 10a NW Cowlands St. Camarillo, CA
Chevron PM: Marlea Hamman Lead Consultant: SAIC
Consultant/Office: Bothell
Consultant Prj. Mgr.: Don Wyll
Consultant Phone #: 425-482-3315 Fax #: 425-485-5556
Sampler: G. Cisneros
Service Order #: ☐ Non SAR:

Sample Identification	Date Collected	Time Collected	Grab	Composite	Matrix: Soil	Water (Potable ☐ NPDES ☐)	Oil ☐ Air ☐	Total Number of Containers	BTEX + MTBE 8021 ☒ 8260 ☐ Naphth ☐	8260 full scan	Oxygenates	TPH G ☒	TPH D ☒ Extended Rng. ☒ Silica Gel Cleanup	Lead ☐ Total ☐ Diss. ☐ Method 6020	VPH/EPH	NWTPH HCID ☐ quantification	Moisture
SB-10-9	5/9	1050	/		/			7+1	/			/	/	/			/
SB-10-11	5/9	1100	/		/			7	/			/	/	/			/
SB-13-5	5/9	1130	/		/			6	/			/	/	/			/
SB-11-9	5/9	1230	/		/			6	/			/	/				/
SB-11-11	5/9	1240	/		/			6	/			/	/				/
SB-12-10	5/9	1320	/		/			6	/			/	/				/
SB-13-16	5/9	1346	/		/			6	/			/	/				/
SB-14-5	5/9	1445	/		/			6	/			/	/				/
SB-15-5	5/9	1530	/		/			6	/			/	/				/
SB-14-10	5/9	1545	/		/			6	/			/	/				/
TB-1	5/9	1600	/		Del			2	/		/	/					

Analyses Requested

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

Comments / Remarks

Trip blank not analyzed per G. Cisneros. gmp 5/12/11

Turnaround Time Requested (TAT) (please circle)
STD. TAT | 72 hour | 48 hour
24 hour | 4 day | 5 day

Data Package Options (please circle if required)
QC Summary | Type I - Full
Type VI (Raw Data) | Disk / EDD
WIP (RWQCB) | Standard Format
Disk | _____ Other.

Relinquished by:	Date	Time	Received by:	Date	Time
	5/9/11	1830			
Relinquished by:	5/10/11	1900	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time

Relinquished by Commercial Carrier:
UPS FedEx Other _____
Received by: Date 5/11/11 Time 930

Temperature Upon Receipt 2.4 °C C°
Custody Seals Intact? Yes No

Lancaster Laboratories

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C	degrees Celsius	**F**	degrees Fahrenheit
meq	milliequivalents	**lb.**	pound(s)
g	gram(s)	**kg**	kilogram(s)
ug	microgram(s)	**mg**	milligram(s)
ml	milliliter(s)	**l**	liter(s)
m3	cubic meter(s)	**ul**	microliter(s)

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N	Spike sample not within control limits
S	Method of standard additions (MSA) used for calculation
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