AECOM Environment

Submitted to:
Encana Oil & Gas (USA) Inc.
Denver, Colorado

Submitted by:
AECOM
Fort Collins, Colorado
60221849.500
February 2012

Pavillion Natural Gas Field, Fremont County, Wyoming, Encana Oil & Gas (USA) Inc.

2011 Pit Investigation Report – WE Lloyd #1

DRAFT

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List of Acronyms

AECOM	AECOM Technical Services, Inc.
bgs	below ground surface
BTEX	benzene, toluene, ethylbenzene, and total xylenes
DRO	diesel range organics
Encana	Encana Oil & Gas (USA), Inc.
ESC	Environmental Science Corporation
GRO	gasoline range organics
IME	Inberg Miller Engineers
mg/kg	milligrams per kilogram
PID	photoionization detector
SAR	Sodium adsorption ratio
SVOC	semi-volatile organic compounds
TPH	total petroleum hydrocarbons
USEPA	U.S. Environmental Protection Agency
WOGCC	Wyoming Oil and Gas Conservation Commission
WDEQ/SHWD	Wyoming Department of Environmental Quality/Solid and Hazardous Waste Division

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1.0 Introduction

This investigation report has been prepared by AECOM Technical Services, Inc. (AECOM) on behalf of Encana Oil & Gas (USA), Inc. (Encana). The purpose of this report is to summarize the results of the site investigation activities performed at the WE Lloyd #1 pit location within the Pavillion Natural Gas Field east of the town of Pavillion, Fremont County, Wyoming (see **Figure 1-1** for a site location map). The work activities completed at the pit site were outlined in the August 18, 2011 *Draft Pavillion Natural Gas Field, Fremont County, Wyoming, Field Work Plan for Site Investigations – August and September 2011* (AECOM 2011) (work plan).

The WE Lloyd #1 is a plugged and abandoned well that is believed to have had a pit on or near the current Pavillion Fee 34-3R production facility pad. There is limited historical information available for WE Lloyd #1 so the pit location was estimated based on recollections of individuals that have been in the area for many years. The WE Lloyd #1 pit location was never subject to environmental investigation because the WE Lloyd #1 well was never acquired by Encana. This site was selected for pit investigation by the Pavillion Field Working Group, Pit subgroup. The purpose of the pit investigation was to evaluate the presence or absence of impacted soil at the well site. The site also was selected because of the presumed shallow groundwater table. This report documents the investigation activities performed at the WE Lloyd #1 pit location in accordance with the field work plan.

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2.0 Summary of Field Activities

The primary field activities conducted at WE Lloyd #1 included: utility clearance; soil boring advancement and soil sampling; temporary monitoring well installation, development, and sampling; and final field surveying of all boreholes and temporary monitoring wells.

2.1 Ground Disturbance Activities

In accordance with Encana's Ground Disturbance Practice, all utilities within a 100 foot radius search area were marked. All utilities within 15 feet of a proposed ground disturbance location were positively identified using air and water excavation.

2.2 Soil Assessment

Eight soil borings were advanced at the site using direct-push drilling technology following utility clearance. Soil borings were advanced at locations within the presumed former pit area and are shown in **Figure 2-1**. Drilling activities were performed by Inberg Miller Engineers (IME) of Riverton, Wyoming on August 30, 2011. Each soil boring was logged by a field geologist. Photoionization detector (PID) headspace readings were collected and recorded at approximately 2-foot intervals. The soil boring logs are provided in **Appendix A**.

Boring depths ranged from 12 to 16 feet below ground surface (bgs). Groundwater was encountered at depths of 10.5 to 11.5 feet bgs. The maximum PID reading from the eight borings was 30.3 parts per million at soil boring SB-5-11 (WE Lloyd #1) (11 to 12 feet bgs).

One soil sample from each boring was collected from the 0 to 1 foot bgs interval for analysis of sodium adsorption ratio (SAR). One soil sample was collected from each boring from the interval immediately above the water table for analysis of total petroleum hydrocarbons (TPH) as gasoline range organics (GRO) and diesel range organics (DRO), as required by the Wyoming Oil and Gas Conservation Commission (WOGCC). One sample also was collected from the boring with the highest PID for analysis of semi-volatile organic compounds (SVOC). The sampling and analysis conducted on each boring is provided below.

- SB-1-11 (WE Lloyd #1) – One sample was collected for TPH analysis and one sample for SAR analysis.
- SB-2-11 (WE Lloyd #1) – One sample was collected for TPH analysis and one sample for SAR analysis.
- SB-3-11 (WE Lloyd #1) – One sample was collected for TPH analysis and one sample for SAR analysis.
- SB-4-11 (WE Lloyd #1) – One sample was collected for TPH analysis and one sample for SAR analysis.
- SB-5-11 (WE Lloyd #1) – One sample was collected for TPH and SVOC analysis and one sample for SAR analysis.
- SB-6-11 (WE Lloyd #1) – One sample was collected for TPH analysis and one sample for SAR analysis.
- SB-7-11 (WE Lloyd #1) – One sample was collected for TPH analysis and one sample for SAR analysis.
- SB-8-11 (WE Lloyd #1) – One sample was collected for TPH analysis and one sample for SAR analysis.

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All soil samples were submitted to Environmental Science Corporation (ESC) of Mt. Juliet, Tennessee, for laboratory analysis. Analysis of TPH-GRO and DRO was completed using U.S. Environmental Protection Agency (USEPA) Method 8015. Analysis of SVOC was completed using USEPA Method 8270. Analysis of SAR was completed using USEPA Method 6010B and the Department of Agriculture Soil Survey Method 4F. A discussion of analytical results is provided in Section 3.1.

All soil borings were surveyed by IME of Riverton, Wyoming. Soil boring locations are shown on **Figure 2-1**. All soil borings were abandoned with hydrated bentonite chips except SB-4-11 (WE Lloyd #1) and SB-5-11 (WE Lloyd #1).

2.3 Groundwater Assessment

Two temporary monitoring wells were installed at boring locations SB-4-11 (WE Lloyd #1) and SB-5-11 (WE Lloyd #1) on August 30, 2011. The temporary monitoring well locations are shown on **Figure 2-1**. The monitoring wells were constructed to approximately 5 feet below the water table at a depth of 16 feet. The temporary monitoring wells were constructed using 1-inch Schedule 40 PVC. The temporary monitoring wells were installed at these locations since borings SB-4-11 (WE Lloyd #1) and SB-5-11 (WE Lloyd #1) exhibited the greatest potential for groundwater impacts immediately above the water table based on PID readings and field observations. The temporary monitoring wells were developed using a hand bailer on September 1, 2011.

One groundwater sample was collected from each monitoring well on September 8, 2011. Groundwater sampling was conducted using low-flow sampling techniques. Prior to sampling, the wells were purged using a peristaltic pump and field parameters were measured. Both temporary monitoring wells were purged dry. The wells were allowed to recharge and samples were collected. Field parameters recorded during well purging included dissolved oxygen, pH, temperature, specific conductance, and oxidation reduction potential. Copies of the groundwater sampling field forms are provided in **Appendix B**. Groundwater samples were packed on ice and submitted to ESC for analysis of TPH-GRO and TPH-DRO using USEPA Method 8015; benzene, toluene, ethylbenzene, and total xylenes (BTEX) using USEPA Method 8260B; and SVOC using USEPA Method 8270C. One blind duplicate and 1 trip blank also were submitted for quality assurance/quality control purposes. A discussion of groundwater sampling results is provided in **Section 3.2**.

The temporary monitoring wells were surveyed by IME of Riverton, Wyoming, and the locations are shown in **Figure 2-1**. The temporary monitoring wells were left in place pending the WE Lloyd #1 site evaluation.

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3.0 Analytical Sample Summary

3.1 Soil Sample Results

Eight soil samples were submitted for analysis of TPH-GRO and TPH-DRO. One of those also was submitted for analysis SVOC. Eight soil samples were submitted for analysis of SAR. Soil sample TPH results were compared to a TPH concentration of 1,000 milligrams per kilogram (mg/kg). This concentration represents the most stringent cleanup level identified by the WOGCC "Guideline for Closure of Unlined Production Pits". Concentrations of SVOC were compared to the residential soil cleanup level and the migration to groundwater cleanup level, both based on the Wyoming Department of Environmental Quality/Solid and Hazardous Waste Division (WDEQ/SHWD) cleanup level spreadsheet effective June 30, 2009. Analytical soil sample results are summarized in **Table 3-1** and are shown in **Figure 3-1**. A copy of the laboratory report is provided in **Appendix C**. Note that all soil samples collected at the WE Lloyd #1 site were labeled with "34-3" designation as shown on the laboratory analytical reports in **Appendix C**. These samples labeled with "34-3" correspond to the WE Lloyd #1 investigation activities and are referred to as "WE Lloyd #1" throughout this report..

TPH-DRO was detected in seven soil samples. All of the detected TPH-DRO concentrations were below the cleanup level for TPH. Certain SVOCs were detected in the soil sample SB-5-11 (WE Lloyd #1). All of the detected SVOC concentrations were below applicable cleanup levels, except naphthalene. The naphthalene detection was below the residential soil cleanup level of 3.90 mg/kg but above the migration to groundwater cleanup level of 0.00055 mg/kg. TPH-GRO was not detected in any of the soil samples collected.

SAR-Background Evaluation

A background evaluation of two sets of soil SAR data was conducted. One set included 12 background data points collected at locations within the Pavillion Natural Gas Field. All background data points were collected outside of well pad boundaries. The other set included 25 site data points collected from the WE Lloyd #1, Pavillion Fee 31-9, and Tribal Pavillion 21-9 well sites. This number of samples is sufficient for a valid statistical analysis. The background and site SAR data used for this evaluation is provided in **Table 3-3**. All background data was pooled into a "background" population. All site data was pooled into a "site" population. The objective of the evaluation was to determine if the "background" data and the "site" data can be considered from the same population (i.e., the site data is not unusually higher or lower than the background).

The test was run using the module for background data hypothesis testing available in the USEPA ProUCL 4.0. The tested hypothesis was that the site mean was equal to the background mean. A two-sided test was selected since SAR can be either lower or higher than the site data. The initial F-test confirms that variances were equal as shown in **Table 3-4**. This confirms the appropriate statistical test is the Two-Sample t-test assuming equal variance.

Table 3-4 shows the output of the statistical test, Two-Sample t-test. The test shows that the hypothesis that the two populations have equal means cannot be rejected, at a confidence level of 0.95. Therefore, it is concluded that the background and site populations are not significantly different.

3.2 Groundwater Sample Results

Two groundwater samples were collected from the temporary monitoring wells SB-4-11 and SB-5-11, installed on August 30, 2011. The samples were analyzed for TPH-GRO and TPH-DRO, BTEX, and SVOC. Groundwater sample results were compared to the WDEQ/SHWD current cleanup levels. Analytical groundwater sample results are summarized in **Table 3-2** and are shown in **Figure 3-2**. A copy of the laboratory report is provided in **Appendix C**. Note that all groundwater samples collected at

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the WE Lloyd #1 site were labeled with "34-3" designation as shown on the laboratory analytical reports in **Appendix C**. These samples labeled with "34-3" correspond to the WE Lloyd #1 investigation activities and are referred to as "WE Lloyd #1" throughout this report.

TPH-DRO was detected in the groundwater sample collected from SB-4-11 (WE Lloyd #1). The detected concentration was below the applicable cleanup level of 10 milligrams per liter. TPH-DRO was not detected in the SB-5-11 (WE Lloyd #1) sample. SVOC and BTEX were not detected in the groundwater at the site.

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4.0 Discussion

Analytical results at the site indicate that site groundwater constituent concentrations are below applicable cleanup standards. The SAR background evaluation concluded that the background and site data are not significantly different.

Analytical results at the site indicate that site soil constituent concentrations are below all applicable cleanup levels, except naphthalene. At soil boring location SB-4-11 (WE Lloyd #1), the concentration of naphthalene was below the residential soil cleanup level and above the migration to groundwater cleanup level. Naphthalene was not detected in the SB-4-11 (WE Lloyd #1) groundwater sample. The detection limits for naphthalene in groundwater were well below cleanup standards. This indicates the potential for migration of naphthalene to groundwater is limited. No further soil or groundwater investigation is recommended at the WE Lloyd #1 pit location.

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5.0 References

AECOM. 2011. Pavillion Natural Gas Field, Fremont County, Wyoming, Encana Oil & Gas (USA) Inc., Field Work Plan for Site Investigations – August and September 2011. August 2011.

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Tables

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DRAFT - Table 3-1 - Soil Sample Analytical Results, August 30, 2011
WE Lloyd #1, Pavillion Natural Gas Field, Wyoming

Sample Name					SB-1-11	SB-1-11	SB-2-11	SB-2-11	SB-3-11	SB-3-11	SB-4-11	SB-4-11	SB-5-11	SB-5-11[1]	SB-6-11	SB-6-11	SB-7-11	SB-7-11	SB-8-11	SB-8-11
Sample Depth (feet)					0-1	11-12	0-1	11-12	0-1	10-12	0-1	11-12	0-1	11-12	0-1	11.5-12	0-1	11-12	0-1	11-12
Sample Date					8/30/2011	8/30/2011	8/30/2011	8/30/2011	8/30/2011	8/30/2011	8/30/2011	8/30/2011	8/30/2011	8/30/2011	8/30/2011	8/30/2011	8/30/2011	8/30/2011	8/30/2011	8/30/2011
Analyte	**Units**	**Method**	**Residential Soil Cleanup Levels (mg/kg)[3]**	**Migration to Groundwater Cleanup Levels (mg/kg)[3]**	**Result**															
Sodium Adsorption Ratio (SAR)	N/A	Calc.	NA[4]	NA[4]	12	--	2.6	--	2.0	--	1.2	--	1.3	--	0.99	--	1.0	--	1.0	--
TPH (GC/FID) Low Fraction	mg/kg	GRO	1,000 (Combined)[2]		--	< 0.50	--	< 0.50	--	< 0.50	--	< 0.50	--	< 0.50	--	< 0.50	--	< 0.50	--	< 0.50
TPH (GC/FID) High Fraction (DRO Wyoming C10-C32)	mg/kg	8015			--	**40**	--	**7.4**	--	**57**	--	**260**	--	**390**	--	**190**	--	< 4.0	--	**7.1**
Acenaphthene	mg/kg	8270C	3,400	27										**0.086**						
Anthracene	mg/kg	8270C	17,000	450										**0.049**						
Fluorene	mg/kg	8270C	2,300	33	--	--	--	--	--	--	--	--	--	**0.13**	--	--	--	--	--	--
Naphthalene	mg/kg	8270C	3.9	0.00055										**0.22**						
Phenanthrene	mg/kg	8270C	NA	NA										**0.17**						
Other Semi-Volatile Organic Compounds (SVOC)	mg/kg	8270C	Note[3]	Note[3]	--	--	--	--	--	--	--	--	--	ND[1]	--	--	--	--	--	--

Notes:

= not analyze

DRO = diesel range organics

FID = flame ionization detector

GC = gas chromatographhydrocarbons

GRO = gasoline range organics

mg/kg = milligrams per kilogram

NA = not available

TPH = Total Petroleum Hydrocarbons

< = result is less than the detection limit

=exceeds Migration to Groundwater Cleanup Levels

=exceeds Migration to Groundwater Cleanup Levels and Residential Soil Cleanup Levels

Bold = detection

[1] Sample SB-3-11-6-8 was analyzed for SVOCs using method 8270C. Detected SVOCs are identified in the table and all other SVOCs were below detection limits (see corresponding laboratory report).

[2] The TPH cleanup level of 1,000 mg/kg is based on the most stringent cleanup level identified in the Wyoming Oil and Gas Conservation Commission "Guideline for Closure of Unlined Production Pits". If TPH is detected at a level greater than 1,000 mg/kg then the appropriate cleanup level will be determined based on the Oil Contaminated Soil Remediation Ranking System (OCSRRS).

[3] Soil cleanup levels are based on the Wyoming Department of Environmental Quality/Solid and Hazardous Waste Division (DEQ/SHWD) cleanup level spreadsheet effective June 30, 2009.

[4] A soil cleanup level has not been determined for SAR. Background samples were collected across the Pavillion Natural Gas Field area and will be evaluated.

DRAFT - Table 3-2 - Groundwater Sample Analytical Results, September 8, 2011
WE Lloyd #1, Pavillion Natural Gas Field, Wyoming

Sample Name				SB-4-11[1]	SB-5-11[1]
Sample Date				9/8/2011	9/8/2011
Analyte	**Units**	**Method**	**Water Cleanup Level[2] (mg/L)**	**Result**	
TPH (GC/FID) Low Fraction	mg/L	GRO	7.3	< 0.10	< 0.10
TPH (GC/FID) High Fraction (DRO Wyoming C10-C32)	mg/L	8015	1.1[3]/10[4]	**0.32**	< 0.10
Benzene	mg/L	8260B	0.005	< 0.0010	< 0.0010
Toluene	mg/L	8260B	1	< 0.0050	< 0.0050
Ethylbenzene	mg/L	8260B	0.7	< 0.0010	< 0.0010
Xylenes, Total	mg/L	8260B	10	< 0.0030	< 0.0030
Acenaphthene	mg/L	8270C	2.19	< 0.0010	< 0.0010
Acenaphthylene	mg/L	8270C	NA	< 0.0010	< 0.0010
Anthracene	mg/L	8270C	10.9	< 0.0010	< 0.0010
Fluorene	mg/L	8270C	1.46	< 0.0010	< 0.0010
Naphthalene	mg/L	8270C	0.729	< 0.0010	< 0.0010
Phenanthrene	mg/L	8270C	NA	< 0.0010	< 0.0010
Other Semi-Volatile Organic Compounds (SVOC)	mg/L	8270C	Note [2]	ND	ND

Notes:

Bold = detection

< = result is less than the detection limit

DRO = diesel range organics

FID = flame ionization detector

GC = gas chromatograph

GRO = gasoline range organics

mg/L = milligrams per liter

NA = not available

TPH = Total Petroleum Hydrocarbons

ND = not detected

[1] Samples SB-4-11 and SB-5-11 were analyzed for SVOCs using method 8270C. Detectable SVOCs in overlying soil samples are identified in the table. All SVOCs were below detection limits (see corresponding laboratory report).

[2] Groundwater cleanup levels are based on the Wyoming Department of Environmental Quality/Solid and Hazardous Waste Division (DEQ/SHWD) cleanup level spreadsheet effective June 30, 2009.

[3] This level is applicable when naphthalene and/or methylnaphthalenes are detected in groundwater at measurable concentrations.

[4] This level is applicable when naphthalene and/or 2-Methylnaphthalene are below MCL/DWEL concentrations in groundwater along with the other chemicals of concern AND no free product is present on the groundwater table.

DRAFT - Table 3-3 - SAR Data Used in Statistal Evaluation, Pavillion Natural Gas Field, Wyoming

Sample	Background Data[1,2]	Site Data[1,3]
1	5.1	17
2	0.83	26
3	12	21
4	17	4.2
5	2.7	3.8
6	1	6.5
7	0.53	18
8	1.8	5.6
9	0.68	5.9
10	1.3	3.4
11	3.1	2.9
12	9	7.7
13	2	2.2
14		12
15		12
16		2.6
17		2
18		1.2
19		1.3
20		0.99
21		1
22		1
23		1.9
24		4.7
25		11

[1] Data is reflective of sodium adsorption ratio.
[2] Background data was collected from locations within the Pavillion Natural Gas Field.
[3] Site data was collected from sites WE Lloyd #1, Pavillion Fee 31-9, and Tribal Pavillion 21-9.

DRAFT - Table 3-4 - SAR Data Used in Statistal Evaluation, Pavillion Natural Gas Field, Wyoming

t-Test Site vs Background Comparison for Full Data Sets without NDs

User Selected Options	
From File	ProUCL-data
Full Precision	OFF
Confidence Coefficient	95%
Substantial Difference (S)	0
Selected Null Hypothesis	Site or AOC Mean Equal to Background Mean (Two Sided Alternative)
Alternative Hypothesis	Site or AOC Mean Not Equal to Background Mean
Area of Concern Data: site	
Background Data: bkgrd	

Raw Statistics

	Site	Background
Number of Valid Observations	25	13
Number of Distinct Observations	23	13
Minimum	0.99	0.53
Maximum	26	17
Mean	70.36	4.388
Median	4.2	2
SD	6.978	5.148
SE of Mean	1.396	1.428

Site vs Background Two-Sample t-Test

H0: Mu of Site = Mu of Background

Method	DF	t-Test Value	Critical t (0.050)	P-Value
Pooled (Equal Variance)	36	1.205	2.03	0.236
Welch-Satterthwaite (Unequal Variance)	31.5	1.326	2.037	0.194

Pooled SD: 7.135

Conclusion with Alpha = 0.050

* Student t (Pooled): Do Not Reject H0, Conclude Site = Background

[3] Site data was collected from sites WE Lloyd #1, Pavillion Fee 31-9, and Tribal Pavillion 21-9.

Test of Equality of Variances

Variance of Site 48.69

Variance of Background 26.5

Numerator DF	Denominator DF	F-Test Value	P-Value
24	12	1.838	0.273

Conclusion with Alpha = 0.05

* Two variances appear to be equal

Notes:

AOC=area of concern; DF=degrees of freedom; Ho=tested null hypothesis; Mu=mean; ND=not detected; P-Value=probability value; SE=standard error

Figures

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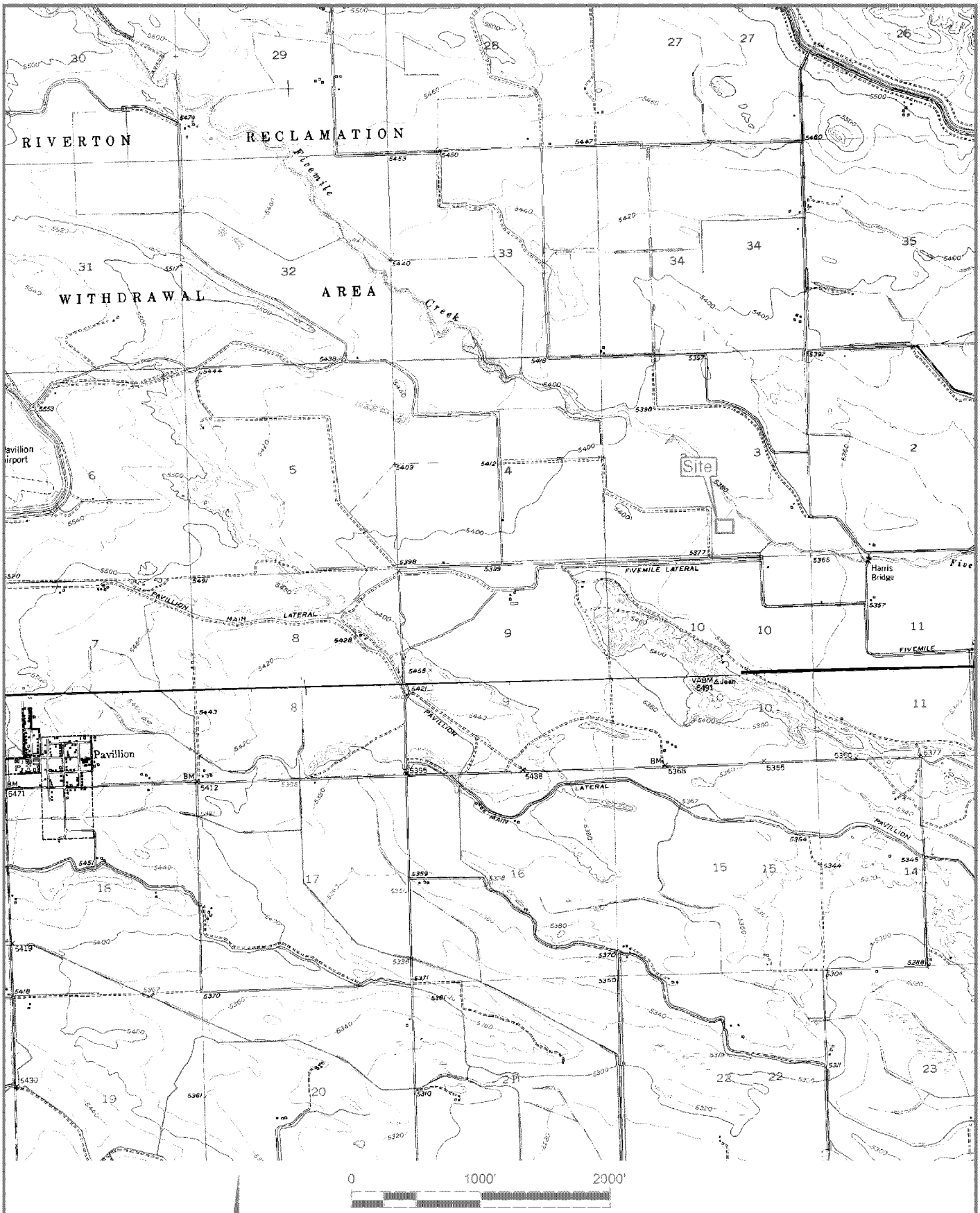

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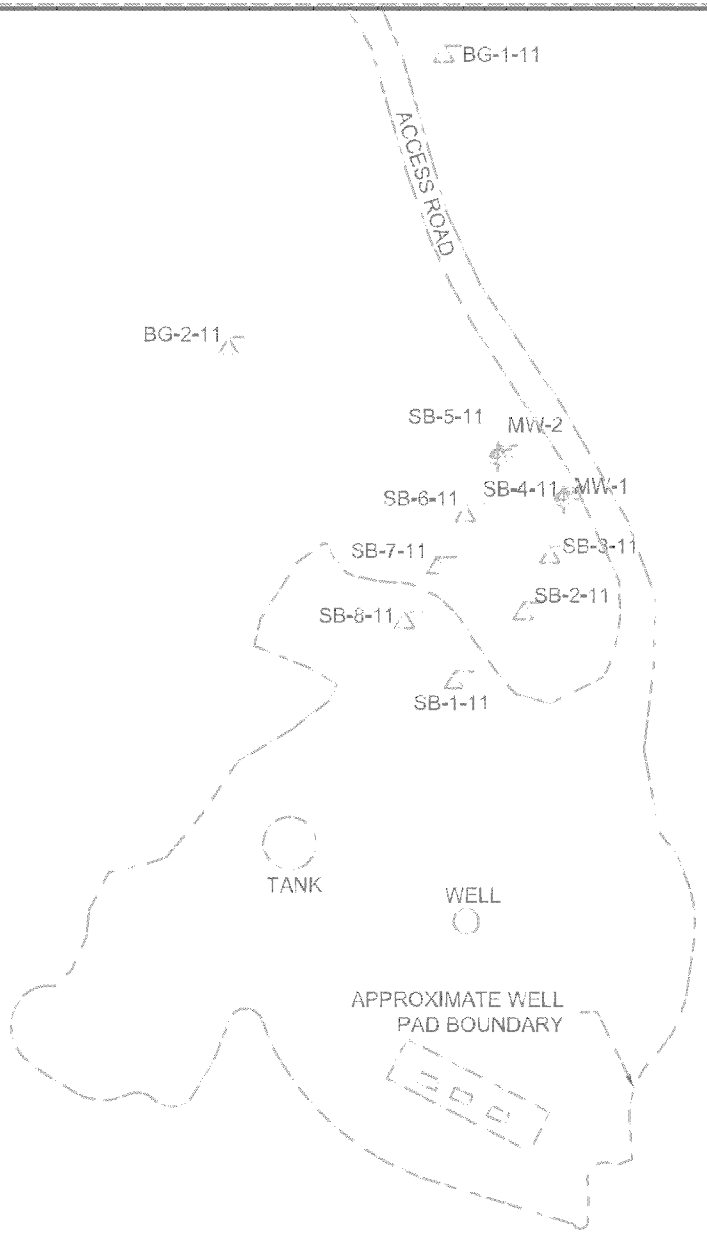
ENCANA OIL & GAS (USA) INC.
PAVILLION NATURAL GAS FIELD
FREMONT COUNTY, WYOMING

WE LLOYD #1
SITE LOCATION MAP

DATE: 7/4/12 | SCALE: 1:24,000 | FIGURE 1-1

EPAPAV0045093



LEGEND

- SOIL BORING
- TEMPORARY MONITORING WELL
- OPERATIONS EQUIPMENT

NOTES:

1. SOIL BORING AND MONITORING WELLS ARE ACTUAL LOCATIONS BASED ON SEPTEMBER 2011 SURVEY, WITH THE EXCEPTION OF BG-1-11, BG-2-11 AND BG-3-11
2. LOCATIONS OF SITE FEATURES ARE APPROXIMATE.

0 70' 140'

AECOM

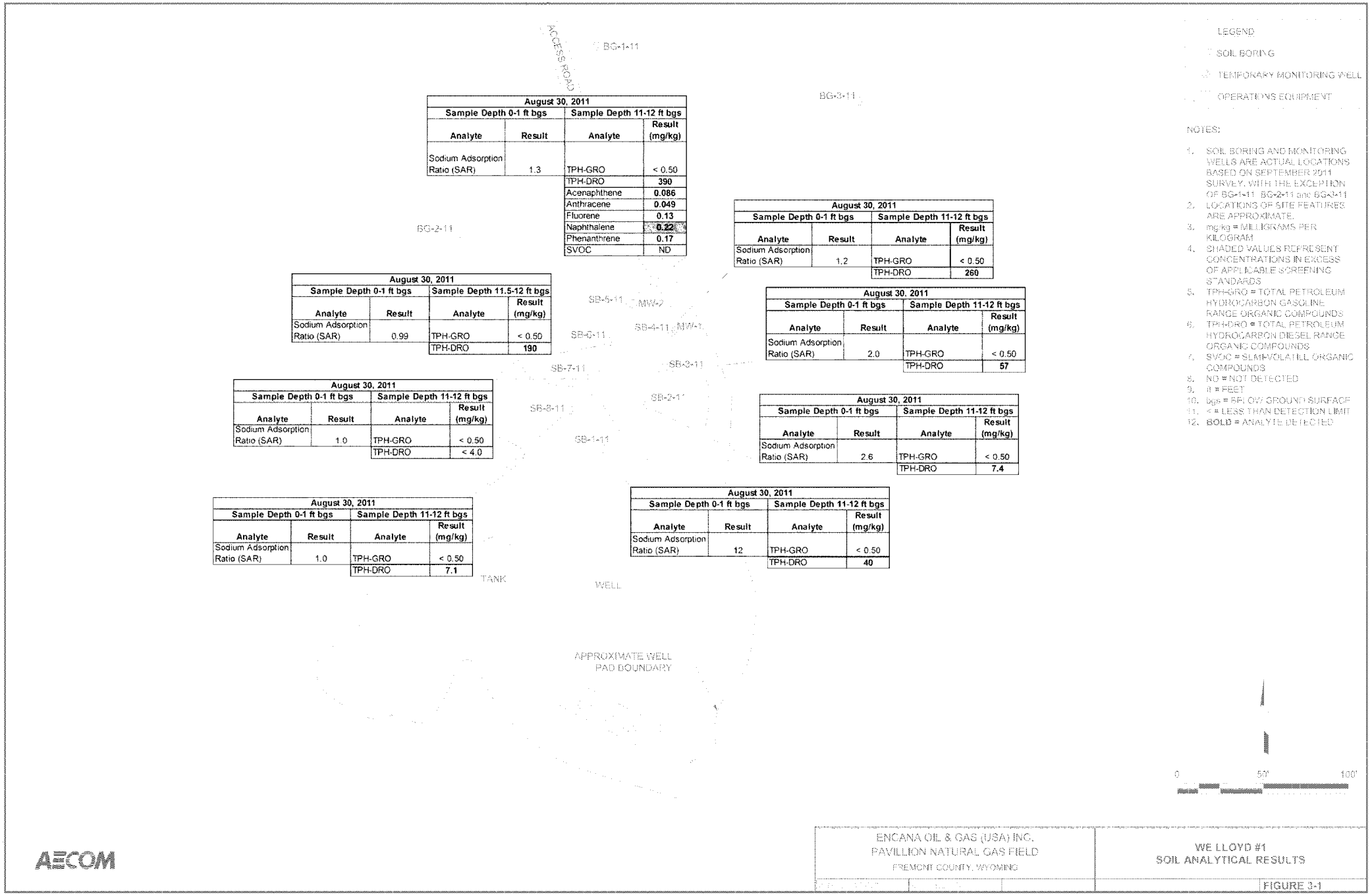
ENCANA OIL & GAS (USA) INC.
PAVILLION NATURAL GAS FIELD
FREMONT COUNTY, WYOMING

DATE: 01/05/12 | DRWN: EM/tk

WE LLOYD #1
SITE LAYOUT

FIGURE 2-1

EPAPAV0045094



August 30, 2011			
Sample Depth 0-1 ft bgs		Sample Depth 11-12 ft bgs	
Analyte	Result	Analyte	Result (mg/kg)
Sodium Adsorption Ratio (SAR)	1.3	TPH-GRO	< 0.50
		TPH-DRO	**390**
		Acenaphthene	**0.086**
		Anthracene	**0.049**
		Fluorene	**0.13**
		Naphthalene	**0.22**
		Phenanthrene	**0.17**
		SVOC	ND

August 30, 2011			
Sample Depth 0-1 ft bgs		Sample Depth 11-12 ft bgs	
Analyte	Result	Analyte	Result (mg/kg)
Sodium Adsorption Ratio (SAR)	1.2	TPH-GRO	< 0.50
		TPH-DRO	**260**

August 30, 2011			
Sample Depth 0-1 ft bgs		Sample Depth 11.5-12 ft bgs	
Analyte	Result	Analyte	Result (mg/kg)
Sodium Adsorption Ratio (SAR)	0.99	TPH-GRO	< 0.50
		TPH-DRO	**190**

August 30, 2011			
Sample Depth 0-1 ft bgs		Sample Depth 11-12 ft bgs	
Analyte	Result	Analyte	Result (mg/kg)
Sodium Adsorption Ratio (SAR)	2.0	TPH-GRO	< 0.50
		TPH-DRO	**57**

August 30, 2011			
Sample Depth 0-1 ft bgs		Sample Depth 11-12 ft bgs	
Analyte	Result	Analyte	Result (mg/kg)
Sodium Adsorption Ratio (SAR)	1.0	TPH-GRO	< 0.50
		TPH-DRO	< 4.0

August 30, 2011			
Sample Depth 0-1 ft bgs		Sample Depth 11-12 ft bgs	
Analyte	Result	Analyte	Result (mg/kg)
Sodium Adsorption Ratio (SAR)	2.6	TPH-GRO	< 0.50
		TPH-DRO	**7.4**

August 30, 2011			
Sample Depth 0-1 ft bgs		Sample Depth 11-12 ft bgs	
Analyte	Result	Analyte	Result (mg/kg)
Sodium Adsorption Ratio (SAR)	1.0	TPH-GRO	< 0.50
		TPH-DRO	**7.1**

August 30, 2011			
Sample Depth 0-1 ft bgs		Sample Depth 11-12 ft bgs	
Analyte	Result	Analyte	Result (mg/kg)
Sodium Adsorption Ratio (SAR)	12	TPH-GRO	< 0.50
		TPH-DRO	**40**

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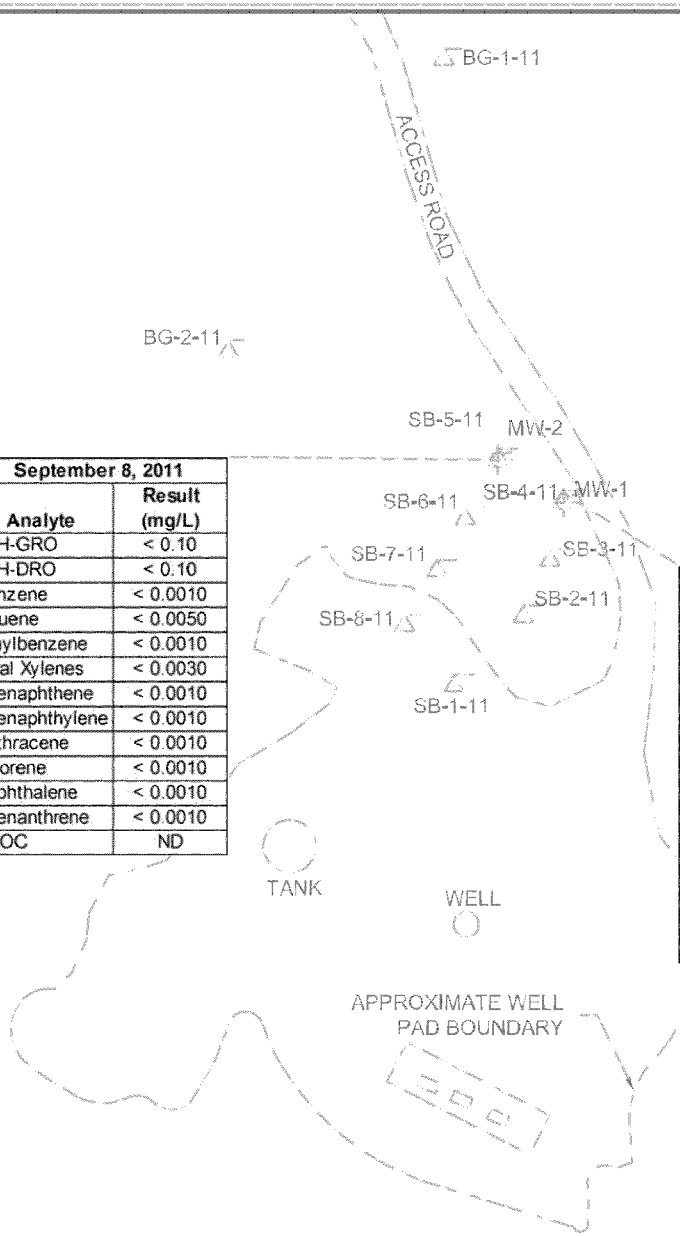
PAVILLION NATURAL GAS FIELD
FREMONT COUNTY, WYOMING

WE LLOYD #1
SOIL ANALYTICAL RESULTS

FIGURE 3-1

EPAPAV0045095

EPAPAV0045096



September 8, 2011	
Analyte	**Result (mg/L)**
TPH-GRO	< 0.10
TPH-DRO	< 0.10
Benzene	< 0.0010
Toluene	< 0.0050
Ethylbenzene	< 0.0010
Total Xylenes	< 0.0030
Acenaphthene	< 0.0010
Acenaphthylene	< 0.0010
Anthracene	< 0.0010
Fluorene	< 0.0010
Naphthalene	< 0.0010
Phenanthrene	< 0.0010
SVOC	ND

September 8, 2011	
Analyte	**Result (mg/L)**
TPH-GRO	< 0.10
TPH-DRO	**0.32**
Benzene	< 0.0010
Toluene	< 0.0050
Ethylbenzene	< 0.0010
Total Xylenes	< 0.0030
Acenaphthene	< 0.0010
Acenaphthylene	< 0.0010
Anthracene	< 0.0010
Fluorene	< 0.0010
Naphthalene	< 0.0010
Phenanthrene	< 0.0010
SVOC	ND

LEGEND

- SOIL BORING
- TEMPORARY MONITORING WELL
- OPERATIONS EQUIPMENT

NOTES:

1. SOIL BORING AND MONITORING WELLS ARE ACTUAL LOCATIONS BASED ON SEPTEMBER 2011 SURVEY, WITH THE EXCEPTION OF BG-1-11, BG-2-11 AND BG-3-11
2. LOCATIONS OF SITE FEATURES ARE APPROXIMATE
3. mg/L = MILLIGRAMS PER LITER
4. ND = NON DETECT (FOR ALL SVOC COMPOUNDS)
5. SVOC = SEMI-VOLATILE ORGANIC COMPOUNDS
6. TPH-GRO = TOTAL PETROLEUM HYDROCARBON GASOLINE RANGE ORGANIC COMPOUNDS
7. TPH-DRO = TOTAL PETROLEUM HYDROCARBON DIESEL RANGE ORGANIC COMPOUNDS
8. GROUNDWATER SAMPLES WERE NOT COLLECTED AT SB-1-11, SB-2-11, SB-5-11, SB-6, SB-7 OR SB-8-11. TEMPORARY MONITORING WELL (MW-1) WAS INSTALLED AND SAMPLED AT SB-3-11, AND TEMPORARY MONITORING WELL (MW-2) WAS INSTALLED AND SAMPLED AT SB-4-11
9. < = LESS THAN DETECTION LIMIT
10. **BOLD** = ANALYTE DETECTED

0 70' 140'

AECOM

ENCANA OIL & GAS (USA) INC.
PAVILLION NATURAL GAS FIELD
FREMONT COUNTY, WYOMING

DATE: 01/05/2012 DRWN: EM/tk

WE LLOYD #1
GROUNDWATER ANALYTICAL RESULTS

FIGURE 3-2

Appendix A

Soil Boring Logs

DRAFT

EPAPAV0045097

AECOM	*Client:* Encana Oil & Gas (USA), Inc.		***BORING ID:*** SB-1-11(WE Lloyd #1)
	Project Number: 60221849		
	Site Location: Pavillion, WY		
	Coordinates: TBD	*Elevation:* TBD	*Sheet:* 1 of 1
	Drilling Method: Geoprobe Direct Push		*Monitoring Well Installed:* No
	Sample Type(s): Soil	*Boring Diameter:* 2-inch	*Screened Interval:* NA
Drilling Contractor: Inberg-Miller Engineers	*Logged By:* J.Hurshman	*Date/Time Started:* 8/30/11 13:05	*Depth of Boring:* 12 ft
	Ground Elevation: TBD	*Date/Time Finished:* 8/30/11	*Water Level:* 11.5 ft

Depth (ft)	Sample Type	Blows per 6"	Recovery (%)	Headspace (ppm)	U.S.C.S	MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (If Known)	Lab Sample ID	Lab Sample Depth (ft)
1	DP		60	NA	ML	Light tan to brown silt with minor clay content. Dry to moist in areas, no odor. no staining. moderate sorting	SB-1-11(PF-34-3)(3-4) - 13:18, SAR	3-4
2				2.5				
3								
4								
5	DP		25	NA		Continued as above, increasing clay, low plasticity in clay		
6								
7				2.8				
8								
9	DP		25	NA		Continued as above to 11 ft	SB-1-11(PF-34-3)(11 -12) - 13:15, TPH	11-12
10								
11								
12				5.5	CL	Gray to brown silty clay, staining in sections, slight odor, moist 11.5 ft: Sand, wet, stained near top, odor, medium grained, moderate sorting		
13						Total Depth = 12 ft		
14								
15								
16								
17								
18								
19								
20								

NOTES:

Boring location moved approximately 10 ft south of original staked location
1st attempt: refusal at 3 ft
2nd attempt: refusal at 4 ft
3rd, 4th attempt: refusal at 4 ft
Hitting concrete in 4th location. 5th attempt successful

Blow count not recorded for Geoprobe Rig
DP= direct Push, 4 foot acetate sleeve
Boring abandoned with bentonite chips
NA = not applicable

ppm = parts per million
TBD = to be determined
ft = feet
bgs = below ground surface

Checke Jeremy Hurshman Date: 11/23/11

AECOM	*Client:* Encana Oil & Gas (USA), Inc.		**BORING ID:**
	Project Number: 60221849		SB-2-11(WE Lloyd #1)
	Site Location: Pavillion, WY		
	Coordinates: TBD	*Elevation:* TBD	*Sheet:* 1 of 1
	Drilling Method: Geoprobe Direct Push		*Monitoring Well Installed:* No
	Sample Type(s): Soil	*Boring Diameter:* 2-inch	*Screened Interval:* NA
Drilling Contractor: Inberg-Miller Engineers	*Logged By:* J.Hurshman	*Date/Time Started:* 8/30/11 09:00	*Depth of Boring:* 12 ft
	Ground Elevation: TBD	*Date/Time Finished:* 8/30/11 10:00	*Water Level:* 11 ft

Depth (ft)	Sample Type	Blows per 6"	Recovery (%)	Headspace (ppm)	U.S.C.S	MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (If Known)	Lab Sample ID	Lab Sample Depth (ft)
1	DP		50	NA	SM	Mixed silts and fine sands, poorly sorted, dry, light brown, no odor, no staining, little to no clay	SB-2-11(PF-34-3)(0-1) - 09:58, SAR	0-1
2								
3				1.0				
4								
5	DP		30	NA		No recovery	SB-2-11(PF-34-3)(11-12) - 09:55, TPH	11-12
6						Continued sands and silts. increasing clay content, moist, no odor, no staining.		
7				1.6		Slightly plastic, brown		
8								
9	DP		0	NA		No recovery 8-10 ft		
10						Continued dry silts to 11 ft,		
11				0.4	SC	Wet sandy clay and silt at 11-12 ft, no staining, no odor, poorly sorted		
12								
13						Total Depth = 12 ft		
14								
15								
16								
17								
18								
19								
20								

NOTES:
Blow count not recorded for Geoprobe Rig
DP= direct Push, 4 foot acetate sleeve
Boring abandoned with bentonite chips
Recovery diffucult, may be a clay layer at 10 ft below ground surface
DUP-1(PF-34-3)(0-1), SAR collected at 0-1 ft

NA = not applicable
ppm = parts per million
TBD = to be determined
ft = feet
bgs = below ground surface

Checked by: Jeremy Hurshman Date: 11/28/11

AECOM	*Client:* Encana Oil & Gas (USA) Inc.		**BORING ID:**
	Project Number: 60221849		SB-3-11(WE Lloyd #1)
	Site Location: Pavillion, WY		
	Coordinates: TBD	*Elevation:* TBD	*Sheet:* 1 of 1
	Drilling Method: Geoprobe Direct Push		*Monitoring Well Installed:* No
	Sample Type(s): Soil	*Boring Diameter:* 2-inch	*Screened Interval:* NA
Drilling Contractor: Inberg-Miller Engineers	*Logged By:* J.Hurshman	*Date/Time Started:* 8/30/11 10:00	*Depth of Boring:* 12 ft
	Ground Elevation: TBD	*Date/Time Finished:* 8/30/11 10:25	*Water Level:* 10.5 ft

Depth (ft)	Sample Type	Blows per 6"	Recovery (%)	Headspace (ppm)	U.S.C.S	MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (If Known)	Lab Sample ID	Lab Sample Depth (ft)
1	DP		75	0.9	SM	0-1 ft: No recovery Interbedded silts and fine sands, dry, little to no clay, moderate sorting, no large clasts, no visible contamination, light tan	SB-3-11(PF-34-3)(0-1) - 10:25, SAR	0-1
2								
3				0.1				
4								
5	DP		40	NA		Continued as above to 8 ft		
6								
7				2.3				
8								
9	DP		50	NA		continued as above to 10.5 ft	SB-3-11(PF-34-3)(10-12) - 10:22, TPH	
10								
11				3.0	MH-CH	Wet, silty clay at 10.5 ft, some staining, light odor, increasing sand content with depth, dark brown, moderate plasticity		10-12
12								
13						Total Depth = 12 ft		
14								
15								
16								
17								
18								
19								
20								

NOTES:

Blow count not recorded for Geoprobe Rig
DP= direct Push. 4 foot acetate sleeve
Boring abandoned with bentonite chips
NA = not applicable

ppm = parts per million
TBD = to be determined
ft = feet
bgs = below ground surface

Checked by: Jeremy Hurshman Date: 11/28/11

AECOM	*Client:* Encana Oil & Gas (USA) Inc.	***BORING ID:*** SB-4-11(WE Lloyd #1)
	Project Number: 60221849	
	Site Location: Pavillion, WY	
	Coordinates: TBD *Elevation:* TBD	*Sheet:* 1 of 1
	Drilling Method: Geoprobe Direct Push	*Monitoring Well Installed:* Yes
	Sample Type(s): Soil *Boring Diameter:* 2-inch	*Screened Interval:* 6-16 ft
Drilling Contractor: Inberg-Miller Engineers	*Logged By:* J.Hurshman *Date/Time Started* :8/30/11 10:25	*Depth of Boring:* 16 ft
	Ground Elevation: TBD *Date/Time Finished:* 8/30/11 11:00	*Water Level:* 11.5 ft

Depth (ft)	Sample Type	Blows per 6"	Recovery (%)	Headspace (ppm)	U.S.C.S	MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (If Known)	Lab Sample ID	Lab Sample Depth (ft)
1	DP		75	0.3	SM	0-1ft: No recovery Light tan, dry, silts and fine grained sand, moderate sorting, no visible contamination, little to no clay	Sb-4-11(PF-34-3)(0-1) - 10:55, SAR	0-1
2								
3				0.4				
4								
5	DP		50	NA		Contined as above	SB-4-11(PF-34-3)(11-12) - 10:45, TPH	11-12
6								
7				0.5	SC	Increasing clay content approaching 8 ft bgs, moist, brown color, little sand, mainly silts and clay, no contamination		
8								
9	DP		25	NA				
10						Continued as above to 11 ft bgs		
11				17.8	CL	6-8 inch zone of silty clay, moist, black with strong odor,		
12					SC	Wet sand below, medium grained, grayish brown color, some fines (20%)		
13	DP		75	NA				
14								
15						Clayey sand continued to 16 ft, little staining, saturated, brown with orange lenses, fine grain sand		
16								
17						Total Depth – 16 ft		
18								
19								
20								

NOTES:
Blow count not recorded for Geoprobe Rig
DP= direct Push, 4 foot acetate sleeve
Boring abandoned with bentonite chips
NA = not applicable
DUP-2-11(PF-34-3)(11-12) - TPH collected at 11-12 ft

ppm = parts per million
TBD = to be determined
ft = feet
bgs = below ground surface

WELL DETAILS:
MW-1(PF-34-3) installed at SB-4-11
Screened 6-16 ft
Sandpack 5-16 ft, hydrated bentonite 0-5 ft
1 inch PVC temporary well

Checked by: Jeremy Hurshman Date: 11/28/11

AECOM	*Client:* Encana Oil & Gas (USA) Inc.		**BORING ID:** SB-5-11(WE Lloyd #1)
	Project Number: 60221849		
	Site Location: Pavillion, WY		
	Coordinates: TBD	*Elevation:* TBD	*Sheet:* 1 of 1
	Drilling Method: Geoprobe Direct Push		*Monitoring Well Installed:* Yes
	Sample Type(s): Soil	*Boring Diameter:* 2-inch	*Screened Interval:* 6-16 ft
Drilling Contractor: Inberg-Miller Engineers	*Logged By:* J.Hurshman	*Date/Time Started:* 8/30/11 11:00	*Depth of Boring:* 16 ft
	Ground Elevation: TBD	*Date/Time Finished:* 8/30/11 12:00	*Water Level:* 11.75 ft

Depth (ft)	Sample Type	Blows per 6"	Recovery (%)	Headspace (ppm)	U.S.C.S	MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (If Known)	Lab Sample ID	Lab Sample Depth (ft)
1	DP		40	NA	-	No recovery 0-2 ft	SB-5-11(PF-34-3)(0-1) - 11:30, SAR	0-1
2								
3				1.1	SM	Light tan, silty sand with little clay, Dry, no visible contamination, poorly to moderately sorted, hard, tight packed		
4								
5	DP		5	NA				
6								
7				1.6	CL	Continued as above, increasing clay content, brown color, very hard clay, dry		
8								
9	DP		25	NA	-	No recovery to 11 ft	SB-5-11(PF-34-3)(11-12) - 11:25, TPH, SVOC	11-12
10								
11				30.3	CL SC	Brown/tan silts, sharp contact with moist black stained silty clay, odor, no sand 11.75 ft: Brown sand contact, wet, slight odor, little staining		
12								
13	DP		50	No PID taken	SC	Continued saturated clayey sands and silts, little staining near 12 ft, light odor, brown, poorly sorted		
14								
15								
16								
17						Total Depth = 16 ft		
18								
19								
20								

NOTES:
Blow count not recorded for Geoprobe Rig
DP= direct Push, 4 foot acetate sleeve
Boring abandoned with bentonite chips
NA = not applicable

ppm = parts per million
TBD = to be determined
ft = feet
bgs = below ground surface

WELL DETAILS:
MW-2(PF-34-3) installed at SB-5-11
Screened 6-16 ft
Sandpack 5-16 ft, hydrated bentonite 0-5 ft
1 inch PVC temporary well

Checked by: Jeremy Hurshman Date: 11/28/11

AECOM	*Client:* Encana Oil & Gas (USA) Inc.		***BORING ID:***
	Project Number: 60221849		SB-6-11(WE Lloyd #1)
	Site Location: Pavillion, WY		
	Coordinates: TBD	*Elevation:* TBD	*Sheet:* 1 of 1
	Drilling Method: Geoprobe Direct Push		*Monitoring Well Installed:* No
	Sample Type(s): Soil	*Boring Diameter:* 2-inch	*Screened Interval:* NA
Drilling Contractor: Inberg-Miller Engineers	*Logged By:* J.Hurshman	*Date/Time Started:* 8/30/11 12:00	*Depth of Boring:* 12 ft
	Ground Elevation: TBD	*Date/Time Finished:* 8/30/11 12:30	*Water Level:* 11.75 ft

Depth (ft)	Sample Type	Blows per 6"	Recovery (%)	Headspace (ppm)	U.S.C.S	MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (If Known)	Lab Sample ID	Lab Sample Depth (ft)
1	DP		40	NA		Light tan. Dry, silt with little clay and sand, no visible contamination, moderate to poor sorting	SB-6-11(PF-34-30(0- 1) - 12:05, SAR	0-1
2								
3				4.1				
4								
5	DP		25	NA				
6								
7						Continued as above, becoming moist with increasing clay 7.5-8 ft, no odor, no staining		
8				1.9				
9	DP		15	NA			SB-6-11(PF-34-3)(11.5- 12) - 12:30, TPH	11.5-12
10								
11					ML			
12				0.5	CL	Silty clay to 11.5 ft, some visible staining/may be organics at 11.5 ft, slight odor,		
					SW	Sand at 11.75 ft. wet, medium grained, moderate sorting, brown to grayish brown		
13						Total Depth = 12 ft		
14								
15								
16								
17								
18								
19								
20								

NOTES:

Blow count not recorded for Geoprobe Rig
DP= direct Push, 4 foot acetate sleeve
Boring abandoned with bentonite chips
NA = not applicable

ppm = parts per million
TBD = to be determined
ft = feet
bgs = below ground surface

Checked by Jeremy Hurshman Date: 11/28/11

AECOM	*Client:* Encana Oil & Gas (USA) Inc.		***BORING ID:*** SB-7-11(WE Lloyd #1)
	Project Number: 60221849		
	Site Location: Pavillion, WY		
	Coordinates: TBD	*Elevation:* TBD	*Sheet:* 1 of 1
	Drilling Method: Geoprobe Direct Push		*Monitoring Well Installed:* No
	Sample Type(s): Soil	*Boring Diameter:* 2-inch	*Screened Interval:* NA
Drilling Contractor: Inberg-Miller Engineers	*Logged By:* J.Hurshman	*Date/Time Started:* 8/30/11 12:30	*Depth of Boring:* 12 ft
	Ground Elevation: TBD	*Date/Time Finished:* 8/30/11 12:45	*Water Level:* 11 ft

Depth (ft)	Sample Type	Blows per 6"	Recovery (%)	Headspace (ppm)	U.S.C.S	MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (If Known)	Lab Sample ID	Lab Sample Depth (ft)
1	DP		70	NA		Light tan, silt, Dry, mixed with some clay and little fine sand, no odor, no staining, moderately sorted	SB-7-11(PF-34-3)(0-1) - 12:47, SAR	0-1
2				1.4				
3								
4								
5	DP		25	NA		Continued as above		
6								
7						Increasing clay content clay content with depth, stiff, dry, moist in areas, no odor, no staining		
8				2.8				
9	DP		50	NA			SB-7-11(PF-34-3)(11 -12) - 12:45, TPH	11-12
10						Continued silt to 11 ft		
11				4.7	ML			
12					SC	Clayey sand and silt, minor staining at 11.5 ft, wet, poorly sorted, slight tomoderate plasticity, brown to gray in spots		
13						Total Depth = 12 ft		
14								
15								
16								
17								
18								
19								
20								

NOTES:

Blow count not recorded for Geoprobe Rig
DP= direct Push, 4 foot acetate sleeve
Boring abandoned with bentonite chips
NA – not applicable

ppm = parts per million
TBD = to be determined
ft = feet
bgs – below ground surface

Checked by: Jeremy Hurshman Date: 11/28/11

AECOM	*Client:* Encana Oil & Gas (USA) Inc.	***BORING ID:***
	Project Number: 60221849	SB-8-11(WE Lloyd #1)
	Site Location: Pavillion, WY	
	Coordinates: TBD *Elevation:* TBD	*Sheet:* 1 of 1
	Drilling Method: Geoprobe Direct Push	*Monitoring Well Installed:* No
	Sample Type(s): Soil *Boring Diameter:* 2-inch	*Screened Interval:* NA
Drilling Contractor: Inberg-Miller Engineers	*Logged By:* J.Hurshman *Date/Time Started:* 8/30/11 12:50	*Depth of Boring:* 12 ft
	Ground Elevation: TBD *Date/Time Finished:* 8/30/11 17:05	*Water Level:* 11.5 ft

Depth (ft)	Sample Type	Blows per 6"	Recovery (%)	Headspace (ppm)	U.S.C.S	**MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (If Known)**	Lab Sample ID	Lab Sample Depth (ft)
1	DP		75	NA	ML-CL	Silt and, silty clay. DRY near top, moist near 4 ft, no odor. no staining, poorly to moderate sorting, brown.	SB-8-11(PF-34-3)(0-1) - 13:05 SAR	0-1
2				2.6				
3								
4								
5	DP		25	NA		Continued as above. No odor no staining.		
6								
7				2.4				
8								
9	DP		25	NA		Continued as above. Increasing clay, moist to wet, brown, little staining. Sand at 11.5 ft, wet, brown to gray, no odor.	SB-8-11(PF-34-3)(11 -12) - 13:00 TPH	
10								
11				5.7				11-12
12								
13						Total Depth = 12 ft.		
14								
15								
16								
17								
18								
19								
20								

NOTES:

Blow count not recorded for Geoprobe Rig
DP= direct Push. 4 foot acetate sleeve
Boring abandoned with bentonite chips
NA = not applicable

ppm = parts per million
TBD = to be determined
ft = feet
bgs = below ground surface

Checked by: Jeremy Hurshman Date: 11/28/11

Appendix B

Groundwater Sampling Forms

DRAFT

EPAPAV0045106

AECOM

Well/Piezo ID:
SB-4-11 (WE Lloyd #1)

Ground Water Sample Collection Record

Client: Encana
Project No: 60221849
Site Location: WE Lloyd #1
Weather Conds: Sunny 78°F Collector(s) D. Fairchild

Date: 09-08-11
Time: Start 08:24 am
Stop 18:40 pm

WATER LEVEL DATA: (measured from Top of Casing) Well ☒ Piezometer ☐

a. Total Well Length 15.20 c. Casing Material Sch 40 PVC e. Length of Water Column 4.4 (a-b)

b. Water Table Depth 10.80 d. Casing Diameter 1" f. Calculated Well Volume (gallons) 0.19
1" - 0.043 2" - 0.171 4" - 0.652

WELL PURGING DATA

a. Purge Method (peristaltic, bailer, pump, etc.) Peristaltic pump

b. Acceptance Criteria defined (from workplan)
- Minimum Required Purge Volume (@ 1 well volumes) 0.19
- Maximum Allowable Turbidity -- NTUs
- Stabilization of parameters 10 %

c. Field Testing Equipment Used:

Make	Model	Serial Number
YSI	556	09B100196

d. Field Testing Equipment Calibration Documentation Found in Field Notebook # _____ Page #_____

Time (hr:min)	Volume Removed (gal)	Temp (°C)	pH	Spec. Cond (mS/cm)	DO (%)	DO (mg/l)	ORP (mV)	Color	Odor	Other
18:32	0.2	13.82	7.3	5.496	39.1	3.94	11.8	Lite Brown	--	--

e. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	☐	☒	☐
Has required turbidity been reached	☐	☐	☒
Have parameters stabilized	☐	☒	☐

If no or N/A - Explain below.
Well purged dry

SAMPLE COLLECTION: Method: Peristaltic pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis	Time	Date
SB-4-11 (WE Lloyd #1)	1L Amber	2	None	SVOC	18:40	9/8/2011
SB-4-11 (WE Lloyd #1)	40 mL VOA	2	HCL	BTEX	18:40	9/8/2011
SB-4-11 (WE Lloyd #1)	40 mL VOA	2	HCL	TPH	18:40	9/8/2011
SB-4-11 (WE Lloyd #1)	40 mL VOA	2	HCL	DRO C10-32	18:40	9/8/2011

Comments

Signature: Dawn Fairchild Date: September 8, 2011

AECOM

Well/Piezo ID: MW-1
SB-5-11 (WE Lloyd #1)

Ground Water Sample Collection Record

Client: Encana
Project No: 60221849
Site Location: WE Lloyd #1
Weather Conds: Sunny 78°F Collector(s) D. Fairchild

Date: 09-08-11
Time: Start 17:35 pm
Stop 18:00 pm

WATER LEVEL DATA: (measured from Top of Casing) Well ☒ Piezometer ☐

a. Total Well Length 14.22 c. Casing Material Sch 40 PVC e. Length of Water Column 43.3 (a-b)

b. Water Table Depth 10.92 d. Casing Diameter 1" f. Calculated Well Volume (gallons) 0.14
1" - 0.043 2" - 0.171 4" - 0.652

WELL PURGING DATA

a. Purge Method (peristaltic, bailer, pump, etc.) Peristaltic pump

b. Acceptance Criteria defined (from workplan)
- Minimum Required Purge Volume (@ 1 well volumes) 0.14
- Maximum Allowable Turbidity -- NTUs
- Stabilization of parameters 10 %

c. Field Testing Equipment Used:

Make	Model	Serial Number
YSI	556	09B100196

d. Field Testing Equipment Calibration Documentation Found in Field Notebook # _____ Page #_____

Time (hr:min)	Volume Removed (gal)	Temp (°C)	pH	Spec. Cond (mS/cm)	DO (%)	DO (mg/l)	ORP (mV)	Color	Odor	Other
17:40	0.25	12.22	7.06	4.394	37.2	3.92	5.1	Lite Brown	--	--
17:45	0.40	12.95	7.1	4.351	39.3	4.08	4.4	Lite Brown	--	--

e. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	☐	☒	☐
Has required turbidity been reached	☐	☐	☒
Have parameters stabilized	☐	☒	☐

If no or N/A - Explain below.
Well purged dry

SAMPLE COLLECTION: Method: Peristaltic pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis	Time	Date
SB-5-11 (WE Lloyd #1)	1L Amber	2	None	SVOC	18:00	9/8/2011
SB-5-11 (WE Lloyd #1)	40 mL VOA	2	HCL	BTEX	18:00	9/8/2011
SB-5-11 (WE Lloyd #1)	40 mL VOA	2	HCL	TPH	18:00	9/8/2011
SB-5-11 (WE Lloyd #1)	40 mL VOA	2	HCL	DRO C10-32	18:00	9/8/2011

Comments

Signature: Dawn Fairchild Date: September 8, 2011

Appendix C

Laboratory Analytical Reports

DRAFT

EPAPAV0045109

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Mr. Dustin Krajewski
AECOM Inc. - Fort Collins, CO
1601 Prospect Parkway
Fort Collins, CO 80525

Report Summary

Monday September 12, 2011

Report Number: L533854
Samples Received: 09/01/11
Client Project:

Description: EnCana Pavillion

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By: Leslie Newton

Leslie Newton , ESC Representative

Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT - PH-0197, FL - E87487
GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016, NC - ENV375/DW21704, ND - R-140
NJ - TN002,NJ NELAP - TN002, SC - 84004, TN - 2006, VA - 00109, WV - 233
AZ - 0612, MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032008A,
TX - T104704245, OK-9915

Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.
Note: The use of the preparatory EPA Method 3511 is not approved or endorsed by the CA ELAP.

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REPORT OF ANALYSIS

Mr. Dustin Krajewski
AECOM Inc. - Fort Collins, CO
1601 Prospect Parkway
Fort Collins, CO 80525

September 12, 2011

ESC Sample # : L533854-01

Site ID : PAVILLION W7

Project # :

Date Received : September 01, 2011
Description : EnCana Pavillion

Sample ID : SB-1-11 PF-34-3 0-1FT

Collected By : Jeremy Hurshman
Collection Date : 08/30/11 13:18

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Sodium Adsorption Ratio	12.			Calc.	09/05/11	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
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REPORT OF ANALYSIS

Mr. Dustin Krajewski
AECOM Inc. - Fort Collins, CO
1601 Prospect Parkway
Fort Collins, CO 80525

September 12, 2011

ESC Sample # : L533854-02

Date Received : September 01, 2011
Description : Encana Pavillion W7

Site ID : PAVILLION W7

Sample ID : SB-1-1 PF-34-3 11-12FT

Project # :

Collected By : Jeremy Hurshman
Collection Date : 08/30/11 13:15

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	GRO	09/01/11	5
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	93.5		% Rec.	GRO	09/01/11	5
DRO Wyoming C10-C32						
TPH (GC/FID) High Fraction	40.	4.0	mg/kg	8015	09/03/11	1
Surrogate recovery(%)						
o-Terphenyl	52.2		% Rec.	8015	09/03/11	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
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REPORT OF ANALYSIS

Mr. Dustin Krajewski
AECOM Inc. - Fort Collins, CO
1601 Prospect Parkway
Fort Collins, CO 80525

September 12, 2011

ESC Sample # : L533854-03

Date Received : September 01, 2011
Description : Encana Pavillion W7

Site ID : PAVILLION W7

Sample ID : SB-2-11 PF-34-3 0-1FT

Project # :

Collected By : Jeremy Hurshman
Collection Date : 08/30/11 09:58

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Sodium Adsorption Ratio	2.6			Calc.	09/05/11	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
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REPORT OF ANALYSIS

Mr. Dustin Krajewski
AECOM Inc. - Fort Collins, CO
1601 Prospect Parkway
Fort Collins, CO 80525

September 12, 2011

ESC Sample # : L533854-04

Date Received : September 01, 2011
Description : Encana Pavillion W7

Site ID : PAVILLION W7

Sample ID : DUP-1 PF-34-3 0-1FT

Project # :

Collected By : Jeremy Hurshman
Collection Date : 08/30/11 00:00

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Sodium Adsorption Ratio	2.1			Calc.	09/05/11	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
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REPORT OF ANALYSIS

Mr. Dustin Krajewski
AECOM Inc. - Fort Collins, CO
1601 Prospect Parkway
Fort Collins, CO 80525

September 12, 2011

ESC Sample # : L533854-05

Date Received : September 01, 2011
Description : Encana Pavillion W7

Site ID : PAVILLION W7

Sample ID : SB-2-11 PF-34-3 11-12FT

Project # :

Collected By : Jeremy Hurshman
Collection Date : 08/30/11 09:55

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	GRO	09/01/11	5
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	92.7		% Rec.	GRO	09/01/11	5
DRO Wyoming C10-C32						
TPH (GC/FID) High Fraction	7.4	4.0	mg/kg	8015	09/03/11	1
Surrogate recovery(%)						
o-Terphenyl	57.0		% Rec.	8015	09/03/11	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
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REPORT OF ANALYSIS

Mr. Dustin Krajewski
AECOM Inc. - Fort Collins, CO
1601 Prospect Parkway
Fort Collins, CO 80525

September 12, 2011

ESC Sample # : L533854-06

Date Received : September 01, 2011
Description : Encana Pavillion W7

Site ID : PAVILLION W7

Sample ID : SB-3-11 PF-34-3 0-1FT

Project # :

Collected By : Jeremy Hurshman
Collection Date : 08/30/11 10:25

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Sodium Adsorption Ratio	2.0			Calc.	09/05/11	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
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REPORT OF ANALYSIS

Mr. Dustin Krajewski
AECOM Inc. - Fort Collins, CO
1601 Prospect Parkway
Fort Collins, CO 80525

September 12, 2011

ESC Sample # : L533854-07

Date Received : September 01, 2011
Description : Encana Pavillion W7

Site ID : PAVILLION W7

Sample ID : SB-3-11 PF-34-3 10-12FT

Project # :

Collected By : Jeremy Hurshman
Collection Date : 08/30/11 10:22

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	GRO	09/02/11	5
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	91.8		% Rec.	GRO	09/02/11	5
DRO Wyoming C10-C32						
TPH (GC/FID) High Fraction	57.	4.0	mg/kg	8015	09/03/11	1
Surrogate recovery(%)						
o-Terphenyl	71.7		% Rec.	8015	09/03/11	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
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REPORT OF ANALYSIS

Mr. Dustin Krajewski
AECOM Inc. - Fort Collins, CO
1601 Prospect Parkway
Fort Collins, CO 80525

September 12, 2011

ESC Sample # : L533854-08

Date Received : September 01, 2011
Description : Encana Pavillion W7

Site ID : PAVILLION W7

Sample ID : SB-4-11 PF-34-3 0-1FT

Project # :

Collected By : Jeremy Hurshman
Collection Date : 08/30/11 10:55

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Sodium Adsorption Ratio	1.2			Calc.	09/05/11	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
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REPORT OF ANALYSIS

Mr. Dustin Krajewski
AECOM Inc. - Fort Collins, CO
1601 Prospect Parkway
Fort Collins, CO 80525

September 12, 2011

ESC Sample # : L533854-09

Date Received : September 01, 2011
Description : Encana Pavillion W7

Site ID : PAVILLION W7

Sample ID : SB-4-11 PF-34-3 11-12FT

Project # :

Collected By : Jeremy Hurshman
Collection Date : 08/30/11 10:45

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	GRO	09/06/11	5
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	96.1		% Rec.	GRO	09/06/11	5
DRO Wyoming C10-C32						
TPH (GC/FID) High Fraction	260	4.0	mg/kg	8015	09/03/11	1
Surrogate recovery(%)						
o-Terphenyl	76.6		% Rec.	8015	09/03/11	1

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Det. Limit - Practical Quantitation Limit(PQL)
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REPORT OF ANALYSIS

Mr. Dustin Krajewski
AECOM Inc. - Fort Collins, CO
1601 Prospect Parkway
Fort Collins, CO 80525

September 12, 2011

ESC Sample # : L533854-10

Date Received : September 01, 2011
Description : Encana Pavillion W7

Site ID : PAVILLION W7

Sample ID : DUP-2-11 PF-34-3 11-12FT

Project # :

Collected By : Jeremy Hurshman
Collection Date : 08/30/11 00:00

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	GRO	09/02/11	5
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	93.0		% Rec.	GRO	09/02/11	5
DRO Wyoming C10-C32						
TPH (GC/FID) High Fraction	450	20.	mg/kg	8015	09/07/11	5
Surrogate recovery(%)						
o-Terphenyl	70.3		% Rec.	8015	09/07/11	5

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
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REPORT OF ANALYSIS

Mr. Dustin Krajewski
AECOM Inc. - Fort Collins, CO
1601 Prospect Parkway
Fort Collins, CO 80525

September 12, 2011

ESC Sample # : L533854-11

Site ID : PAVILLION W7

Project # :

Date Received : September 01, 2011
Description : Encana Pavillion W7

Sample ID : SB-5-11 PF-34-3 0-1FT

Collected By : Jeremy Hurshman
Collection Date : 08/30/11 11:30

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Sodium Adsorption Ratio	1.3			Calc.	09/05/11	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
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REPORT OF ANALYSIS

Mr. Dustin Krajewski
AECOM Inc. - Fort Collins, CO
1601 Prospect Parkway
Fort Collins, CO 80525

September 12, 2011

ESC Sample # : L533854-12

Date Received : September 01, 2011
Description : Encana Pavillion W7

Site ID : PAVILLION W7

Sample ID : SB-5-11 PF-34-3 11-12FT

Project # :

Collected By : Jeremy Hurshman
Collection Date : 08/30/11 11:25

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	GRO	09/02/11	5
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	87.4		% Rec.	GRO	09/02/11	5
DRO Wyoming C10-C32						
TPH (GC/FID) High Fraction	390	4.0	mg/kg	8015	09/03/11	1
Surrogate recovery(%)						
o-Terphenyl	92.7		% Rec.	8015	09/03/11	1
Base/Neutral Extractables						
Acenaphthene	0.086	0.033	mg/kg	8270C	09/08/11	1
Acenaphthylene	BDL	0.033	mg/kg	8270C	09/08/11	1
Anthracene	0.049	0.033	mg/kg	8270C	09/08/11	1
Benzidine	BDL	0.33	mg/kg	8270C	09/08/11	1
Benzo(a)anthracene	BDL	0.033	mg/kg	8270C	09/08/11	1
Benzo(b)fluoranthene	BDL	0.033	mg/kg	8270C	09/08/11	1
Benzo(k)fluoranthene	BDL	0.033	mg/kg	8270C	09/08/11	1
Benzo(g,h,i)perylene	BDL	0.033	mg/kg	8270C	09/08/11	1
Benzo(a)pyrene	BDL	0.033	mg/kg	8270C	09/08/11	1
Bis(2-chlorethoxy)methane	BDL	0.33	mg/kg	8270C	09/08/11	1
Bis(2-chloroethyl)ether	BDL	0.33	mg/kg	8270C	09/08/11	1
Bis(2-chloroisopropyl)ether	BDL	0.33	mg/kg	8270C	09/08/11	1
4-Bromophenyl-phenylether	BDL	0.33	mg/kg	8270C	09/08/11	1
2-Chloronaphthalene	BDL	0.033	mg/kg	8270C	09/08/11	1
4-Chlorophenyl-phenylether	BDL	0.33	mg/kg	8270C	09/08/11	1
Chrysene	BDL	0.033	mg/kg	8270C	09/08/11	1
Dibenz(a,h)anthracene	BDL	0.033	mg/kg	8270C	09/08/11	1
3,3-Dichlorobenzidine	BDL	0.33	mg/kg	8270C	09/08/11	1
2,4-Dinitrotoluene	BDL	0.33	mg/kg	8270C	09/08/11	1
2,6-Dinitrotoluene	BDL	0.33	mg/kg	8270C	09/08/11	1
Fluoranthene	BDL	0.033	mg/kg	8270C	09/08/11	1
Fluorene	0.13	0.033	mg/kg	8270C	09/08/11	1
Hexachlorobenzene	BDL	0.33	mg/kg	8270C	09/08/11	1
Hexachloro-1,3-butadiene	BDL	0.33	mg/kg	8270C	09/08/11	1
Hexachlorocyclopentadiene	BDL	0.33	mg/kg	8270C	09/08/11	1
Hexachloroethane	BDL	0.33	mg/kg	8270C	09/08/11	1
Indeno(1,2,3-cd)pyrene	BDL	0.033	mg/kg	8270C	09/08/11	1
Isophorone	BDL	0.33	mg/kg	8270C	09/08/11	1
Naphthalene	0.22	0.033	mg/kg	8270C	09/08/11	1
Nitrobenzene	BDL	0.33	mg/kg	8270C	09/08/11	1
n-Nitrosodimethylamine	BDL	0.33	mg/kg	8270C	09/08/11	1
n-Nitrosodiphenylamine	BDL	0.33	mg/kg	8270C	09/08/11	1
n-Nitrosodi-n-propylamine	BDL	0.33	mg/kg	8270C	09/08/11	1
Phenanthrene	0.17	0.033	mg/kg	8270C	09/08/11	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

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REPORT OF ANALYSIS

Mr. Dustin Krajewski
AECOM Inc. - Fort Collins, CO
1601 Prospect Parkway
Fort Collins, CO 80525

September 12, 2011

ESC Sample # : L533854-12

Date Received : September 01, 2011
Description : Encana Pavillion W7

Site ID : PAVILLION W7

Sample ID : SB-5-11 PF-34-3 11-12FT

Project # :

Collected By : Jeremy Hurshman
Collection Date : 08/30/11 11:25

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzylbutyl phthalate	BDL	0.33	mg/kg	8270C	09/08/11	1
Bis(2-ethylhexyl)phthalate	BDL	0.33	mg/kg	8270C	09/08/11	1
Di-n-butyl phthalate	BDL	0.33	mg/kg	8270C	09/08/11	1
Diethyl phthalate	BDL	0.33	mg/kg	8270C	09/08/11	1
Dimethyl phthalate	BDL	0.33	mg/kg	8270C	09/08/11	1
Di-n-octyl phthalate	BDL	0.33	mg/kg	8270C	09/08/11	1
Pyrene	BDL	0.033	mg/kg	8270C	09/08/11	1
1,2,4-Trichlorobenzene	BDL	0.33	mg/kg	8270C	09/08/11	1
Acid Extractables						
4-Chloro-3-methylphenol	BDL	0.33	mg/kg	8270C	09/08/11	1
2-Chlorophenol	BDL	0.33	mg/kg	8270C	09/08/11	1
2,4-Dichlorophenol	BDL	0.33	mg/kg	8270C	09/08/11	1
2,4-Dimethylphenol	BDL	0.33	mg/kg	8270C	09/08/11	1
4,6-Dinitro-2-methylphenol	BDL	0.33	mg/kg	8270C	09/08/11	1
2,4-Dinitrophenol	BDL	0.33	mg/kg	8270C	09/08/11	1
2-Nitrophenol	BDL	0.33	mg/kg	8270C	09/08/11	1
4-Nitrophenol	BDL	0.33	mg/kg	8270C	09/08/11	1
Pentachlorophenol	BDL	0.33	mg/kg	8270C	09/08/11	1
Phenol	BDL	0.33	mg/kg	8270C	09/08/11	1
2,4,6-Trichlorophenol	BDL	0.33	mg/kg	8270C	09/08/11	1
Surrogate Recovery						
2-Fluorophenol	51.3		% Rec.	8270C	09/08/11	1
Phenol-d5	70.0		% Rec.	8270C	09/08/11	1
Nitrobenzene-d5	81.5		% Rec.	8270C	09/08/11	1
2-Fluorobiphenyl	58.3		% Rec.	8270C	09/08/11	1
2,4,6-Tribromophenol	72.1		% Rec.	8270C	09/08/11	1
p-Terphenyl-d14	63.4		% Rec.	8270C	09/08/11	1

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Det. Limit - Practical Quantitation Limit(PQL)
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REPORT OF ANALYSIS

Mr. Dustin Krajewski
AECOM Inc. - Fort Collins, CO
1601 Prospect Parkway
Fort Collins, CO 80525

September 12, 2011

ESC Sample # : L533854-13

Site ID : PAVILLION W7

Project # :

Date Received : September 01, 2011
Description : Encana Pavillion W7

Sample ID : SB-6-11 PF-34-3 0-1FT

Collected By : Jeremy Hurshman
Collection Date : 08/30/11 12:05

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Sodium Adsorption Ratio	0.99			Calc.	09/05/11	1

BDL - Below Detection Limit
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Fort Collins, CO 80525

September 12, 2011

ESC Sample # : L533854-14

Date Received : September 01, 2011
Description : Encana Pavillion W7

Site ID : PAVILLION W7

Sample ID : SB-6-11 PF-34-3 11.5-12FT

Project # :

Collected By : Jeremy Hurshman
Collection Date : 08/30/11 12:30

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	GRO	09/02/11	5
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	93.6		% Rec.	GRO	09/02/11	5
DRO Wyoming C10-C32						
TPH (GC/FID) High Fraction	190	4.0	mg/kg	8015	09/03/11	1
Surrogate recovery(%)						
o-Terphenyl	89.5		% Rec.	8015	09/03/11	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
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REPORT OF ANALYSIS

Mr. Dustin Krajewski
AECOM Inc. - Fort Collins, CO
1601 Prospect Parkway
Fort Collins, CO 80525

September 12, 2011

ESC Sample # : L533854-15

Site ID : PAVILLION W7

Project # :

Date Received : September 01, 2011
Description : Encana Pavillion W7

Sample ID : SB-7-11 PF-34-3 0-1FT

Collected By : Jeremy Hurshman
Collection Date : 08/30/11 12:47

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Sodium Adsorption Ratio	1.0			Calc.	09/05/11	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
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REPORT OF ANALYSIS

Mr. Dustin Krajewski
AECOM Inc. - Fort Collins, CO
1601 Prospect Parkway
Fort Collins, CO 80525

September 12, 2011

ESC Sample # : L533854-16

Date Received : September 01, 2011
Description : Encana Pavillion W7

Site ID : PAVILLION W7

Sample ID : SB-7-11 PF-34-3 11-12FT

Project # :

Collected By : Jeremy Hurshman
Collection Date : 08/30/11 12:45

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	GRO	09/02/11	5
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	93.7		% Rec.	GRO	09/02/11	5
DRO Wyoming C10-C32						
TPH (GC/FID) High Fraction	BDL	4.0	mg/kg	8015	09/03/11	1
Surrogate recovery(%)						
o-Terphenyl	64.4		% Rec.	8015	09/03/11	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
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REPORT OF ANALYSIS

Mr. Dustin Krajewski
AECOM Inc. - Fort Collins, CO
1601 Prospect Parkway
Fort Collins, CO 80525

September 12, 2011

ESC Sample # : L533854-17

Site ID : PAVILLION W7

Project # :

Date Received : September 01, 2011
Description : Encana Pavillion W7

Sample ID : SB-8-11 PF-34-3 0-1FT

Collected By : Jeremy Hurshman
Collection Date : 08/30/11 13:05

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Sodium Adsorption Ratio	1.0			Calc.	09/05/11	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
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REPORT OF ANALYSIS

Mr. Dustin Krajewski
AECOM Inc. - Fort Collins, CO
1601 Prospect Parkway
Fort Collins, CO 80525

September 12, 2011

ESC Sample # : L533854-18

Date Received : September 01, 2011
Description : Encana Pavillion W7

Site ID : PAVILLION W7

Sample ID : SB-8-11 PF-34-3 11-12FT

Project # :

Collected By : Jeremy Hurshman
Collection Date : 08/30/11 13:00

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	GRO	09/02/11	5
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	94.7		% Rec.	GRO	09/02/11	5
DRO Wyoming C10-C32						
TPH (GC/FID) High Fraction	7.1	4.0	mg/kg	8015	09/03/11	1
Surrogate recovery(%)						
o-Terphenyl	69.5		% Rec.	8015	09/03/11	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
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REPORT OF ANALYSIS

Mr. Dustin Krajewski
AECOM Inc. - Fort Collins, CO
1601 Prospect Parkway
Fort Collins, CO 80525

September 12, 2011

ESC Sample # : L533854-19

Date Received : September 01, 2011
Description : Encana Pavillion W7

Site ID : PAVILLION W7

Sample ID : SB-1-11 TP-31X-3 8-10FT

Project # :

Collected By : Jeremy Hurshman
Collection Date : 08/30/11 14:40

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
TPH (GC/FID) Low Fraction	34.	25.	mg/kg	GRO	09/02/11	250
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	92.4		% Rec.	GRO	09/02/11	250
DRO Wyoming C10-C32						
TPH (GC/FID) High Fraction	1200	40.	mg/kg	8015	09/07/11	10
Surrogate recovery(%)						
o-Terphenyl	56.3		% Rec.	8015	09/07/11	10

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
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REPORT OF ANALYSIS

Mr. Dustin Krajewski
AECOM Inc. - Fort Collins, CO
1601 Prospect Parkway
Fort Collins, CO 80525

September 12, 2011

ESC Sample # : L533854-20

Date Received : September 01, 2011
Description : Encana Pavillion W7

Site ID : PAVILLION W7

Sample ID : SB-1-11 TP-31X-3 10-12FT

Project # :

Collected By : Jeremy Hurshman
Collection Date : 08/30/11 14:45

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
TPH (GC/FID) Low Fraction	66.	5.0	mg/kg	GRO	09/07/11	50
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	96.0		% Rec.	GRO	09/07/11	50
Benzene	BDL	0.050	mg/kg	8260B	09/06/11	50
Toluene	BDL	0.25	mg/kg	8260B	09/06/11	50
Ethylbenzene	BDL	0.050	mg/kg	8260B	09/06/11	50
Total Xylenes	BDL	0.15	mg/kg	8260B	09/06/11	50
Surrogate Recovery						
Toluene-d8	104.		% Rec.	8260B	09/06/11	50
Dibromofluoromethane	94.3		% Rec.	8260B	09/06/11	50
a,a,a-Trifluorotoluene	108.		% Rec.	8260B	09/06/11	50
4-Bromofluorobenzene	112.		% Rec.	8260B	09/06/11	50
DRO Wyoming C10-C32						
TPH (GC/FID) High Fraction	290	4.0	mg/kg	8015	09/05/11	1
Surrogate recovery(%)						
o-Terphenyl	130.		% Rec.	8015	09/05/11	1
Base/Neutral Extractables						
Acenaphthene	0.055	0.033	mg/kg	8270C	09/04/11	1
Acenaphthylene	BDL	0.033	mg/kg	8270C	09/04/11	1
Anthracene	0.039	0.033	mg/kg	8270C	09/04/11	1
Benzidine	BDL	0.33	mg/kg	8270C	09/04/11	1
Benzo(a)anthracene	BDL	0.033	mg/kg	8270C	09/04/11	1
Benzo(b)fluoranthene	BDL	0.033	mg/kg	8270C	09/04/11	1
Benzo(k)fluoranthene	BDL	0.033	mg/kg	8270C	09/04/11	1
Benzo(g,h,i)perylene	BDL	0.033	mg/kg	8270C	09/04/11	1
Benzo(a)pyrene	BDL	0.033	mg/kg	8270C	09/04/11	1
Bis(2-chlorethoxy)methane	BDL	0.33	mg/kg	8270C	09/04/11	1
Bis(2-chloroethyl)ether	BDL	0.33	mg/kg	8270C	09/04/11	1
Bis(2-chloroisopropyl)ether	BDL	0.33	mg/kg	8270C	09/04/11	1
4-Bromophenyl-phenylether	BDL	0.33	mg/kg	8270C	09/04/11	1
2-Chloronaphthalene	BDL	0.033	mg/kg	8270C	09/04/11	1
4-Chlorophenyl-phenylether	BDL	0.33	mg/kg	8270C	09/04/11	1
Chrysene	BDL	0.033	mg/kg	8270C	09/04/11	1
Dibenz(a,h)anthracene	BDL	0.033	mg/kg	8270C	09/04/11	1
3,3-Dichlorobenzidine	BDL	0.33	mg/kg	8270C	09/04/11	1
2,4-Dinitrotoluene	BDL	0.33	mg/kg	8270C	09/04/11	1
2,6-Dinitrotoluene	BDL	0.33	mg/kg	8270C	09/04/11	1
Fluoranthene	BDL	0.033	mg/kg	8270C	09/04/11	1
Fluorene	0.095	0.033	mg/kg	8270C	09/04/11	1
Hexachlorobenzene	BDL	0.33	mg/kg	8270C	09/04/11	1
Hexachloro-1,3-butadiene	BDL	0.33	mg/kg	8270C	09/04/11	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L533854-20 (V8260BTEX) - Non-target compounds too high to run at a lower dilution.

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REPORT OF ANALYSIS

Mr. Dustin Krajewski
AECOM Inc. - Fort Collins, CO
1601 Prospect Parkway
Fort Collins, CO 80525

September 12, 2011

ESC Sample # : L533854-20

Date Received : September 01, 2011
Description : Encana Pavillion W7

Site ID : PAVILLION W7

Sample ID : SB-1-11 TP-31X-3 10-12FT

Project # :

Collected By : Jeremy Hurshman
Collection Date : 08/30/11 14:45

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Hexachlorocyclopentadiene	BDL	0.33	mg/kg	8270C	09/04/11	1
Hexachloroethane	BDL	0.33	mg/kg	8270C	09/04/11	1
Indeno(1,2,3-cd)pyrene	BDL	0.033	mg/kg	8270C	09/04/11	1
Isophorone	BDL	0.33	mg/kg	8270C	09/04/11	1
Naphthalene	0.34	0.033	mg/kg	8270C	09/04/11	1
Nitrobenzene	BDL	0.33	mg/kg	8270C	09/04/11	1
n-Nitrosodimethylamine	BDL	0.33	mg/kg	8270C	09/04/11	1
n-Nitrosodiphenylamine	BDL	0.33	mg/kg	8270C	09/04/11	1
n-Nitrosodi-n-propylamine	BDL	0.33	mg/kg	8270C	09/04/11	1
Phenanthrene	0.16	0.033	mg/kg	8270C	09/04/11	1
Benzylbutyl phthalate	BDL	0.33	mg/kg	8270C	09/04/11	1
Bis(2-ethylhexyl)phthalate	BDL	0.33	mg/kg	8270C	09/04/11	1
Di-n-butyl phthalate	BDL	0.33	mg/kg	8270C	09/04/11	1
Diethyl phthalate	BDL	0.33	mg/kg	8270C	09/04/11	1
Dimethyl phthalate	BDL	0.33	mg/kg	8270C	09/04/11	1
Di-n-octyl phthalate	BDL	0.33	mg/kg	8270C	09/04/11	1
Pyrene	BDL	0.033	mg/kg	8270C	09/04/11	1
1,2,4-Trichlorobenzene	BDL	0.33	mg/kg	8270C	09/04/11	1
Acid Extractables						
4-Chloro-3-methylphenol	BDL	0.33	mg/kg	8270C	09/04/11	1
2-Chlorophenol	BDL	0.33	mg/kg	8270C	09/04/11	1
2,4-Dichlorophenol	BDL	0.33	mg/kg	8270C	09/04/11	1
2,4-Dimethylphenol	BDL	0.33	mg/kg	8270C	09/04/11	1
4,6-Dinitro-2-methylphenol	BDL	0.33	mg/kg	8270C	09/04/11	1
2,4-Dinitrophenol	BDL	0.33	mg/kg	8270C	09/04/11	1
2-Nitrophenol	BDL	0.33	mg/kg	8270C	09/04/11	1
4-Nitrophenol	BDL	0.33	mg/kg	8270C	09/04/11	1
Pentachlorophenol	BDL	0.33	mg/kg	8270C	09/04/11	1
Phenol	BDL	0.33	mg/kg	8270C	09/04/11	1
2,4,6-Trichlorophenol	BDL	0.33	mg/kg	8270C	09/04/11	1
Surrogate Recovery						
2-Fluorophenol	75.7		% Rec.	8270C	09/04/11	1
Phenol-d5	108.		% Rec.	8270C	09/04/11	1
Nitrobenzene-d5	97.8		% Rec.	8270C	09/04/11	1
2-Fluorobiphenyl	86.1		% Rec.	8270C	09/04/11	1
2,4,6-Tribromophenol	135.		% Rec.	8270C	09/04/11	1
p-Terphenyl-d14	104.		% Rec.	8270C	09/04/11	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
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L533854-20 (V8260BTEX) - Non-target compounds too high to run at a lower dilution.

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REPORT OF ANALYSIS

Mr. Dustin Krajewski
AECOM Inc. - Fort Collins, CO
1601 Prospect Parkway
Fort Collins, CO 80525

September 12, 2011

ESC Sample # : L533854-21

Date Received : September 01, 2011
Description : Encana Pavillion W7

Site ID : PAVILLION W7

Sample ID : SB-1-11 TP-31X-3 12-13FT

Project # :

Collected By : Jeremy Hurshman
Collection Date : 08/30/11 14:50

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	GRO	09/02/11	5
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	92.5		% Rec.	GRO	09/02/11	5
DRO Wyoming C10-C32						
TPH (GC/FID) High Fraction	BDL	4.0	mg/kg	8015	09/05/11	1
Surrogate recovery(%)						
o-Terphenyl	78.3		% Rec.	8015	09/05/11	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
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REPORT OF ANALYSIS

Mr. Dustin Krajewski
AECOM Inc. - Fort Collins, CO
1601 Prospect Parkway
Fort Collins, CO 80525

September 12, 2011

ESC Sample # : L533854-22

Site ID : PAVILLION W7

Project # :

Date Received : September 01, 2011
Description : Encana Pavillion W7

Sample ID : SB-2-11 TP-31X-3 15-16FT

Collected By : Jeremy Hurshman
Collection Date : 08/30/11 17:40

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	GRO	09/02/11	5
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	93.1		% Rec.	GRO	09/02/11	5
DRO Wyoming C10-C32						
TPH (GC/FID) High Fraction	BDL	4.0	mg/kg	8015	09/05/11	1
Surrogate recovery(%)						
o-Terphenyl	87.3		% Rec.	8015	09/05/11	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
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REPORT OF ANALYSIS

Mr. Dustin Krajewski
AECOM Inc. - Fort Collins, CO
1601 Prospect Parkway
Fort Collins, CO 80525

September 12, 2011

ESC Sample # : L533854-23

Date Received : September 01, 2011
Description : Encana Pavillion W7

Site ID : PAVILLION W7

Sample ID : SB-2-11 TP-31X-3 12-14FT

Project # :

Collected By : Jeremy Hurshman
Collection Date : 08/30/11 15:00

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	GRO	09/07/11	5
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	94.9		% Rec.	GRO	09/07/11	5
Benzene	BDL	0.0050	mg/kg	8260B	09/06/11	5
Toluene	BDL	0.025	mg/kg	8260B	09/06/11	5
Ethylbenzene	BDL	0.0050	mg/kg	8260B	09/06/11	5
Total Xylenes	BDL	0.015	mg/kg	8260B	09/06/11	5
Surrogate Recovery						
Toluene-d8	106.		% Rec.	8260B	09/06/11	5
Dibromofluoromethane	103.		% Rec.	8260B	09/06/11	5
a,a,a-Trifluorotoluene	106.		% Rec.	8260B	09/06/11	5
4-Bromofluorobenzene	101.		% Rec.	8260B	09/06/11	5
DRO Wyoming C10-C32						
TPH (GC/FID) High Fraction	80.	4.0	mg/kg	8015	09/05/11	1
Surrogate recovery(%)						
o-Terphenyl	101.		% Rec.	8015	09/05/11	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
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REPORT OF ANALYSIS

Mr. Dustin Krajewski
AECOM Inc. - Fort Collins, CO
1601 Prospect Parkway
Fort Collins, CO 80525

September 12, 2011

ESC Sample # : L533854-24

Date Received : September 01, 2011
Description : Encana Pavillion W7

Site ID : PAVILLION W7

Sample ID : DUP-3-11 TP-3 12-14FT

Project # :

Collected By : Jeremy Hurshman
Collection Date : 08/30/11 00:00

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzene	BDL	0.0050	mg/kg	8260B	09/06/11	5
Toluene	BDL	0.025	mg/kg	8260B	09/06/11	5
Ethylbenzene	BDL	0.0050	mg/kg	8260B	09/06/11	5
Total Xylenes	BDL	0.015	mg/kg	8260B	09/06/11	5
Surrogate Recovery						
Toluene-d8	103.		% Rec.	8260B	09/06/11	5
Dibromofluoromethane	97.4		% Rec.	8260B	09/06/11	5
a,a,a-Trifluorotoluene	108.		% Rec.	8260B	09/06/11	5
4-Bromofluorobenzene	109.		% Rec.	8260B	09/06/11	5

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
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REPORT OF ANALYSIS

Mr. Dustin Krajewski
AECOM Inc. - Fort Collins, CO
1601 Prospect Parkway
Fort Collins, CO 80525

September 12, 2011

ESC Sample # : L533854-25

Date Received : September 01, 2011
Description : Encana Pavillion W7

Site ID : PAVILLION W7

Sample ID : SB-3-11 TP-31X-3 10-12FT

Project # :

Collected By : Jeremy Hurshman
Collection Date : 08/30/11 15:30

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
TPH (GC/FID) Low Fraction	0.63	0.50	mg/kg	GRO	09/07/11	5
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	95.0		% Rec.	GRO	09/07/11	5
Benzene	BDL	0.0050	mg/kg	8260B	09/06/11	5
Toluene	BDL	0.025	mg/kg	8260B	09/06/11	5
Ethylbenzene	BDL	0.0050	mg/kg	8260B	09/06/11	5
Total Xylenes	BDL	0.015	mg/kg	8260B	09/06/11	5
Surrogate Recovery						
Toluene-d8	103.		% Rec.	8260B	09/06/11	5
Dibromofluoromethane	97.4		% Rec.	8260B	09/06/11	5
a,a,a-Trifluorotoluene	105.		% Rec.	8260B	09/06/11	5
4-Bromofluorobenzene	109.		% Rec.	8260B	09/06/11	5
DRO Wyoming C10-C32						
TPH (GC/FID) High Fraction	340	4.0	mg/kg	8015	09/05/11	1
Surrogate recovery(%)						
o-Terphenyl	118.		% Rec.	8015	09/05/11	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.
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Reported: 09/12/11 13:49 Printed: 09/12/11 13:50

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mr. Dustin Krajewski
AECOM Inc. - Fort Collins, CO
1601 Prospect Parkway
Fort Collins, CO 80525

September 12, 2011

ESC Sample # : L533854-26

Date Received : September 01, 2011
Description : Encana Pavillion W7

Site ID : PAVILLION W7

Sample ID : SB-3-11 TP-31X-3 12-13FT

Project # :

Collected By : Jeremy Hurshman
Collection Date : 08/30/11 15:35

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	GRO	09/02/11	5
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	93.0		% Rec.	GRO	09/02/11	5
DRO Wyoming C10-C32						
TPH (GC/FID) High Fraction	BDL	4.0	mg/kg	8015	09/05/11	1
Surrogate recovery(%)						
o-Terphenyl	89.4		% Rec.	8015	09/05/11	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
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REPORT OF ANALYSIS

Mr. Dustin Krajewski
AECOM Inc. - Fort Collins, CO
1601 Prospect Parkway
Fort Collins, CO 80525

September 12, 2011

ESC Sample # : L533854-27

Date Received : September 01, 2011
Description : Encana Pavillion W7

Site ID : PAVILLION W7

Sample ID : SB-4-11 TP-31X-3 12-13FT

Project # :

Collected By : Jeremy Hurshman
Collection Date : 08/30/11 16:05

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	GRO	09/02/11	5
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	96.3		% Rec.	GRO	09/02/11	5
DRO Wyoming C10-C32						
TPH (GC/FID) High Fraction	BDL	4.0	mg/kg	8015	09/05/11	1
Surrogate recovery(%)						
o-Terphenyl	73.1		% Rec.	8015	09/05/11	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
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REPORT OF ANALYSIS

Mr. Dustin Krajewski
AECOM Inc. - Fort Collins, CO
1601 Prospect Parkway
Fort Collins, CO 80525

September 12, 2011

ESC Sample # : L533854-28

Date Received : September 01, 2011
Description : Encana Pavillion W7

Site ID : PAVILLION W7

Sample ID : SB-5-11 TP-31X-3 10-11.5FT

Project # :

Collected By : Jeremy Hurshman
Collection Date : 08/30/11 16:30

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	GRO	09/02/11	5
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	96.1		% Rec.	GRO	09/02/11	5
DRO Wyoming C10-C32						
TPH (GC/FID) High Fraction	BDL	4.0	mg/kg	8015	09/05/11	1
Surrogate recovery(%)						
o-Terphenyl	87.4		% Rec.	8015	09/05/11	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
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Reported: 09/12/11 13:49 Printed: 09/12/11 13:50

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REPORT OF ANALYSIS

Mr. Dustin Krajewski
AECOM Inc. - Fort Collins, CO
1601 Prospect Parkway
Fort Collins, CO 80525

September 12, 2011

ESC Sample # : L533854-29

Site ID : PAVILLION W7

Project # :

Date Received : September 01, 2011
Description : Encana Pavillion W7

Sample ID : TRIP BLANK

Collected By : Jeremy Hurshman
Collection Date : 08/30/11 08:00

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzene	BDL	0.0010	mg/l	8260B	09/01/11	1
Toluene	BDL	0.0050	mg/l	8260B	09/01/11	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	09/01/11	1
Total Xylenes	BDL	0.0030	mg/l	8260B	09/01/11	1
Surrogate Recovery						
Toluene-d8	95.6		% Rec.	8260B	09/01/11	1
Dibromofluoromethane	91.4		% Rec.	8260B	09/01/11	1
a,a,a-Trifluorotoluene	97.6		% Rec.	8260B	09/01/11	1
4-Bromofluorobenzene	89.8		% Rec.	8260B	09/01/11	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
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Reported: 09/12/11 13:49 Printed: 09/12/11 13:50

EPAPAV0045141

Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L533854-02	WG553400	SAMP	TPH (GC/FID) High Fraction	R1844515	J3J5
L533854-12	WG554010	SAMP	Benzidine	R1850133	J4
L533854-20	WG553588	SAMP	Isophorone	R1845992	J4
L533854-23	WG553586	SAMP	TPH (GC/FID) High Fraction	R1844813	J6

EPAPAV0045142

Attachment B
Explanation of QC Qualifier Codes

Qualifier	Meaning
J3	The associated batch QC was outside the established quality control range for precision.
J4	The associated batch QC was outside the established quality control range for accuracy.
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low

Qualifier Report Information

ESC utilizes sample and result qualifiers as set forth by the EPA Contract Laboratory Program and as required by most certifying bodies including NELAC. In addition to the EPA qualifiers adopted by ESC, we have implemented ESC qualifiers to provide more information pertaining to our analytical results. Each qualifier is designated in the qualifier explanation as either EPA or ESC. Data qualifiers are intended to provide the ESC client with more detailed information concerning the potential bias of reported data. Because of the wide range of constituents and variety of matrices incorporated by most EPA methods,it is common for some compounds to fall outside of established ranges. These exceptions are evaluated and all reported data is valid and useable "unless qualified as 'R' (Rejected)."

Definitions

Accuracy - The relationship of the observed value of a known sample to the true value of a known sample. Represented by percent recovery and relevant to samples such as: control samples, matrix spike recoveries, surrogate recoveries, etc.

Precision - The agreement between a set of samples or between duplicate samples. Relates to how close together the results are and is represented by Relative Percent Differrence.

Surrogate - Organic compounds that are similar in chemical composition, extraction, and chromotography to analytes of interest. The surrogates are used to determine the probable response of the group of analytes that are chemically related to the surrogate compound. Surrogates are added to the sample and carried through all stages of preparation and analyses.

TIC - Tentatively Identified Compound: Compounds detected in samples that are not target compounds, internal standards, system monitoring compounds, or surrogates.

EPAPAV0045143

Summary of Remarks For Samples Printed
09/12/11 at 13:50:08

TSR Signing Reports: 044
R5 - Desired TAT

Always run BTEX by 8260 unless noted otherwise. ln 9/2/11

Sample: L533854-01 Account: ENSRFCCO Received: 09/01/11 09:00 Due Date: 09/09/11 00:00 RPT Date: 09/12/11 13:49

Sample: L533854-02 Account: ENSRFCCO Received: 09/01/11 09:00 Due Date: 09/09/11 00:00 RPT Date: 09/12/11 13:49

Sample: L533854-03 Account: ENSRFCCO Received: 09/01/11 09:00 Due Date: 09/09/11 00:00 RPT Date: 09/12/11 13:49

Sample: L533854-04 Account: ENSRFCCO Received: 09/01/11 09:00 Due Date: 09/09/11 00:00 RPT Date: 09/12/11 13:49

Sample: L533854-05 Account: ENSRFCCO Received: 09/01/11 09:00 Due Date: 09/09/11 00:00 RPT Date: 09/12/11 13:49

Sample: L533854-06 Account: ENSRFCCO Received: 09/01/11 09:00 Due Date: 09/09/11 00:00 RPT Date: 09/12/11 13:49

Sample: L533854-07 Account: ENSRFCCO Received: 09/01/11 09:00 Due Date: 09/09/11 00:00 RPT Date: 09/12/11 13:49

Sample: L533854-08 Account: ENSRFCCO Received: 09/01/11 09:00 Due Date: 09/09/11 00:00 RPT Date: 09/12/11 13:49

Sample: L533854-09 Account: ENSRFCCO Received: 09/01/11 09:00 Due Date: 09/09/11 00:00 RPT Date: 09/12/11 13:49

Sample: L533854-10 Account: ENSRFCCO Received: 09/01/11 09:00 Due Date: 09/09/11 00:00 RPT Date: 09/12/11 13:49

Sample: L533854-11 Account: ENSRFCCO Received: 09/01/11 09:00 Due Date: 09/09/11 00:00 RPT Date: 09/12/11 13:49

Sample: L533854-12 Account: ENSRFCCO Received: 09/01/11 09:00 Due Date: 09/09/11 00:00 RPT Date: 09/12/11 13:49

Sample: L533854-13 Account: ENSRFCCO Received: 09/01/11 09:00 Due Date: 09/09/11 00:00 RPT Date: 09/12/11 13:49

Sample: L533854-14 Account: ENSRFCCO Received: 09/01/11 09:00 Due Date: 09/09/11 00:00 RPT Date: 09/12/11 13:49

Sample: L533854-15 Account: ENSRFCCO Received: 09/01/11 09:00 Due Date: 09/09/11 00:00 RPT Date: 09/12/11 13:49

Sample: L533854-16 Account: ENSRFCCO Received: 09/01/11 09:00 Due Date: 09/09/11 00:00 RPT Date: 09/12/11 13:49

Sample: L533854-17 Account: ENSRFCCO Received: 09/01/11 09:00 Due Date: 09/09/11 00:00 RPT Date: 09/12/11 13:49

Sample: L533854-18 Account: ENSRFCCO Received: 09/01/11 09:00 Due Date: 09/09/11 00:00 RPT Date: 09/12/11 13:49

Sample: L533854-19 Account: ENSRFCCO Received: 09/01/11 09:00 Due Date: 09/09/11 00:00 RPT Date: 09/12/11 13:49

Sample: L533854-20 Account: ENSRFCCO Received: 09/01/11 09:00 Due Date: 09/09/11 00:00 RPT Date: 09/12/11 13:49

Sample: L533854-21 Account: ENSRFCCO Received: 09/01/11 09:00 Due Date: 09/09/11 00:00 RPT Date: 09/12/11 13:49

Sample: L533854-22 Account: ENSRFCCO Received: 09/01/11 09:00 Due Date: 09/09/11 00:00 RPT Date: 09/12/11 13:49

Sample: L533854-23 Account: ENSRFCCO Received: 09/01/11 09:00 Due Date: 09/09/11 00:00 RPT Date: 09/12/11 13:49

Sample: L533854-24 Account: ENSRFCCO Received: 09/01/11 09:00 Due Date: 09/09/11 00:00 RPT Date: 09/12/11 13:49

Sample: L533854-25 Account: ENSRFCCO Received: 09/01/11 09:00 Due Date: 09/09/11 00:00 RPT Date: 09/12/11 13:49

Sample: L533854-26 Account: ENSRFCCO Received: 09/01/11 09:00 Due Date: 09/09/11 00:00 RPT Date: 09/12/11 13:49

Sample: L533854-27 Account: ENSRFCCO Received: 09/01/11 09:00 Due Date: 09/09/11 00:00 RPT Date: 09/12/11 13:49

Sample: L533854-28 Account: ENSRFCCO Received: 09/01/11 09:00 Due Date: 09/09/11 00:00 RPT Date: 09/12/11 13:49

Sample: L533854-29 Account: ENSRFCCO Received: 09/01/11 09:00 Due Date: 09/09/11 00:00 RPT Date: 09/12/11 13:49

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AECOM Inc. - Fort Collins, CO
Mr. Dustin Krajewski
1601 Prospect Parkway

Fort Collins, CO 80525

Quality Assurance Report
Level II

L533854

September 12, 2011

Laboratory Blank

Analyte	Result	Units	% Rec	Limit	Batch	Date Analyzed
TPH (GC/FID) High Fraction	< 4	ppm			WG553400	09/03/11 11:14
o-Terphenyl		% Rec.	91.70	50-150	WG553400	09/03/11 11:14
TPH (GC/FID) Low Fraction	< .1	mg/kg			WG553474	09/02/11 16:54
a,a,a-Trifluorotoluene(FID)		% Rec.	97.36	59-128	WG553474	09/02/11 16:54
TPH (GC/FID) High Fraction	< 4	ppm			WG553586	09/05/11 11:13
o-Terphenyl		% Rec.	86.03	50-150	WG553586	09/05/11 11:13
TPH (GC/FID) High Fraction	< 4	ppm			WG553587	09/05/11 11:48
o-Terphenyl		% Rec.	95.48	50-150	WG553587	09/05/11 11:48
TPH (GC/FID) Low Fraction	< .1	mg/kg			WG553342	09/01/11 16:44
a,a,a-Trifluorotoluene(FID)		% Rec.	92.54	59-128	WG553342	09/01/11 16:44
Benzene	< .001	mg/l			WG553309	09/01/11 16:02
Ethylbenzene	< .001	mg/l			WG553309	09/01/11 16:02
Toluene	< .005	mg/l			WG553309	09/01/11 16:02
Total Xylenes	< .003	mg/l			WG553309	09/01/11 16:02
4-Bromofluorobenzene		% Rec.	94.17	75-128	WG553309	09/01/11 16:02
Dibromofluoromethane		% Rec.	91.49	79-125	WG553309	09/01/11 16:02
Toluene-d8		% Rec.	96.78	87-114	WG553309	09/01/11 16:02
a,a,a-Trifluorotoluene		% Rec.	93.94	84-114	WG553309	09/01/11 16:02
1,2,4-Trichlorobenzene	< .333	mg/kg			WG553588	09/04/11 09:08
2,4,6-Trichlorophenol	< .333	mg/kg			WG553588	09/04/11 09:08
2,4-Dichlorophenol	< .333	mg/kg			WG553588	09/04/11 09:08
2,4-Dimethylphenol	< .333	mg/kg			WG553588	09/04/11 09:08
2,4-Dinitrophenol	< .333	mg/kg			WG553588	09/04/11 09:08
2,4-Dinitrotoluene	< .333	mg/kg			WG553588	09/04/11 09:08
2,6-Dinitrotoluene	< .333	mg/kg			WG553588	09/04/11 09:08
2-Chloronaphthalene	< .033	mg/kg			WG553588	09/04/11 09:08
2-Chlorophenol	< .333	mg/kg			WG553588	09/04/11 09:08
2-Nitrophenol	< .333	mg/kg			WG553588	09/04/11 09:08
3,3-Dichlorobenzidine	< .333	mg/kg			WG553588	09/04/11 09:08
4,6-Dinitro-2-methylphenol	< .333	mg/kg			WG553588	09/04/11 09:08
4-Bromophenyl-phenylether	< .333	mg/kg			WG553588	09/04/11 09:08
4-Chloro-3-methylphenol	< .333	mg/kg			WG553588	09/04/11 09:08
4-Chlorophenyl-phenylether	< .333	mg/kg			WG553588	09/04/11 09:08
4-Nitrophenol	< .333	mg/kg			WG553588	09/04/11 09:08
Acenaphthene	< .033	mg/kg			WG553588	09/04/11 09:08
Acenaphthylene	< .033	mg/kg			WG553588	09/04/11 09:08
Anthracene	< .033	mg/kg			WG553588	09/04/11 09:08
Benzidine	< .333	mg/kg			WG553588	09/04/11 09:08
Benzo(a)anthracene	< .033	mg/kg			WG553588	09/04/11 09:08
Benzo(a)pyrene	< .033	mg/kg			WG553588	09/04/11 09:08
Benzo(b)fluoranthene	< .033	mg/kg			WG553588	09/04/11 09:08
Benzo(g,h,i)perylene	< .033	mg/kg			WG553588	09/04/11 09:08
Benzo(k)fluoranthene	< .033	mg/kg			WG553588	09/04/11 09:08
Benzylbutyl phthalate	< .333	mg/kg			WG553588	09/04/11 09:08
Bis(2-chlorethoxy)methane	< .333	mg/kg			WG553588	09/04/11 09:08
Bis(2-chloroethyl)ether	< .333	mg/kg			WG553588	09/04/11 09:08
Bis(2-chloroisopropyl)ether	< .333	mg/kg			WG553588	09/04/11 09:08

* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'

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Quality Assurance Report
Level II

L533854

September 12, 2011

Laboratory Blank

Analyte	Result	Units	% Rec	Limit	Batch	Date Analyzed
Bis(2-ethylhexyl)phthalate	< .333	mg/kg			WG553588	09/04/11 09:08
Chrysene	< .033	mg/kg			WG553588	09/04/11 09:08
Di-n-butyl phthalate	< .333	mg/kg			WG553588	09/04/11 09:08
Di-n-octyl phthalate	< .333	mg/kg			WG553588	09/04/11 09:08
Dibenz(a,h)anthracene	< .033	mg/kg			WG553588	09/04/11 09:08
Diethyl phthalate	< .333	mg/kg			WG553588	09/04/11 09:08
Dimethyl phthalate	< .333	mg/kg			WG553588	09/04/11 09:08
Fluoranthene	< .033	mg/kg			WG553588	09/04/11 09:08
Fluorene	< .033	mg/kg			WG553588	09/04/11 09:08
Hexachloro-1,3-butadiene	< .333	mg/kg			WG553588	09/04/11 09:08
Hexachlorobenzene	< .333	mg/kg			WG553588	09/04/11 09:08
Hexachlorocyclopentadiene	< .333	mg/kg			WG553588	09/04/11 09:08
Hexachloroethane	< .333	mg/kg			WG553588	09/04/11 09:08
Indeno(1,2,3-cd)pyrene	< .033	mg/kg			WG553588	09/04/11 09:08
Isophorone	< .333	mg/kg			WG553588	09/04/11 09:08
n-Nitrosodi-n-propylamine	< .333	mg/kg			WG553588	09/04/11 09:08
n-Nitrosodimethylamine	< .333	mg/kg			WG553588	09/04/11 09:08
n-Nitrosodiphenylamine	< .333	mg/kg			WG553588	09/04/11 09:08
Naphthalene	< .033	mg/kg			WG553588	09/04/11 09:08
Nitrobenzene	< .333	mg/kg			WG553588	09/04/11 09:08
Pentachlorophenol	< .333	mg/kg			WG553588	09/04/11 09:08
Phenanthrene	< .033	mg/kg			WG553588	09/04/11 09:08
Phenol	< .333	mg/kg			WG553588	09/04/11 09:08
Pyrene	< .033	mg/kg			WG553588	09/04/11 09:08
2,4,6-Tribromophenol		mg/kg	87.56	16-136	WG553588	09/04/11 09:08
2-Fluorobiphenyl		mg/kg	82.64	37-119	WG553588	09/04/11 09:08
2-Fluorophenol		mg/kg	70.27	22-114	WG553588	09/04/11 09:08
Nitrobenzene-d5		mg/kg	61.30	20-114	WG553588	09/04/11 09:08
Phenol-d5		mg/kg	82.28	26-127	WG553588	09/04/11 09:08
p-Terphenyl-d14		mg/kg	81.48	15-174	WG553588	09/04/11 09:08
TPH (GC/FID) Low Fraction	< .1	mg/kg			WG553415	09/02/11 11:30
a,a,a-Trifluorotoluene(FID)		% Rec.	92.98	59-128	WG553415	09/02/11 11:30
Benzene	< .001	mg/kg			WG553769	09/06/11 12:14
Ethylbenzene	< .001	mg/kg			WG553769	09/06/11 12:14
Toluene	< .005	mg/kg			WG553769	09/06/11 12:14
Total Xylenes	< .003	mg/kg			WG553769	09/06/11 12:14
4-Bromofluorobenzene		% Rec.	101.0	59-140	WG553769	09/06/11 12:14
Dibromofluoromethane		% Rec.	100.7	63-139	WG553769	09/06/11 12:14
Toluene-d8		% Rec.	104.2	84-116	WG553769	09/06/11 12:14
a,a,a-Trifluorotoluene		% Rec.	106.0	80-118	WG553769	09/06/11 12:14
TPH (GC/FID) Low Fraction	< .1	mg/kg			WG553784	09/06/11 20:33
a,a,a-Trifluorotoluene(FID)		% Rec.	100.9	59-128	WG553784	09/06/11 20:33
TPH (GC/FID) Low Fraction	< .1	mg/kg			WG553911	09/07/11 17:56
a,a,a-Trifluorotoluene(FID)		% Rec.	95.69	59-128	WG553911	09/07/11 17:56
1,2,4-Trichlorobenzene	< .333	mg/kg			WG554010	09/08/11 11:12
2,4,6-Trichlorophenol	< .333	mg/kg			WG554010	09/08/11 11:12
2,4-Dichlorophenol	< .333	mg/kg			WG554010	09/08/11 11:12
2,4-Dimethylphenol	< .333	mg/kg			WG554010	09/08/11 11:12
2,4-Dinitrophenol	< .333	mg/kg			WG554010	09/08/11 11:12

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Tax I.D. 62-0814289

Est. 1970

AECOM Inc. - Fort Collins, CO
Mr. Dustin Krajewski
1601 Prospect Parkway

Fort Collins, CO 80525

Quality Assurance Report
Level II

L533854

September 12, 2011

Laboratory Blank

Analyte	Result	Units	% Rec	Limit	Batch	Date Analyzed
2,4-Dinitrotoluene	< .333	mg/kg			WG554010	09/08/11 11:12
2,6-Dinitrotoluene	< .333	mg/kg			WG554010	09/08/11 11:12
2-Chloronaphthalene	< .033	mg/kg			WG554010	09/08/11 11:12
2-Chlorophenol	< .333	mg/kg			WG554010	09/08/11 11:12
2-Nitrophenol	< .333	mg/kg			WG554010	09/08/11 11:12
3,3-Dichlorobenzidine	< .333	mg/kg			WG554010	09/08/11 11:12
4,6-Dinitro-2-methylphenol	< .333	mg/kg			WG554010	09/08/11 11:12
4-Bromophenyl-phenylether	< .333	mg/kg			WG554010	09/08/11 11:12
4-Chloro-3-methylphenol	< .333	mg/kg			WG554010	09/08/11 11:12
4-Chlorophenyl-phenylether	< .333	mg/kg			WG554010	09/08/11 11:12
4-Nitrophenol	< .333	mg/kg			WG554010	09/08/11 11:12
Acenaphthene	< .033	mg/kg			WG554010	09/08/11 11:12
Acenaphthylene	< .033	mg/kg			WG554010	09/08/11 11:12
Anthracene	< .033	mg/kg			WG554010	09/08/11 11:12
Benzidine	< .333	mg/kg			WG554010	09/08/11 11:12
Benzo(a)anthracene	< .033	mg/kg			WG554010	09/08/11 11:12
Benzo(a)pyrene	< .033	mg/kg			WG554010	09/08/11 11:12
Benzo(b)fluoranthene	< .033	mg/kg			WG554010	09/08/11 11:12
Benzo(g,h,i)perylene	< .033	mg/kg			WG554010	09/08/11 11:12
Benzo(k)fluoranthene	< .033	mg/kg			WG554010	09/08/11 11:12
Benzylbutyl phthalate	< .333	mg/kg			WG554010	09/08/11 11:12
Bis(2-chlorethoxy)methane	< .333	mg/kg			WG554010	09/08/11 11:12
Bis(2-chloroethyl)ether	< .333	mg/kg			WG554010	09/08/11 11:12
Bis(2-chloroisopropyl)ether	< .333	mg/kg			WG554010	09/08/11 11:12
Bis(2-ethylhexyl)phthalate	< .333	mg/kg			WG554010	09/08/11 11:12
Chrysene	< .033	mg/kg			WG554010	09/08/11 11:12
Di-n-butyl phthalate	< .333	mg/kg			WG554010	09/08/11 11:12
Di-n-octyl phthalate	< .333	mg/kg			WG554010	09/08/11 11:12
Dibenz(a,h)anthracene	< .033	mg/kg			WG554010	09/08/11 11:12
Diethyl phthalate	< .333	mg/kg			WG554010	09/08/11 11:12
Dimethyl phthalate	< .333	mg/kg			WG554010	09/08/11 11:12
Fluoranthene	< .033	mg/kg			WG554010	09/08/11 11:12
Fluorene	< .033	mg/kg			WG554010	09/08/11 11:12
Hexachloro-1,3-butadiene	< .333	mg/kg			WG554010	09/08/11 11:12
Hexachlorobenzene	< .333	mg/kg			WG554010	09/08/11 11:12
Hexachlorocyclopentadiene	< .333	mg/kg			WG554010	09/08/11 11:12
Hexachloroethane	< .333	mg/kg			WG554010	09/08/11 11:12
Indeno(1,2,3-cd)pyrene	< .033	mg/kg			WG554010	09/08/11 11:12
Isophorone	< .333	mg/kg			WG554010	09/08/11 11:12
n-Nitrosodi-n-propylamine	< .333	mg/kg			WG554010	09/08/11 11:12
n-Nitrosodimethylamine	< .333	mg/kg			WG554010	09/08/11 11:12
n-Nitrosodiphenylamine	< .333	mg/kg			WG554010	09/08/11 11:12
Naphthalene	< .033	mg/kg			WG554010	09/08/11 11:12
Nitrobenzene	< .333	mg/kg			WG554010	09/08/11 11:12
Pentachlorophenol	< .333	mg/kg			WG554010	09/08/11 11:12
Phenanthrene	< .033	mg/kg			WG554010	09/08/11 11:12
Phenol	< .333	mg/kg			WG554010	09/08/11 11:12
Pyrene	< .033	mg/kg			WG554010	09/08/11 11:12
2,4,6-Tribromophenol		mg/kg	57.23	16-136	WG554010	09/08/11 11:12
2-Fluorobiphenyl		mg/kg	57.69	37-119	WG554010	09/08/11 11:12
2-Fluorophenol		mg/kg	42.62	22-114	WG554010	09/08/11 11:12
Nitrobenzene-d5		mg/kg	57.79	20-114	WG554010	09/08/11 11:12
Phenol-d5		mg/kg	61.10	26-127	WG554010	09/08/11 11:12
p-Terphenyl-d14		mg/kg	65.93	15-174	WG554010	09/08/11 11:12

Laboratory Control Sample

Analyte	Units	Known Val	Result	% Rec	Limit	Batch
TPH (GC/FID) Low Fraction	mg/kg	5.5	6.74	122.	67-135	WG553474

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EPAPAV0045147

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Level II

L533854

September 12, 2011

Analyte	Units	Laboratory Control Sample Known Val	Result	% Rec	Limit	Batch
a,a,a-Trifluorotoluene(FID)				101.0	59-128	
TPH (GC/FID) Low Fraction	mg/kg	5.5	5.47	99.5	67-135	WG553342
a,a,a-Trifluorotoluene(FID)				96.64	59-128	WG553342
Benzene	mg/l	.025	0.0231	92.4	67-126	WG553309
Ethylbenzene	mg/l	.025	0.0276	110.	76-129	WG553309
Toluene	mg/l	.025	0.0244	97.6	72-122	WG553309
Total Xylenes	mg/l	.075	0.0820	109.	75-128	WG553309
4-Bromofluorobenzene				93.28	75-128	WG553309
Dibromofluoromethane				86.15	79-125	WG553309
Toluene-d8				100.0	87-114	WG553309
a,a,a-Trifluorotoluene				94.01	84-114	WG553309
1,2,4-Trichlorobenzene	mg/kg	.333	0.195	58.7	48-87	WG553588
2,4,6-Trichlorophenol	mg/kg	.333	0.229	68.9	50-98	WG553588
2,4-Dichlorophenol	mg/kg	.333	0.226	67.8	56-96	WG553588
2,4-Dimethylphenol	mg/kg	.333	0.224	67.2	52-101	WG553588
2,4-Dinitrophenol	mg/kg	.333	0.205	61.7	10-109	WG553588
2,4-Dinitrotoluene	mg/kg	.333	0.230	69.0	54-103	WG553588
2,6-Dinitrotoluene	mg/kg	.333	0.223	66.9	53-99	WG553588
2-Chloronaphthalene	mg/kg	.333	0.202	60.5	55-96	WG553588
2-Chlorophenol	mg/kg	.333	0.203	60.9	52-88	WG553588
2-Nitrophenol	mg/kg	.333	0.212	63.6	55-106	WG553588
3,3-Dichlorobenzidine	mg/kg	.333	0.207	62.3	36-84	WG553588
4,6-Dinitro-2-methylphenol	mg/kg	.333	0.234	70.2	24-98	WG553588
4-Bromophenyl-phenylether	mg/kg	.333	0.232	69.6	58-111	WG553588
4-Chloro-3-methylphenol	mg/kg	.333	0.215	64.6	58-98	WG553588
4-Chlorophenyl-phenylether	mg/kg	.333	0.217	65.1	59-103	WG553588
4-Nitrophenol	mg/kg	.333	0.173	52.0	34-101	WG553588
Acenaphthene	mg/kg	.333	0.225	67.6	55-96	WG553588
Acenaphthylene	mg/kg	.333	0.232	69.6	61-107	WG553588
Anthracene	mg/kg	.333	0.217	65.2	58-105	WG553588
Benzidine	mg/kg	.333	0.0373	11.2	10-21	WG553588
Benzo(a)anthracene	mg/kg	.333	0.233	69.8	56-103	WG553588
Benzo(a)pyrene	mg/kg	.333	0.226	68.0	57-103	WG553588
Benzo(b)fluoranthene	mg/kg	.333	0.221	66.4	52-106	WG553588
Benzo(g,h,i)perylene	mg/kg	.333	0.233	70.0	47-112	WG553588
Benzo(k)fluoranthene	mg/kg	.333	0.230	69.2	53-104	WG553588
Benzylbutyl phthalate	mg/kg	.333	0.217	65.1	61-118	WG553588
Bis(2-chlorethoxy)methane	mg/kg	.333	0.203	60.8	58-104	WG553588
Bis(2-chloroethyl)ether	mg/kg	.333	0.194	58.4	51-103	WG553588
Bis(2-chloroisopropyl)ether	mg/kg	.333	0.213	63.9	56-95	WG553588
Bis(2-ethylhexyl)phthalate	mg/kg	.333	0.220	66.1	56-120	WG553588
Chrysene	mg/kg	.333	0.235	70.6	55-102	WG553588
Di-n-butyl phthalate	mg/kg	.333	0.228	68.4	59-114	WG553588
Di-n-octyl phthalate	mg/kg	.333	0.221	66.4	51-119	WG553588
Dibenz(a,h)anthracene	mg/kg	.333	0.222	66.6	49-111	WG553588
Diethyl phthalate	mg/kg	.333	0.224	67.3	61-105	WG553588
Dimethyl phthalate	mg/kg	.333	0.231	69.5	60-106	WG553588
Fluoranthene	mg/kg	.333	0.241	72.5	59-108	WG553588
Fluorene	mg/kg	.333	0.214	64.3	59-100	WG553588
Hexachloro-1,3-butadiene	mg/kg	.333	0.232	69.6	53-106	WG553588
Hexachlorobenzene	mg/kg	.333	0.221	66.3	50-108	WG553588
Hexachlorocyclopentadiene	mg/kg	.333	0.153	45.8	36-117	WG553588
Hexachloroethane	mg/kg	.333	0.204	61.2	45-83	WG553588
Indeno(1,2,3-cd)pyrene	mg/kg	.333	0.225	67.7	50-110	WG553588
Isophorone	mg/kg	.333	0.159	47.8*	51-99	WG553588

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Quality Assurance Report
Level II

L533854

September 12, 2011

Analyte	Units	Laboratory Control Sample Known Val	Result	% Rec	Limit	Batch
n-Nitrosodi-n-propylamine	mg/kg	.333	0.203	60.9	52-103	WG553588
n-Nitrosodimethylamine	mg/kg	.333	0.189	56.8	31-107	WG553588
n-Nitrosodiphenylamine	mg/kg	.333	0.206	61.8	57-121	WG553588
Naphthalene	mg/kg	.333	0.204	61.3	55-91	WG553588
Nitrobenzene	mg/kg	.333	0.210	63.1	47-92	WG553588
Pentachlorophenol	mg/kg	.333	0.210	63.0	10-89	WG553588
Phenanthrene	mg/kg	.333	0.218	65.4	55-103	WG553588
Phenol	mg/kg	.333	0.189	56.9	49-99	WG553588
Pyrene	mg/kg	.333	0.212	63.7	54-104	WG553588
2,4,6-Tribromophenol				93.19	16-136	WG553588
2-Fluorobiphenyl				80.22	37-119	WG553588
2-Fluorophenol				71.63	22-114	WG553588
Nitrobenzene-d5				71.55	20-114	WG553588
Phenol-d5				83.74	26-127	WG553588
p-Terphenyl-d14				79.52	15-174	WG553588
TPH (GC/FID) Low Fraction	mg/kg	5.5	5.47	99.4	67-135	WG553415
a,a,a-Trifluorotoluene(FID)				102.3	59-128	WG553415
Benzene	mg/kg	.025	0.0208	83.1	65-128	WG553769
Ethylbenzene	mg/kg	.025	0.0219	87.7	74-128	WG553769
Toluene	mg/kg	.025	0.0206	82.3	70-120	WG553769
Total Xylenes	mg/kg	.075	0.0655	87.3	74-127	WG553769
4-Bromofluorobenzene				100.1	59-140	WG553769
Dibromofluoromethane				101.7	63-139	WG553769
Toluene-d8				105.0	84-116	WG553769
a,a,a-Trifluorotoluene				106.6	80-118	WG553769
TPH (GC/FID) Low Fraction	mg/kg	5.5	5.69	103.	67-135	WG553784
a,a,a-Trifluorotoluene(FID)				106.7	59-128	WG553784
TPH (GC/FID) Low Fraction	mg/kg	5.5	6.25	114.	67-135	WG553911
a,a,a-Trifluorotoluene(FID)				95.73	59-128	WG553911
1,2,4-Trichlorobenzene	mg/kg	.333	0.220	66.1	48-87	WG554010
2,4,6-Trichlorophenol	mg/kg	.333	0.269	80.9	50-98	WG554010
2,4-Dichlorophenol	mg/kg	.333	0.252	75.7	56-96	WG554010
2,4-Dimethylphenol	mg/kg	.333	0.243	72.9	52-101	WG554010
2,4-Dinitrophenol	mg/kg	.333	0.219	65.6	10-109	WG554010
2,4-Dinitrotoluene	mg/kg	.333	0.262	78.6	54-103	WG554010
2,6-Dinitrotoluene	mg/kg	.333	0.264	79.4	53-99	WG554010
2-Chloronaphthalene	mg/kg	.333	0.249	74.9	55-96	WG554010
2-Chlorophenol	mg/kg	.333	0.225	67.6	52-88	WG554010
2-Nitrophenol	mg/kg	.333	0.241	72.3	55-106	WG554010
3,3-Dichlorobenzidine	mg/kg	.333	0.149	44.6	36-84	WG554010
4,6-Dinitro-2-methylphenol	mg/kg	.333	0.228	68.3	24-98	WG554010
4-Bromophenyl-phenylether	mg/kg	.333	0.246	73.7	58-111	WG554010
4-Chloro-3-methylphenol	mg/kg	.333	0.253	76.0	58-98	WG554010
4-Chlorophenyl-phenylether	mg/kg	.333	0.249	74.7	59-103	WG554010
4-Nitrophenol	mg/kg	.333	0.224	67.2	34-101	WG554010
Acenaphthene	mg/kg	.333	0.264	79.2	55-96	WG554010
Acenaphthylene	mg/kg	.333	0.265	79.5	61-107	WG554010
Anthracene	mg/kg	.333	0.259	77.7	58-105	WG554010
Benzidine	mg/kg	.333	0.00534	1.60*	10-21	WG554010

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Quality Assurance Report
Level II

L533854

September 12, 2011

Analyte	Units	Laboratory Control Sample Known Val	Result	% Rec	Limit	Batch
Benzo(a)anthracene	mg/kg	.333	0.260	78.1	56-103	WG554010
Benzo(a)pyrene	mg/kg	.333	0.261	78.3	57-103	WG554010
Benzo(b)fluoranthene	mg/kg	.333	0.252	75.6	52-106	WG554010
Benzo(g,h,i)perylene	mg/kg	.333	0.255	76.7	47-112	WG554010
Benzo(k)fluoranthene	mg/kg	.333	0.269	80.8	53-104	WG554010
Benzylbutyl phthalate	mg/kg	.333	0.273	81.9	61-118	WG554010
Bis(2-chlorethoxy)methane	mg/kg	.333	0.255	76.6	58-104	WG554010
Bis(2-chloroethyl)ether	mg/kg	.333	0.236	70.8	51-103	WG554010
Bis(2-chloroisopropyl)ether	mg/kg	.333	0.252	75.6	56-95	WG554010
Bis(2-ethylhexyl)phthalate	mg/kg	.333	0.293	88.0	56-120	WG554010
Chrysene	mg/kg	.333	0.259	77.9	55-102	WG554010
Di-n-butyl phthalate	mg/kg	.333	0.250	75.2	59-114	WG554010
Di-n-octyl phthalate	mg/kg	.333	0.302	90.8	51-119	WG554010
Dibenz(a,h)anthracene	mg/kg	.333	0.256	76.8	49-111	WG554010
Diethyl phthalate	mg/kg	.333	0.264	79.3	61-105	WG554010
Dimethyl phthalate	mg/kg	.333	0.258	77.6	60-106	WG554010
Fluoranthene	mg/kg	.333	0.262	78.7	59-108	WG554010
Fluorene	mg/kg	.333	0.247	74.1	59-100	WG554010
Hexachloro-1,3-butadiene	mg/kg	.333	0.249	74.9	53-106	WG554010
Hexachlorobenzene	mg/kg	.333	0.245	73.5	50-108	WG554010
Hexachlorocyclopentadiene	mg/kg	.333	0.275	82.7	36-117	WG554010
Hexachloroethane	mg/kg	.333	0.236	70.9	45-83	WG554010
Indeno(1,2,3-cd)pyrene	mg/kg	.333	0.262	78.7	50-110	WG554010
Isophorone	mg/kg	.333	0.214	64.2	51-99	WG554010
n-Nitrosodi-n-propylamine	mg/kg	.333	0.280	84.0	52-103	WG554010
n-Nitrosodimethylamine	mg/kg	.333	0.185	55.7	31-107	WG554010
n-Nitrosodiphenylamine	mg/kg	.333	0.254	76.3	57-121	WG554010
Naphthalene	mg/kg	.333	0.239	71.9	55-91	WG554010
Nitrobenzene	mg/kg	.333	0.250	75.2	47-92	WG554010
Pentachlorophenol	mg/kg	.333	0.185	55.4	10-89	WG554010
Phenanthrene	mg/kg	.333	0.258	77.3	55-103	WG554010
Phenol	mg/kg	.333	0.242	72.6	49-99	WG554010
Pyrene	mg/kg	.333	0.257	77.1	54-104	WG554010
2,4,6-Tribromophenol				77.85	16-136	WG554010
2-Fluorobiphenyl				73.88	37-119	WG554010
2-Fluorophenol				76.28	22-114	WG554010
Nitrobenzene-d5				77.93	20-114	WG554010
Phenol-d5				83.47	26-127	WG554010
p-Terphenyl-d14				73.93	15-174	WG554010

Analyte	Units	Laboratory Control Sample Duplicate Result	Ref	%Rec	Limit	RPD	Limit	Batch
TPH (GC/FID) Low Fraction	mg/kg	6.91	6.74	126.	67-135	2.58	20	WG553474
a,a,a-Trifluorotoluene(FID)				99.28	59-128			WG553474
TPH (GC/FID) Low Fraction	mg/kg	5.22	5.47	95.0	67-135	4.71	20	WG553342
a,a,a-Trifluorotoluene(FID)				92.33	59-128			WG553342
Benzene	mg/l	0.0219	0.0231	88.0	67-126	5.18	20	WG553309
Ethylbenzene	mg/l	0.0269	0.0276	107.	76-129	2.65	20	WG553309
Toluene	mg/l	0.0237	0.0244	95.0	72-122	3.06	20	WG553309
Total Xylenes	mg/l	0.0790	0.0820	105.	75-128	3.75	20	WG553309
4-Bromofluorobenzene				89.90	75-128			WG553309
Dibromofluoromethane				91.45	79-125			WG553309
Toluene-d8				98.73	87-114			WG553309
a,a,a-Trifluorotoluene				93.07	84-114			WG553309

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Quality Assurance Report
Level II

L533854

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Analyte	Units	Laboratory Result	Control Ref	Sample %Rec	Duplicate Limit	RPD	Limit	Batch
1,2,4-Trichlorobenzene	mg/kg	0.218	0.195	66.0	48-87	11.0	20	WG553588
2,4,6-Trichlorophenol	mg/kg	0.254	0.229	76.0	50-98	10.2	20	WG553588
2,4-Dichlorophenol	mg/kg	0.236	0.226	71.0	56-96	4.50	20	WG553588
2,4-Dimethylphenol	mg/kg	0.232	0.224	70.0	52-101	3.50	20	WG553588
2,4-Dinitrophenol	mg/kg	0.230	0.205	69.0	10-109	11.4	39	WG553588
2,4-Dinitrotoluene	mg/kg	0.251	0.230	76.0	54-103	9.09	20	WG553588
2,6-Dinitrotoluene	mg/kg	0.248	0.223	74.0	53-99	10.8	20	WG553588
2-Chloronaphthalene	mg/kg	0.224	0.202	67.0	55-96	10.4	20	WG553588
2-Chlorophenol	mg/kg	0.206	0.203	62.0	52-88	1.49	20	WG553588
2-Nitrophenol	mg/kg	0.238	0.212	72.0	55-106	11.7	20	WG553588
3,3-Dichlorobenzidine	mg/kg	0.224	0.207	67.0	36-84	7.90	20	WG553588
4,6-Dinitro-2-methylphenol	mg/kg	0.241	0.234	72.0	24-98	3.09	32	WG553588
4-Bromophenyl-phenylether	mg/kg	0.253	0.232	76.0	58-111	8.71	20	WG553588
4-Chloro-3-methylphenol	mg/kg	0.229	0.215	69.0	58-98	6.16	20	WG553588
4-Chlorophenyl-phenylether	mg/kg	0.234	0.217	70.0	59-103	7.72	20	WG553588
4-Nitrophenol	mg/kg	0.215	0.173	65.0	34-101	21.8	26	WG553588
Acenaphthene	mg/kg	0.240	0.225	72.0	55-96	6.31	20	WG553588
Acenaphthylene	mg/kg	0.241	0.232	72.0	61-107	4.04	20	WG553588
Anthracene	mg/kg	0.243	0.217	73.0	58-105	11.3	20	WG553588
Benzidine	mg/kg	0.0430	0.0373	13.0	10-21	14.2	40	WG553588
Benzo(a)anthracene	mg/kg	0.248	0.233	74.0	56-103	6.51	20	WG553588
Benzo(a)pyrene	mg/kg	0.237	0.226	71.0	57-103	4.54	20	WG553588
Benzo(b)fluoranthene	mg/kg	0.227	0.221	68.0	52-106	2.73	20	WG553588
Benzo(g,h,i)perylene	mg/kg	0.245	0.233	73.0	47-112	4.80	20	WG553588
Benzo(k)fluoranthene	mg/kg	0.252	0.230	76.0	53-104	9.14	20	WG553588
Benzylbutyl phthalate	mg/kg	0.228	0.217	68.0	61-118	4.97	20	WG553588
Bis(2-chlorethoxy)methane	mg/kg	0.221	0.203	66.0	58-104	8.83	20	WG553588
Bis(2-chloroethyl)ether	mg/kg	0.197	0.194	59.0	51-103	1.39	20	WG553588
Bis(2-chloroisopropyl)ether	mg/kg	0.196	0.213	59.0	56-95	8.28	20	WG553588
Bis(2-ethylhexyl)phthalate	mg/kg	0.237	0.220	71.0	56-120	7.54	20	WG553588
Chrysene	mg/kg	0.244	0.235	73.0	55-102	3.58	20	WG553588
Di-n-butyl phthalate	mg/kg	0.243	0.228	73.0	59-114	6.69	20	WG553588
Di-n-octyl phthalate	mg/kg	0.239	0.221	72.0	51-119	7.61	22	WG553588
Dibenz(a,h)anthracene	mg/kg	0.232	0.222	70.0	49-111	4.53	20	WG553588
Diethyl phthalate	mg/kg	0.245	0.224	74.0	61-105	8.79	20	WG553588
Dimethyl phthalate	mg/kg	0.236	0.231	71.0	60-106	1.97	20	WG553588
Fluoranthene	mg/kg	0.246	0.241	74.0	59-108	1.77	20	WG553588
Fluorene	mg/kg	0.237	0.214	71.0	59-100	10.0	20	WG553588
Hexachloro-1,3-butadiene	mg/kg	0.244	0.232	73.0	53-106	5.00	20	WG553588
Hexachlorobenzene	mg/kg	0.239	0.221	72.0	50-108	7.77	20	WG553588
Hexachlorocyclopentadiene	mg/kg	0.170	0.153	51.0	36-117	10.9	20	WG553588
Hexachloroethane	mg/kg	0.201	0.204	60.0	45-83	1.52	20	WG553588
Indeno(1,2,3-cd)pyrene	mg/kg	0.239	0.225	72.0	50-110	5.80	20	WG553588
Isophorone	mg/kg	0.187	0.159	56.0	51-99	16.0	20	WG553588
n-Nitrosodi-n-propylamine	mg/kg	0.199	0.203	60.0	52-103	2.05	20	WG553588
n-Nitrosodimethylamine	mg/kg	0.201	0.189	60.0	31-107	6.23	23	WG553588
n-Nitrosodiphenylamine	mg/kg	0.222	0.206	66.0	57-121	7.32	20	WG553588
Naphthalene	mg/kg	0.219	0.204	66.0	55-91	6.93	20	WG553588
Nitrobenzene	mg/kg	0.227	0.210	68.0	47-92	7.60	20	WG553588
Pentachlorophenol	mg/kg	0.228	0.210	68.0	10-89	8.37	28	WG553588
Phenanthrene	mg/kg	0.236	0.218	71.0	55-103	8.06	20	WG553588
Phenol	mg/kg	0.194	0.189	58.0	49-99	2.29	20	WG553588
Pyrene	mg/kg	0.230	0.212	69.0	54-104	8.34	20	WG553588
2,4,6-Tribromophenol				95.14	16-136			WG553588
2-Fluorobiphenyl				81.21	37-119			WG553588
2-Fluorophenol				63.93	22-114			WG553588
Nitrobenzene-d5				74.68	20-114			WG553588
Phenol-d5				77.01	26-127			WG553588
p-Terphenyl-d14				81.38	15-174			WG553588

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1601 Prospect Parkway

Fort Collins, CO 80525

Quality Assurance Report
Level II

L533854

September 12, 2011

Analyte	Units	Laboratory Result	Control Ref	Sample %Rec	Duplicate Limit	RPD	Limit	Batch
TPH (GC/FID) Low Fraction	mg/kg	5.33	5.47	97.0	67-135	2.52	20	WG553415
a,a,a-Trifluorotoluene(FID)				99.53	59-128			WG553415
Benzene	mg/kg	0.0212	0.0208	85.0	65-128	1.99	20	WG553769
Ethylbenzene	mg/kg	0.0220	0.0219	88.0	74-128	0.530	20	WG553769
Toluene	mg/kg	0.0207	0.0206	83.0	70-120	0.500	20	WG553769
Total Xylenes	mg/kg	0.0659	0.0655	88.0	74-127	0.600	20	WG553769
4-Bromofluorobenzene				99.91	59-140			WG553769
Dibromofluoromethane				101.5	63-139			WG553769
Toluene-d8				103.9	84-116			WG553769
a,a,a-Trifluorotoluene				104.3	80-118			WG553769
TPH (GC/FID) Low Fraction	mg/kg	5.29	5.69	96.0	67-135	7.18	20	WG553784
a,a,a-Trifluorotoluene(FID)				106.2	59-128			WG553784
TPH (GC/FID) Low Fraction	mg/kg	6.61	6.25	120.	67-135	5.57	20	WG553911
a,a,a-Trifluorotoluene(FID)				96.10	59-128			WG553911
1,2,4-Trichlorobenzene	mg/kg	0.188	0.220	56.0	48-87	15.8	20	WG554010
2,4,6-Trichlorophenol	mg/kg	0.233	0.269	70.0	50-98	14.4	20	WG554010
2,4-Dichlorophenol	mg/kg	0.226	0.252	68.0	56-96	10.7	20	WG554010
2,4-Dimethylphenol	mg/kg	0.226	0.243	68.0	52-101	7.15	20	WG554010
2,4-Dinitrophenol	mg/kg	0.214	0.219	64.0	10-109	2.29	39	WG554010
2,4-Dinitrotoluene	mg/kg	0.216	0.262	65.0	54-103	19.2	20	WG554010
2,6-Dinitrotoluene	mg/kg	0.234	0.264	70.0	53-99	12.1	20	WG554010
2-Chloronaphthalene	mg/kg	0.224	0.249	67.0	55-96	10.9	20	WG554010
2-Chlorophenol	mg/kg	0.201	0.225	60.0	52-88	11.5	20	WG554010
2-Nitrophenol	mg/kg	0.215	0.241	64.0	55-106	11.4	20	WG554010
3,3-Dichlorobenzidine	mg/kg	0.147	0.149	44.0	36-84	0.868	20	WG554010
4,6-Dinitro-2-methylphenol	mg/kg	0.217	0.228	65.0	24-98	4.95	32	WG554010
4-Bromophenyl-phenylether	mg/kg	0.248	0.246	74.0	58-111	1.09	20	WG554010
4-Chloro-3-methylphenol	mg/kg	0.225	0.253	68.0	58-98	11.7	20	WG554010
4-Chlorophenyl-phenylether	mg/kg	0.218	0.249	65.0	59-103	13.2	20	WG554010
4-Nitrophenol	mg/kg	0.195	0.224	58.0	34-101	13.9	26	WG554010
Acenaphthene	mg/kg	0.236	0.264	71.0	55-96	11.3	20	WG554010
Acenaphthylene	mg/kg	0.239	0.265	72.0	61-107	10.2	20	WG554010
Anthracene	mg/kg	0.228	0.259	68.0	58-105	12.6	20	WG554010
Benzidine	mg/kg	0.00681	0.00534	2*	10-21	24.2	40	WG554010
Benzo(a)anthracene	mg/kg	0.238	0.260	72.0	56-103	8.69	20	WG554010
Benzo(a)pyrene	mg/kg	0.237	0.261	71.0	57-103	9.50	20	WG554010
Benzo(b)fluoranthene	mg/kg	0.224	0.252	67.0	52-106	11.4	20	WG554010
Benzo(g,h,i)perylene	mg/kg	0.225	0.255	68.0	47-112	12.5	20	WG554010
Benzo(k)fluoranthene	mg/kg	0.239	0.269	72.0	53-104	12.0	20	WG554010
Benzylbutyl phthalate	mg/kg	0.245	0.273	74.0	61-118	10.5	20	WG554010
Bis(2-chlorethoxy)methane	mg/kg	0.237	0.255	71.0	58-104	7.34	20	WG554010
Bis(2-chloroethyl)ether	mg/kg	0.214	0.236	64.0	51-103	9.86	20	WG554010
Bis(2-chloroisopropyl)ether	mg/kg	0.217	0.252	65.0	56-95	14.7	20	WG554010
Bis(2-ethylhexyl)phthalate	mg/kg	0.254	0.293	76.0	56-120	14.4	20	WG554010
Chrysene	mg/kg	0.241	0.259	72.0	55-102	7.52	20	WG554010
Di-n-butyl phthalate	mg/kg	0.235	0.250	70.0	59-114	6.49	20	WG554010
Di-n-octyl phthalate	mg/kg	0.267	0.302	80.0	51-119	12.3	22	WG554010
Dibenz(a,h)anthracene	mg/kg	0.227	0.256	68.0	49-111	11.9	20	WG554010
Diethyl phthalate	mg/kg	0.236	0.264	71.0	61-105	11.2	20	WG554010
Dimethyl phthalate	mg/kg	0.232	0.258	70.0	60-106	10.7	20	WG554010
Fluoranthene	mg/kg	0.228	0.262	68.0	59-108	13.9	20	WG554010

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Quality Assurance Report
Level II

L533854

September 12, 2011

Analyte	Units	Laboratory Control Sample Duplicate Result	Ref	%Rec	Limit	RPD	Limit	Batch
Fluorene	mg/kg	0.224	0.247	67.0	59-100	9.74	20	WG554010
Hexachloro-1,3-butadiene	mg/kg	0.211	0.249	63.0	53-106	16.6	20	WG554010
Hexachlorobenzene	mg/kg	0.205	0.245	62.0	50-108	17.6	20	WG554010
Hexachlorocyclopentadiene	mg/kg	0.269	0.275	81.0	36-117	2.31	20	WG554010
Hexachloroethane	mg/kg	0.210	0.236	63.0	45-83	11.5	20	WG554010
Indeno(1,2,3-cd)pyrene	mg/kg	0.230	0.262	69.0	50-110	13.3	20	WG554010
Isophorone	mg/kg	0.197	0.214	59.0	51-99	8.29	20	WG554010
n-Nitrosodi-n-propylamine	mg/kg	0.250	0.280	75.0	52-103	11.3	20	WG554010
n-Nitrosodimethylamine	mg/kg	0.194	0.185	58.0	31-107	4.49	23	WG554010
n-Nitrosodiphenylamine	mg/kg	0.234	0.254	70.0	57-121	8.04	20	WG554010
Naphthalene	mg/kg	0.213	0.239	64.0	55-91	11.8	20	WG554010
Nitrobenzene	mg/kg	0.215	0.250	64.0	47-92	15.4	20	WG554010
Pentachlorophenol	mg/kg	0.183	0.185	55.0	10-89	1.01	28	WG554010
Phenanthrene	mg/kg	0.239	0.258	72.0	55-103	7.44	20	WG554010
Phenol	mg/kg	0.200	0.242	60.0	49-99	18.9	20	WG554010
Pyrene	mg/kg	0.241	0.257	72.0	54-104	6.52	20	WG554010
2,4,6-Tribromophenol				67.08	16-136			WG554010
2-Fluorobiphenyl				67.53	37-119			WG554010
2-Fluorophenol				63.63	22-114			WG554010
Nitrobenzene-d5				62.71	20-114			WG554010
Phenol-d5				73.94	26-127			WG554010
p-Terphenyl-d14				69.23	15-174			WG554010

Analyte	Units	Matrix Spike MS Res	Ref Res	TV	% Rec	Limit	Ref Samp	Batch
TPH (GC/FID) Low Fraction	mg/kg	24.3	0	5.5	88.2	55-109	L533854-27	WG553474
a,a,a-Trifluorotoluene(FID)					96.91	59-128		WG553474
TPH (GC/FID) Low Fraction	mg/kg	23.6	0	5.5	85.8	55-109	L533821-02	WG553342
a,a,a-Trifluorotoluene(FID)					96.82	59-128		WG553342
Benzene	mg/l	0.364	0.500	.025	0*	16-158	L533619-03	WG553309
Ethylbenzene	mg/l	0.0566	0.0520	.025	18.4*	29-150	L533619-03	WG553309
Toluene	mg/l	0.0602	0.0550	.025	20.9*	22-152	L533619-03	WG553309
Total Xylenes	mg/l	0.104	0.0550	.075	64.8	27-151	L533619-03	WG553309
4-Bromofluorobenzene					94.90	75-128		WG553309
Dibromofluoromethane					77.75*	79-125		WG553309
Toluene-d8					99.96	87-114		WG553309
a,a,a-Trifluorotoluene					94.50	84-114		WG553309
TPH (GC/FID) Low Fraction	mg/kg	24.4	0	5.5	88.7	55-109	L533854-14	WG553415
a,a,a-Trifluorotoluene(FID)					97.57	59-128		WG553415
Benzene	mg/kg	0.101	0	.025	81.0	16-143	L533854-23	WG553769
Ethylbenzene	mg/kg	0.103	0	.025	82.6	12-137	L533854-23	WG553769
Toluene	mg/kg	0.0976	0	.025	78.1	12-136	L533854-23	WG553769
Total Xylenes	mg/kg	0.298	0	.075	79.6	10-138	L533854-23	WG553769
4-Bromofluorobenzene					99.52	59-140		WG553769
Dibromofluoromethane					102.5	63-139		WG553769
Toluene-d8					105.4	84-116		WG553769
a,a,a-Trifluorotoluene					103.7	80-118		WG553769
TPH (GC/FID) Low Fraction	mg/kg	21.5	0	5.5	78.2	55-109	L533934-14	WG553784

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Quality Assurance Report
Level II

L533854

September 12, 2011

Analyte	Units	Matrix Spike MS Res	Ref Res	TV	% Rec	Limit	Ref Samp	Batch
a,a,a-Trifluorotoluene(FID)					102.4	59-128		
TPH (GC/FID) Low Fraction	mg/kg	28.7	2.41	5.5	95.7	55-109	L534118-09	WG553911
a,a,a-Trifluorotoluene(FID)					102.2	59-128		WG553911
1,2,4-Trichlorobenzene	mg/kg	0.213	0	.333	63.9	27-118	L534248-06	WG554010
2,4,6-Trichlorophenol	mg/kg	0.234	0	.333	70.1	18-140	L534248-06	WG554010
2,4-Dichlorophenol	mg/kg	0.231	0	.333	69.3	30-134	L534248-06	WG554010
2,4-Dimethylphenol	mg/kg	0.218	0	.333	65.5	13-147	L534248-06	WG554010
2,4-Dinitrophenol	mg/kg	0.0839	0	.333	25.2	10-110	L534248-06	WG554010
2,4-Dinitrotoluene	mg/kg	0.218	0	.333	65.4	12-146	L534248-06	WG554010
2,6-Dinitrotoluene	mg/kg	0.230	0	.333	69.0	10-150	L534248-06	WG554010
2-Chloronaphthalene	mg/kg	0.229	0	.333	68.6	31-127	L534248-06	WG554010
2-Chlorophenol	mg/kg	0.200	0	.333	60.0	26-120	L534248-06	WG554010
2-Nitrophenol	mg/kg	0.181	0	.333	54.5	10-156	L534248-06	WG554010
3,3-Dichlorobenzidine	mg/kg	0.167	0	.333	50.1	10-127	L534248-06	WG554010
4,6-Dinitro-2-methylphenol	mg/kg	0.0158	0	.333	4.74*	10-124	L534248-06	WG554010
4-Bromophenyl-phenylether	mg/kg	0.248	0	.333	74.6	27-150	L534248-06	WG554010
4-Chloro-3-methylphenol	mg/kg	0.224	0	.333	67.3	24-140	L534248-06	WG554010
4-Chlorophenyl-phenylether	mg/kg	0.223	0	.333	67.0	27-142	L534248-06	WG554010
4-Nitrophenol	mg/kg	0.220	0	.333	66.0	10-166	L534248-06	WG554010
Acenaphthene	mg/kg	0.238	0	.333	71.6	30-132	L534248-06	WG554010
Acenaphthylene	mg/kg	0.240	0	.333	71.9	31-144	L534248-06	WG554010
Anthracene	mg/kg	0.246	0	.333	73.9	27-140	L534248-06	WG554010
Benzidine	mg/kg	0.00685	0	.333	2.06*	10-55	L534248-06	WG554010
Benzo(a)anthracene	mg/kg	0.259	0	.333	77.6	22-139	L534248-06	WG554010
Benzo(a)pyrene	mg/kg	0.280	0	.333	84.2	16-148	L534248-06	WG554010
Benzo(b)fluoranthene	mg/kg	0.330	0	.333	99.2	13-152	L534248-06	WG554010
Benzo(g,h,i)perylene	mg/kg	0.0897	0	.333	26.9	10-137	L534248-06	WG554010
Benzo(k)fluoranthene	mg/kg	0.336	0	.333	101.	15-152	L534248-06	WG554010
Benzylbutyl phthalate	mg/kg	0.237	0	.333	71.3	20-168	L534248-06	WG554010
Bis(2-chlorethoxy)methane	mg/kg	0.241	0	.333	72.2	32-141	L534248-06	WG554010
Bis(2-chloroethyl)ether	mg/kg	0.232	0	.333	69.8	25-139	L534248-06	WG554010
Bis(2-chloroisopropyl)ether	mg/kg	0.208	0	.333	62.4	32-128	L534248-06	WG554010
Bis(2-ethylhexyl)phthalate	mg/kg	0.230	0	.333	69.0	20-163	L534248-06	WG554010
Chrysene	mg/kg	0.262	0	.333	78.6	20-139	L534248-06	WG554010
Di-n-butyl phthalate	mg/kg	0.240	0	.333	72.2	24-149	L534248-06	WG554010
Di-n-octyl phthalate	mg/kg	0.243	0	.333	73.1	14-164	L534248-06	WG554010
Dibenz(a,h)anthracene	mg/kg	0.110	0	.333	33.0	10-137	L534248-06	WG554010
Diethyl phthalate	mg/kg	0.246	0	.333	73.8	28-142	L534248-06	WG554010
Dimethyl phthalate	mg/kg	0.234	0	.333	70.2	31-142	L534248-06	WG554010
Fluoranthene	mg/kg	0.308	0	.333	92.6	24-145	L534248-06	WG554010
Fluorene	mg/kg	0.224	0	.333	67.2	30-138	L534248-06	WG554010
Hexachloro-1,3-butadiene	mg/kg	0.237	0	.333	71.2	29-136	L534248-06	WG554010
Hexachlorobenzene	mg/kg	0.227	0	.333	68.0	26-136	L534248-06	WG554010
Hexachlorocyclopentadiene	mg/kg	0.137	0	.333	41.2	10-124	L534248-06	WG554010
Hexachloroethane	mg/kg	0.158	0	.333	47.5	21-107	L534248-06	WG554010
Indeno(1,2,3-cd)pyrene	mg/kg	0.111	0	.333	33.2	10-139	L534248-06	WG554010
Isophorone	mg/kg	0.196	0	.333	58.9	26-134	L534248-06	WG554010
n-Nitrosodi-n-propylamine	mg/kg	0.229	0	.333	68.6	24-141	L534248-06	WG554010
n-Nitrosodimethylamine	mg/kg	0.146	0	.333	43.9	18-126	L534248-06	WG554010
n-Nitrosodiphenylamine	mg/kg	0.240	0	.333	72.2	16-128	L534248-06	WG554010
Naphthalene	mg/kg	0.231	0	.333	69.4	31-124	L534248-06	WG554010
Nitrobenzene	mg/kg	0.232	0	.333	69.7	22-122	L534248-06	WG554010
Pentachlorophenol	mg/kg	0.207	0	.333	62.0	10-124	L534248-06	WG554010
Phenanthrene	mg/kg	0.288	0	.333	86.4	25-139	L534248-06	WG554010
Phenol	mg/kg	0.199	0	.333	59.7	22-129	L534248-06	WG554010
Pyrene	mg/kg	0.259	0	.333	77.7	23-145	L534248-06	WG554010
2,4,6-Tribromophenol					76.33	16-136		WG554010

* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'

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Tax I.D. 62-0814289

Est. 1970

AECOM Inc. - Fort Collins, CO
Mr. Dustin Krajewski
1601 Prospect Parkway

Fort Collins, CO 80525

Quality Assurance Report
Level II

L533854

September 12, 2011

Analyte	Units	Matrix Spike MSD	Ref	Duplicate %Rec	Limit	RPD	Limit	Ref Samp	Batch
2-Fluorobiphenyl					69.94	37-119			
2-Fluorophenol					49.75	22-114			
Nitrobenzene-d5					74.66	20-114			
Phenol-d5					73.30	26-127			
p-Terphenyl-d14					65.01	15-174			

Analyte	Units	Matrix Spike MSD	Ref	Duplicate %Rec	Limit	RPD	Limit	Ref Samp	Batch
TPH (GC/FID) Low Fraction	mg/kg	26.6	24.3	96.6	55-109	9.06	20	L533854-27	WG553474
a,a,a-Trifluorotoluene(FID)				96.97	59-128				WG553474
TPH (GC/FID) Low Fraction	mg/kg	22.3	23.6	81.2	55-109	5.39	20	L533821-02	WG553342
a,a,a-Trifluorotoluene(FID)				95.17	59-128				WG553342
Benzene	mg/l	0.369	0.364	0*	16-158	1.50	21	L533619-03	WG553309
Ethylbenzene	mg/l	0.0589	0.0566	27.6*	29-150	3.95	24	L533619-03	WG553309
Toluene	mg/l	0.0596	0.0602	18.4*	22-152	1.05	22	L533619-03	WG553309
Total Xylenes	mg/l	0.106	0.104	68.4	27-151	2.52	23	L533619-03	WG553309
4-Bromofluorobenzene				95.50	75-128				WG553309
Dibromofluoromethane				77.07*	79-125				WG553309
Toluene-d8				100.3	87-114				WG553309
a,a,a-Trifluorotoluene				94.16	84-114				WG553309
Benzene	mg/kg	0.109	0.101	86.9	16-143	7.01	31	L533854-23	WG553769
Ethylbenzene	mg/kg	0.117	0.103	93.8	12-137	12.7	36	L533854-23	WG553769
Toluene	mg/kg	0.105	0.0976	84.0	12-136	7.37	32	L533854-23	WG553769
Total Xylenes	mg/kg	0.338	0.298	90.2	10-138	12.5	36	L533854-23	WG553769
4-Bromofluorobenzene				101.3	59-140				WG553769
Dibromofluoromethane				101.4	63-139				WG553769
Toluene-d8				103.4	84-116				WG553769
a,a,a-Trifluorotoluene				105.0	80-118				WG553769
TPH (GC/FID) Low Fraction	mg/kg	24.9	21.5	90.5	55-109	14.6	20	L533934-14	WG553784
a,a,a-Trifluorotoluene(FID)				103.8	59-128				WG553784
TPH (GC/FID) Low Fraction	mg/kg	21.3	24.4	77.3	55-109	13.7	20	L533854-14	WG553415
a,a,a-Trifluorotoluene(FID)				96.02	59-128				WG553415
TPH (GC/FID) Low Fraction	mg/kg	24.5	28.7	80.2	55-109	16.1	20	L534118-09	WG553911
a,a,a-Trifluorotoluene(FID)				100.2	59-128				WG553911

Batch number /Run number / Sample number cross reference

WG553400: R1844515: L533854-02 05 07 09 10 12 14 16 18 19
WG553355: R1844533: L533854-01 03 04 06 08 11 13 15 17
WG553474: R1844752: L533854-27 28
WG553586: R1844813: L533854-20 21 22 23 25 26
WG553587: R1844814: L533854-27 28
WG553342: R1844992: L533854-02 05 07 10 12
WG553309: R1845772: L533854-29
WG553588: R1845992: L533854-20

* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'

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AECOM Inc. - Fort Collins, CO
Mr. Dustin Krajewski
1601 Prospect Parkway

Fort Collins, CO 80525

Quality Assurance Report
Level II

L533854

September 12, 2011

WG553415: R1846272: L533854-14 16 18 19 21 22 26
WG553769: R1846572: L533854-20 23 24 25
WG553784: R1848293: L533854-09
WG553911: R1849132: L533854-20 23 25
WG554010: R1850133: L533854-12

* * Calculations are performed prior to rounding of reported values.
* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'

EPAPAV0045156

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Mr. Dustin Krajewski
1601 Prospect Parkway

Fort Collins, CO 80525

Quality Assurance Report
Level II

L533854

September 12, 2011

The data package includes a summary of the analytic results of the quality control samples required by the SW-846 or CWA methods. The quality control samples include a method blank, a laboratory control sample, and the matrix spike/matrix spike duplicate analysis. If a target parameter is outside the method limits, every sample that is effected is flagged with the appropriate qualifier in Appendix B of the analytic report.

Method Blank - an aliquot of reagent water carried through the entire analytic process. The method blank results indicate if any possible contamination exposure during the sample handling, digestion or extraction process, and analysis. Concentrations of target analytes above the reporting limit in the method blank are qualified with the "B" qualifier.

Laboratory Control Sample - is a sample of known concentration that is carried through the digestion/extraction and analysis process. The percent recovery, expressed as a percentage of the theoretical concentration, has statistical control limits indicating that the analytic process is "in control". If a target analyte is outside the control limits for the laboratory control sample or any other control sample, the parameter is flagged with a "J4" qualifier for all effected samples.

Matrix Spike and Matrix Spike Duplicate - is two aliquots of an environmental sample that is spiked with known concentrations of target analytes. The percent recovery of the target analytes also has statistical control limits. If any recoveries that are outside the method control limits, the sample that was selected for matrix spike/matrix spike duplicate analysis is flagged with either a "J5" or a "J6". The relative percent difference (%RPD) between the matrix spike and the matrix spike duplicate recoveries is all calculated. If the RPD is above the method limit, the effected samples are flagged with a "J3" qualifier.

EPAPAV0045157

Company Name/Address

AECOM

1601 Prospect Parkway
Fort Collins, CO 80525

Alternate Billing

Report to: Dustin Krajewski

E-mail to: Dustin.krajewski @aecom.com

Project Description: EnCana Pavillion W7

PHONE: (970)493-8878

FAX: (970)493-0213

Client Project No.

Lab Project #

Collected by: Jeremy Hushman

Site/Facility ID#: Pavillion W7

P.O.#

Collected by(signature):

Packed on Ice N___ Y X

Rush? (Lab MUST be Notified)
_____Same Day.....200%
_____Next Day.....100%
_____Two Day.....50%

Date Results Needed

Email?___No___Yes
FAX?___No___Yes

Analysis/Container/Preservative

Chain of Custody
Page 1 of 4

B045

Prepared by:

ENVIRONMENTAL Science corp

12065 Lebanon Road

Mt. Juliet TN 37122

Phone (615)758-5858
Phone (800) 767-5859
FAX (615)758-5859

CoCode (lab use only)

Template/Prelogin

Shipped Via: Denver Service Center

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No of Cntrs	TPH (8015)	BTEX (8260)	SVOCs (8270)	SAR					Remarks/contaminant	Sample # (lab only)
SB-1-11 (PF-34-3)(0-1)	Grab	SS	0-1	8/30/11	13:18	1				X						L533854-01
SB-1-11 (PF-34-3)(11-12)			11-12		13:15	1	X									-02
SB-2-11 (PF-34-3)(0-1)			0-1		0958	1				X						-03
Dup-1 (PF-34-3)(0-1)			0-1		—	1				X						-04
SB-2-11 (PF-34-3)(11-12)			11-12		0955	1	X									-05
SB-3-11 (PF-34-3)(0-1)			0-1		1025	1				X						-06
SB-3-11 (PF-34-3)(10-12)			10-12		10:22	1	X									-07
SB-4-11 (PF-34-3)(0-1)			0-1		1055	1				X						-08
SB-4-11 (PF-34-3)(11-12)			11-12		10:45	1	X									-09

*Matrix: SS-Soil/Solid GW-Groundwater WW-Wastewater DW-Drinking Water OT- Other_____

pH_____ Temp_____

Remarks:

Flow_____ Other_____

Relinquisher by:(Signature)	Date:	Time:	Received by:(Signature)	Samples returned via: FedEx✓ UPS__Other__		Condition (lab use only)
	8/31/11	1630	fedex	496345914480		
Relinquisher by:(Signature)	Date:	Time:	Received by: (Signature)	Temp: 3.4°	Bottles Received: 34	COC5C
Relinquisher by:(Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 9-1-11	Time: 0900	pH Checked: NCF: ✓

Company Name/Address

AECOM

1601 Prospect Parkway
Fort Collins, CO 80525

Alternate Billing

Report to: Dustin krajewski

E-mail to: @aecom.com

Project Description: Pavillion, WY EnCana

PHONE: (970)493-8878

FAX: (970)493-0213

Client Project No.

Lab Project #

Collected by: Jeremy Hershman

Site/Facility ID# Pavillion WY

P.O.#

Collected by(signature):

Packed on Ice N___ Y X

Rush? (Lab MUST be Notified)
_____Same Day.....200%
_____Next Day.....100%
_____Two Day.....50%

Date Results Needed

Email?___No___Yes
FAX?___No___Yes

Analysis/Container/Preservative

Chain of Custody
Page 2 of 4

Prepared by:

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12065 Lebanon Road
Mt. Juliet TN 37122

Phone (615)758-5858
Phone (800) 767-5859
FAX (615)758-5859

CoCode (lab use only)

Template/Prelogin

Shipped Via: Denver Service Center

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No of Cntrs	TPH (8015)	BTEX (8260)	SVOCs (8270)	SAR					Remarks/contaminant	Sample # (lab only)
DUP-2-11 (PF-34-3)(11-12)	Grab	SS	11-12	8/30/11	—	1	X									L533854-10
SB-5-11 (PF-34-3)(0-1)			0-1		11:30	1				X						-11
SB-5-11 (PF-34-3)(11-12)			11-12		11:25	1	X									-12
SB-6-11 (PF-34-3)(0-1)			0-1		12:05	1				X						-13
SB-6-11 (PF-34-3)(11.5-12)			11.5-12		12:30	1	X									-14
SB-7-11 (PF-34-3)(0-1)			0-1		12:47	1				X						-15
SB-7-11 (PF-34-3)(11-12)			11-12		12:45	1	X									-16
SB-8-11 (PF-34-3)(0-1)			0-1		13:05	1				X						-17
SB-8-11 (PF-34-3)(11-12)			11-12		13:00	1	X									-18

*Matrix: SS-Soil/Solid GW-Groundwater WW-Wastewater DW-Drinking Water OT- Other_____

pH_____ Temp_____

Remarks:

Flow_____ Other_____

Relinquisher by:(Signature	Date:	Time:	Received by:(Signature)	Samples returned via: FedEx__UPS__Other__		Condition (lab use only)
	8/31/11	1630	FedEx			
Relinquisher by:(Signature	Date:	Time:	Received by: (Signature)	Temp: 3.4	Bottles Received: 34 + HB	COC Seal
Relinquisher by:(Signature	Date:	Time:	Received for lab by: (Signature)	Date: 9-1-11	Time: 0900	pH Checked: NCF:

Company Name/Address

AECOM

1601 Prospect Parkway
Fort Collins, CO 80525

Alternate Billing

Report to: Dustin Krajewski

E-mail to: @aecom.com

Project Description: EnCana Pavillion WY

PHONE: (970)493-8878

FAX: (970)493-0213

Client Project No.

Lab Project #

Collected by: Jeremy Hoshaw

Site/Facility ID# Pavillion, WY

P.O.#

Collected by(signature):

Packed on Ice N___ Y X

Rush? (Lab MUST be Notified)
_____Same Day.....200%
_____Next Day.....100%
_____Two Day.....50%

Date Results Needed

Email?___No___Yes
FAX?___No___Yes

Chain of Custody
Page 3 of 4

Prepared by:

ENVIRONMENTAL Science corp
12065 Lebanon Road
Mt. Juliet TN 37122

Phone (615)758-5858
Phone (800) 767-5859
FAX (615)758-5859

CoCode (lab use only)

Template/Prelogin

Shipped Via: Denver Service Center

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No of Cntrs	TPH (8015) GRO + DRO	BTEX (8260)	SVOCs (8270)	SAR					Remarks/contaminant	Sample # (lab only)
SB-1-11 (TP-31x-3)(8-10)	Grab	SS	8-10	8/31/11	1440	1	X									L533854-A
SB-1-11 (TP-31x-3)(10-12)			10-12		1445	3	X	X	X							-20
SB-1-11 (TP-31x-3)(12-13)			12-13		1450	1	X									-21
SB-2-11 (TP-31x-3)(15-16)			15-16		17:40	1	X									-22
SB-2-11 (TP-31x-3)(12-14)			12-14		15:00	2	X	X								-23
Dup-3-11 (TP-31x-3)(12-14)			12-14		—	1		X								-24
SB-3-11 (TP-31x-3)(10-12)			10-12		15:30	2	X	X								-25
SB-3-11 (TP-31x-3)(12-13)			12-13		15:35	1	X									-26
SB-4-11 (TP-31x-3)(12-13)			12-13		16:05	1	X									-27

*Matrix: SS-Soil/Solid GW-Groundwater WW-Wastewater DW-Drinking Water OT- Other_____

pH_____ Temp_____

Remarks:

Flow_____ Other_____

Relinquisher by:(Signature	Date:	Time:	Received by:(Signature)	Samples returned via: FedEx UPS__Other__		Condition (lab use only)
	8/31/11	1630	fedex			
Relinquisher by:(Signature	Date:	Time:	Received by: (Signature)	Temp: 3.4	Bottles Received: 34 + TB	COLD
Relinquisher by:(Signature	Date:	Time:	Received for lab by: (Signature)	Date: 9-1-11	Time: 0900	pH Checked: NCF:

Company Name/Address

AECOM

1601 Prospect Parkway
Fort Collins, CO 80525

Alternate Billing

Report to: Dustin Krajewski

E-mail to: Dustin.Krajewski@aecom.com

Project Description: EnCana Pavillion WY

PHONE: (970)493-8878

FAX: (970)493-0213

Client Project No.

Lab Project #

Collected by: Jerry Hershman

Site/Facility ID# Pavillion, WY

P.O.#

Collected by(signature): [signature]

Packed on Ice N___ Y X

Rush? (Lab MUST be Notified)
_____Same Day.....200%
_____Next Day.....100%
_____Two Day.....50%

Date Results Needed

Email?___No___Yes
FAX?___No___Yes

Analysis/Container/Preservative

Chain of Custody
Page 4 of 4

Prepared by:

ENVIRONMENTAL Science corp
12065 Lebanon Road
Mt. Juliet TN 37122

Phone (615)758-5858
Phone (800) 767-5859
FAX (615)758-5859

CoCode (lab use only)

Template/Prelogin

Shipped Via: Denver Service Center

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No of Cntrs	TPH - GRO + DRO (8015)	BTEX (8260)	SVOC's (8270)	SAL					Remarks/contaminant	Sample # (lab only)
SB-5-11 (TP-3 1x3) (10-11.5)	Grab	SS	10-11.5	8/30/11	16:30	1	X									L533854-28
Trip Blank	Grab	WT	—	8/30/11	0800	1		X								-29

*Matrix: SS-Soil/Solid GW-Groundwater WW-Wastewater DW-Drinking Water OT- Other_____

pH_____ Temp_____

Remarks:

Flow_____ Other_____

Relinquisher by:(Signature	Date:	Time:	Received by:(Signature)	Samples returned via: FedEx✓ UPS__Other__		Condition (lab use only)
[signature]	8/31/11	1630	[signature]			
Relinquisher by:(Signature	Date:	Time:	Received by: (Signature)	Temp: 3.4°	Bottles Received: 34	COC Sz
Relinquisher by:(Signature	Date:	Time:	Received for lab by: (Signature) [signature]	Date: 9-1-11	Time: 0900	pH Checked: NCF:

ESC

L·A·B S·C·I·E·N·C·E·S

NON-CONFORMANCE FORM

Login No.: L533854

Date: 9-1-11

Evaluated by: Kenneth

Client: ENSRFCCO

Non-Conformance (check applicable items)

- ☐ Parameter(s) past holding time
- ☐ Improper temperature
- ☐ Improper container type
- ☐ Improper preservation
- ☐ Container lid not intact
- ☒ Login Clarification Needed
- ☐ Chain of custody is incomplete
- ☐ Chain of Custody is missing (see below)
- ☐ Broken container(s) (See below)
- ☐ Broken container: sufficient sample volume remains for analysis requested (See below)

If no COC: Received by_____
Date:_____ Time:_____
Temp:____ Cont. Rec____ pH:____
☐ Fedex ☐ UPS ☐SWA ☐ Other____
Tracking #_____

- ☐ Insufficient packing material around container
- ☐ Insufficient packing material inside cooler
- ☐ Improper handling by carrier (FedEx / UPS / Courier
- ☐ Sample was frozen

Comments: (1) I have an Extra container for The Id SB-5-11(PF-34-3)(11-12) W/ SVOC'S Test on container. There is not a SVOC'S Test marked on The coc for This Id. (2) What TPH?

Login Instructions: **TSR Initials:** LN

Client informed by call / email / fax / voice mail date: 9/1/11 time: 13:00

Client contact: Dustin Krzewski for Jeremy Hershman

9/2/11 (1) Run SVOC'S for ~~SB-5-11~~ SB-5-11 (PF-34-3)(11-12)

(2) GRAV + DRAV

EPAPAV0045162

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Est. 1970

Mr. Dustin Krajewski
AECOM Inc. - Fort Collins, CO
1601 Prospect Parkway
Fort Collins, CO 80525

Report Summary

Tuesday September 20, 2011

Report Number: L535457
Samples Received: 09/10/11
Client Project: 60196941

Description: EnCana Pavillion

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By: Alan Harvill

T. Alan Harvill , ESC Representative

Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT - PH-0197, FL - E87487
GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016, NC - ENV375/DW21704, ND - R-140
NJ - TN002,NJ NELAP - TN002, SC - 84004, TN - 2006, VA - 00109, WV - 233
AZ - 0612, MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032008A,
TX - T104704245, OK-9915

Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.
Note: The use of the preparatory EPA Method 3511 is not approved or endorsed by the CA ELAP.

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Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

EPAPAV0045163

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mr. Dustin Krajewski
AECOM Inc. - Fort Collins, CO
1601 Prospect Parkway
Fort Collins, CO 80525

September 20, 2011

ESC Sample # : L535457-01

Date Received : September 10, 2011
Description : EnCana Pavillion

Site ID : PAVILLION

Sample ID : SB-1-11 BF-4-8

Project # : 60196941

Collected By : D. Fairchild
Collection Date : 09/08/11 16:45

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
TPH (GC/FID) Low Fraction	0.24	0.10	mg/l	GRO	09/13/11	1
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	97.2		% Rec.	GRO	09/13/11	1
Volatile Organics						
Benzene	BDL	0.0010	mg/l	8260B	09/11/11	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	09/11/11	1
Toluene	BDL	0.0050	mg/l	8260B	09/11/11	1
Xylenes, Total	BDL	0.0030	mg/l	8260B	09/11/11	1
Surrogate Recovery						
Toluene-d8	105.		% Rec.	8260B	09/11/11	1
Dibromofluoromethane	104.		% Rec.	8260B	09/11/11	1
4-Bromofluorobenzene	95.3		% Rec.	8260B	09/11/11	1
DRO Wyoming C10-C32						
TPH (GC/FID) High Fraction	0.69	0.10	mg/l	8015	09/14/11	1
Surrogate recovery(%)						
o-Terphenyl	101.		% Rec.	8015	09/14/11	1
Base/Neutral Extractables						
Acenaphthene	BDL	0.0010	mg/l	8270C	09/15/11	1
Acenaphthylene	BDL	0.0010	mg/l	8270C	09/15/11	1
Anthracene	BDL	0.0010	mg/l	8270C	09/15/11	1
Benzidine	BDL	0.010	mg/l	8270C	09/15/11	1
Benzo(a)anthracene	BDL	0.0010	mg/l	8270C	09/15/11	1
Benzo(b)fluoranthene	BDL	0.0010	mg/l	8270C	09/15/11	1
Benzo(k)fluoranthene	BDL	0.0010	mg/l	8270C	09/15/11	1
Benzo(g,h,i)perylene	BDL	0.0010	mg/l	8270C	09/15/11	1
Benzo(a)pyrene	BDL	0.0010	mg/l	8270C	09/15/11	1
Bis(2-chlorethoxy)methane	BDL	0.010	mg/l	8270C	09/15/11	1
Bis(2-chloroethyl)ether	BDL	0.010	mg/l	8270C	09/15/11	1
Bis(2-chloroisopropyl)ether	BDL	0.010	mg/l	8270C	09/15/11	1
4-Bromophenyl-phenylether	BDL	0.010	mg/l	8270C	09/15/11	1
2-Chloronaphthalene	BDL	0.0010	mg/l	8270C	09/15/11	1
4-Chlorophenyl-phenylether	BDL	0.010	mg/l	8270C	09/15/11	1
Chrysene	BDL	0.0010	mg/l	8270C	09/15/11	1
Dibenz(a,h)anthracene	BDL	0.0010	mg/l	8270C	09/15/11	1
3,3-Dichlorobenzidine	BDL	0.010	mg/l	8270C	09/15/11	1
2,4-Dinitrotoluene	BDL	0.010	mg/l	8270C	09/15/11	1
2,6-Dinitrotoluene	BDL	0.010	mg/l	8270C	09/15/11	1
Fluoranthene	BDL	0.0010	mg/l	8270C	09/15/11	1
Fluorene	BDL	0.0010	mg/l	8270C	09/15/11	1
Hexachlorobenzene	BDL	0.0010	mg/l	8270C	09/15/11	1
Hexachloro-1,3-butadiene	BDL	0.010	mg/l	8270C	09/15/11	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

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REPORT OF ANALYSIS

Mr. Dustin Krajewski
AECOM Inc. - Fort Collins, CO
1601 Prospect Parkway
Fort Collins, CO 80525

September 20, 2011

ESC Sample # : L535457-01

Date Received : September 10, 2011
Description : EnCana Pavillion

Site ID : PAVILLION

Sample ID : SB-1-11 BF-4-8

Project # : 60196941

Collected By : D. Fairchild
Collection Date : 09/08/11 16:45

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Hexachlorocyclopentadiene	BDL	0.010	mg/l	8270C	09/15/11	1
Hexachloroethane	BDL	0.010	mg/l	8270C	09/15/11	1
Indeno(1,2,3-cd)pyrene	BDL	0.0010	mg/l	8270C	09/15/11	1
Isophorone	BDL	0.010	mg/l	8270C	09/15/11	1
Naphthalene	BDL	0.0010	mg/l	8270C	09/15/11	1
Nitrobenzene	BDL	0.010	mg/l	8270C	09/15/11	1
n-Nitrosodimethylamine	BDL	0.010	mg/l	8270C	09/15/11	1
n-Nitrosodiphenylamine	BDL	0.010	mg/l	8270C	09/15/11	1
n-Nitrosodi-n-propylamine	BDL	0.010	mg/l	8270C	09/15/11	1
Phenanthrene	BDL	0.0010	mg/l	8270C	09/15/11	1
Benzylbutyl phthalate	BDL	0.0010	mg/l	8270C	09/15/11	1
Bis(2-ethylhexyl)phthalate	BDL	0.0010	mg/l	8270C	09/15/11	1
Di-n-butyl phthalate	BDL	0.0010	mg/l	8270C	09/15/11	1
Diethyl phthalate	BDL	0.0010	mg/l	8270C	09/15/11	1
Dimethyl phthalate	BDL	0.0010	mg/l	8270C	09/15/11	1
Di-n-octyl phthalate	BDL	0.0010	mg/l	8270C	09/15/11	1
Pyrene	BDL	0.0010	mg/l	8270C	09/15/11	1
1,2,4-Trichlorobenzene	BDL	0.010	mg/l	8270C	09/15/11	1
Acid Extractables						
4-Chloro-3-methylphenol	BDL	0.010	mg/l	8270C	09/15/11	1
2-Chlorophenol	BDL	0.010	mg/l	8270C	09/15/11	1
2,4-Dichlorophenol	BDL	0.010	mg/l	8270C	09/15/11	1
2,4-Dimethylphenol	BDL	0.010	mg/l	8270C	09/15/11	1
4,6-Dinitro-2-methylphenol	BDL	0.010	mg/l	8270C	09/15/11	1
2,4-Dinitrophenol	BDL	0.010	mg/l	8270C	09/15/11	1
2-Nitrophenol	BDL	0.010	mg/l	8270C	09/15/11	1
4-Nitrophenol	BDL	0.010	mg/l	8270C	09/15/11	1
Pentachlorophenol	BDL	0.010	mg/l	8270C	09/15/11	1
Phenol	BDL	0.010	mg/l	8270C	09/15/11	1
2,4,6-Trichlorophenol	BDL	0.010	mg/l	8270C	09/15/11	1
Surrogate Recovery						
2-Fluorophenol	40.2		% Rec.	8270C	09/15/11	1
Phenol-d5	28.6		% Rec.	8270C	09/15/11	1
Nitrobenzene-d5	65.0		% Rec.	8270C	09/15/11	1
2-Fluorobiphenyl	74.9		% Rec.	8270C	09/15/11	1
2,4,6-Tribromophenol	96.4		% Rec.	8270C	09/15/11	1
p-Terphenyl-d14	86.4		% Rec.	8270C	09/15/11	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.
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Reported: 09/19/11 17:43 Revised: 09/20/11 08:04

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REPORT OF ANALYSIS

Mr. Dustin Krajewski
AECOM Inc. - Fort Collins, CO
1601 Prospect Parkway
Fort Collins, CO 80525

September 20, 2011

ESC Sample # : L535457-02

Date Received : September 10, 2011
Description : EnCana Pavillion

Site ID : PAVILLION

Sample ID : SB-3-11 BF-4-8

Project # : 60196941

Collected By : D. Fairchild
Collection Date : 09/08/11 16:35

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
TPH (GC/FID) Low Fraction	5.2	1.0	mg/l	GRO	09/13/11	10
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	97.0		% Rec.	GRO	09/13/11	10
Volatile Organics						
Benzene	0.11	0.010	mg/l	8260B	09/13/11	10
Ethylbenzene	0.24	0.010	mg/l	8260B	09/13/11	10
Toluene	0.25	0.050	mg/l	8260B	09/13/11	10
Xylenes, Total	1.2	0.030	mg/l	8260B	09/13/11	10
Surrogate Recovery						
Toluene-d8	106.		% Rec.	8260B	09/13/11	10
Dibromofluoromethane	101.		% Rec.	8260B	09/13/11	10
4-Bromofluorobenzene	125.		% Rec.	8260B	09/13/11	10
DRO Wyoming C10-C32						
TPH (GC/FID) High Fraction	13.	0.50	mg/l	8015	09/15/11	5
Surrogate recovery(%)						
o-Terphenyl	130.		% Rec.	8015	09/15/11	5
Base/Neutral Extractables						
Acenaphthene	BDL	0.0010	mg/l	8270C	09/15/11	1
Acenaphthylene	BDL	0.0010	mg/l	8270C	09/15/11	1
Anthracene	BDL	0.0010	mg/l	8270C	09/15/11	1
Benzidine	BDL	0.010	mg/l	8270C	09/15/11	1
Benzo(a)anthracene	BDL	0.0010	mg/l	8270C	09/15/11	1
Benzo(b)fluoranthene	BDL	0.0010	mg/l	8270C	09/15/11	1
Benzo(k)fluoranthene	BDL	0.0010	mg/l	8270C	09/15/11	1
Benzo(g,h,i)perylene	BDL	0.0010	mg/l	8270C	09/15/11	1
Benzo(a)pyrene	BDL	0.0010	mg/l	8270C	09/15/11	1
Bis(2-chlorethoxy)methane	BDL	0.010	mg/l	8270C	09/15/11	1
Bis(2-chloroethyl)ether	BDL	0.010	mg/l	8270C	09/15/11	1
Bis(2-chloroisopropyl)ether	BDL	0.010	mg/l	8270C	09/15/11	1
4-Bromophenyl-phenylether	BDL	0.010	mg/l	8270C	09/15/11	1
2-Chloronaphthalene	BDL	0.0010	mg/l	8270C	09/15/11	1
4-Chlorophenyl-phenylether	BDL	0.010	mg/l	8270C	09/15/11	1
Chrysene	BDL	0.0010	mg/l	8270C	09/15/11	1
Dibenz(a,h)anthracene	BDL	0.0010	mg/l	8270C	09/15/11	1
3,3-Dichlorobenzidine	BDL	0.010	mg/l	8270C	09/15/11	1
2,4-Dinitrotoluene	BDL	0.010	mg/l	8270C	09/15/11	1
2,6-Dinitrotoluene	BDL	0.010	mg/l	8270C	09/15/11	1
Fluoranthene	BDL	0.0010	mg/l	8270C	09/15/11	1
Fluorene	BDL	0.0010	mg/l	8270C	09/15/11	1
Hexachlorobenzene	BDL	0.0010	mg/l	8270C	09/15/11	1
Hexachloro-1,3-butadiene	BDL	0.010	mg/l	8270C	09/15/11	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

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REPORT OF ANALYSIS

Mr. Dustin Krajewski
AECOM Inc. - Fort Collins, CO
1601 Prospect Parkway
Fort Collins, CO 80525

September 20, 2011

ESC Sample # : L535457-02

Date Received : September 10, 2011
Description : EnCana Pavillion

Site ID : PAVILLION

Sample ID : SB-3-11 BF-4-8

Project # : 60196941

Collected By : D. Fairchild
Collection Date : 09/08/11 16:35

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Hexachlorocyclopentadiene	BDL	0.010	mg/l	8270C	09/15/11	1
Hexachloroethane	BDL	0.010	mg/l	8270C	09/15/11	1
Indeno(1,2,3-cd)pyrene	BDL	0.0010	mg/l	8270C	09/15/11	1
Isophorone	BDL	0.010	mg/l	8270C	09/15/11	1
Naphthalene	0.072	0.0050	mg/l	8270C	09/16/11	5
Nitrobenzene	BDL	0.010	mg/l	8270C	09/15/11	1
n-Nitrosodimethylamine	BDL	0.010	mg/l	8270C	09/15/11	1
n-Nitrosodiphenylamine	BDL	0.010	mg/l	8270C	09/15/11	1
n-Nitrosodi-n-propylamine	BDL	0.010	mg/l	8270C	09/15/11	1
Phenanthrene	BDL	0.0010	mg/l	8270C	09/15/11	1
Benzylbutyl phthalate	BDL	0.0010	mg/l	8270C	09/15/11	1
Bis(2-ethylhexyl)phthalate	BDL	0.0010	mg/l	8270C	09/15/11	1
Di-n-butyl phthalate	BDL	0.0010	mg/l	8270C	09/15/11	1
Diethyl phthalate	BDL	0.0010	mg/l	8270C	09/15/11	1
Dimethyl phthalate	BDL	0.0010	mg/l	8270C	09/15/11	1
Di-n-octyl phthalate	BDL	0.0010	mg/l	8270C	09/15/11	1
Pyrene	BDL	0.0010	mg/l	8270C	09/15/11	1
1,2,4-Trichlorobenzene	BDL	0.010	mg/l	8270C	09/15/11	1
Acid Extractables						
4-Chloro-3-methylphenol	BDL	0.010	mg/l	8270C	09/15/11	1
2-Chlorophenol	BDL	0.010	mg/l	8270C	09/15/11	1
2,4-Dichlorophenol	BDL	0.010	mg/l	8270C	09/15/11	1
2,4-Dimethylphenol	BDL	0.010	mg/l	8270C	09/15/11	1
4,6-Dinitro-2-methylphenol	BDL	0.010	mg/l	8270C	09/15/11	1
2,4-Dinitrophenol	BDL	0.010	mg/l	8270C	09/15/11	1
2-Nitrophenol	BDL	0.010	mg/l	8270C	09/15/11	1
4-Nitrophenol	BDL	0.010	mg/l	8270C	09/15/11	1
Pentachlorophenol	BDL	0.010	mg/l	8270C	09/15/11	1
Phenol	BDL	0.010	mg/l	8270C	09/15/11	1
2,4,6-Trichlorophenol	BDL	0.010	mg/l	8270C	09/15/11	1
Surrogate Recovery						
2-Fluorophenol	34.1		% Rec.	8270C	09/15/11	1
Phenol-d5	27.2		% Rec.	8270C	09/15/11	1
Nitrobenzene-d5	77.2		% Rec.	8270C	09/15/11	1
2-Fluorobiphenyl	47.1		% Rec.	8270C	09/15/11	1
2,4,6-Tribromophenol	70.9		% Rec.	8270C	09/15/11	1
p-Terphenyl-d14	50.7		% Rec.	8270C	09/15/11	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
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Reported: 09/19/11 17:43 Revised: 09/20/11 08:04

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REPORT OF ANALYSIS

Mr. Dustin Krajewski
AECOM Inc. - Fort Collins, CO
1601 Prospect Parkway
Fort Collins, CO 80525

September 20, 2011

ESC Sample # : L535457-03

Date Received : September 10, 2011
Description : EnCana Pavillion

Site ID : PAVILLION

Sample ID : SB-4-11 TP-34-3

Project # : 60196941

Collected By : D. Fairchild
Collection Date : 09/08/11 18:40

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
TPH (GC/FID) Low Fraction	BDL	0.10	mg/l	GRO	09/13/11	1
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	96.4		% Rec.	GRO	09/13/11	1
Volatile Organics						
Benzene	BDL	0.0010	mg/l	8260B	09/11/11	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	09/11/11	1
Toluene	BDL	0.0050	mg/l	8260B	09/11/11	1
Xylenes, Total	BDL	0.0030	mg/l	8260B	09/11/11	1
Surrogate Recovery						
Toluene-d8	103.		% Rec.	8260B	09/11/11	1
Dibromofluoromethane	106.		% Rec.	8260B	09/11/11	1
4-Bromofluorobenzene	91.1		% Rec.	8260B	09/11/11	1
DRO Wyoming C10-C32						
TPH (GC/FID) High Fraction	0.32	0.10	mg/l	8015	09/14/11	1
Surrogate recovery(%)						
o-Terphenyl	96.2		% Rec.	8015	09/14/11	1
Base/Neutral Extractables						
Acenaphthene	BDL	0.0010	mg/l	8270C	09/15/11	1
Acenaphthylene	BDL	0.0010	mg/l	8270C	09/15/11	1
Anthracene	BDL	0.0010	mg/l	8270C	09/15/11	1
Benzidine	BDL	0.010	mg/l	8270C	09/15/11	1
Benzo(a)anthracene	BDL	0.0010	mg/l	8270C	09/15/11	1
Benzo(b)fluoranthene	BDL	0.0010	mg/l	8270C	09/15/11	1
Benzo(k)fluoranthene	BDL	0.0010	mg/l	8270C	09/15/11	1
Benzo(g,h,i)perylene	BDL	0.0010	mg/l	8270C	09/15/11	1
Benzo(a)pyrene	BDL	0.0010	mg/l	8270C	09/15/11	1
Bis(2-chlorethoxy)methane	BDL	0.010	mg/l	8270C	09/15/11	1
Bis(2-chloroethyl)ether	BDL	0.010	mg/l	8270C	09/15/11	1
Bis(2-chloroisopropyl)ether	BDL	0.010	mg/l	8270C	09/15/11	1
4-Bromophenyl-phenylether	BDL	0.010	mg/l	8270C	09/15/11	1
2-Chloronaphthalene	BDL	0.0010	mg/l	8270C	09/15/11	1
4-Chlorophenyl-phenylether	BDL	0.010	mg/l	8270C	09/15/11	1
Chrysene	BDL	0.0010	mg/l	8270C	09/15/11	1
Dibenz(a,h)anthracene	BDL	0.0010	mg/l	8270C	09/15/11	1
3,3-Dichlorobenzidine	BDL	0.010	mg/l	8270C	09/15/11	1
2,4-Dinitrotoluene	BDL	0.010	mg/l	8270C	09/15/11	1
2,6-Dinitrotoluene	BDL	0.010	mg/l	8270C	09/15/11	1
Fluoranthene	BDL	0.0010	mg/l	8270C	09/15/11	1
Fluorene	BDL	0.0010	mg/l	8270C	09/15/11	1
Hexachlorobenzene	BDL	0.0010	mg/l	8270C	09/15/11	1
Hexachloro-1,3-butadiene	BDL	0.010	mg/l	8270C	09/15/11	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

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REPORT OF ANALYSIS

Mr. Dustin Krajewski
AECOM Inc. - Fort Collins, CO
1601 Prospect Parkway
Fort Collins, CO 80525

September 20, 2011

ESC Sample # : L535457-03

Date Received : September 10, 2011
Description : EnCana Pavillion

Site ID : PAVILLION

Sample ID : SB-4-11 TP-34-3

Project # : 60196941

Collected By : D. Fairchild
Collection Date : 09/08/11 18:40

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Hexachlorocyclopentadiene	BDL	0.010	mg/l	8270C	09/15/11	1
Hexachloroethane	BDL	0.010	mg/l	8270C	09/15/11	1
Indeno(1,2,3-cd)pyrene	BDL	0.0010	mg/l	8270C	09/15/11	1
Isophorone	BDL	0.010	mg/l	8270C	09/15/11	1
Naphthalene	BDL	0.0010	mg/l	8270C	09/15/11	1
Nitrobenzene	BDL	0.010	mg/l	8270C	09/15/11	1
n-Nitrosodimethylamine	BDL	0.010	mg/l	8270C	09/15/11	1
n-Nitrosodiphenylamine	BDL	0.010	mg/l	8270C	09/15/11	1
n-Nitrosodi-n-propylamine	BDL	0.010	mg/l	8270C	09/15/11	1
Phenanthrene	BDL	0.0010	mg/l	8270C	09/15/11	1
Benzylbutyl phthalate	BDL	0.0010	mg/l	8270C	09/15/11	1
Bis(2-ethylhexyl)phthalate	BDL	0.0010	mg/l	8270C	09/15/11	1
Di-n-butyl phthalate	BDL	0.0010	mg/l	8270C	09/15/11	1
Diethyl phthalate	BDL	0.0010	mg/l	8270C	09/15/11	1
Dimethyl phthalate	BDL	0.0010	mg/l	8270C	09/15/11	1
Di-n-octyl phthalate	BDL	0.0010	mg/l	8270C	09/15/11	1
Pyrene	BDL	0.0010	mg/l	8270C	09/15/11	1
1,2,4-Trichlorobenzene	BDL	0.010	mg/l	8270C	09/15/11	1
Acid Extractables						
4-Chloro-3-methylphenol	BDL	0.010	mg/l	8270C	09/15/11	1
2-Chlorophenol	BDL	0.010	mg/l	8270C	09/15/11	1
2,4-Dichlorophenol	BDL	0.010	mg/l	8270C	09/15/11	1
2,4-Dimethylphenol	BDL	0.010	mg/l	8270C	09/15/11	1
4,6-Dinitro-2-methylphenol	BDL	0.010	mg/l	8270C	09/15/11	1
2,4-Dinitrophenol	BDL	0.010	mg/l	8270C	09/15/11	1
2-Nitrophenol	BDL	0.010	mg/l	8270C	09/15/11	1
4-Nitrophenol	BDL	0.010	mg/l	8270C	09/15/11	1
Pentachlorophenol	BDL	0.010	mg/l	8270C	09/15/11	1
Phenol	BDL	0.010	mg/l	8270C	09/15/11	1
2,4,6-Trichlorophenol	BDL	0.010	mg/l	8270C	09/15/11	1
Surrogate Recovery						
2-Fluorophenol	13.5		% Rec.	8270C	09/15/11	1
Phenol-d5	10.3		% Rec.	8270C	09/15/11	1
Nitrobenzene-d5	53.7		% Rec.	8270C	09/15/11	1
2-Fluorobiphenyl	64.6		% Rec.	8270C	09/15/11	1
2,4,6-Tribromophenol	39.2		% Rec.	8270C	09/15/11	1
p-Terphenyl-d14	79.3		% Rec.	8270C	09/15/11	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.
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Reported: 09/19/11 17:43 Revised: 09/20/11 08:04

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Est. 1970

REPORT OF ANALYSIS

Mr. Dustin Krajewski
AECOM Inc. - Fort Collins, CO
1601 Prospect Parkway
Fort Collins, CO 80525

September 20, 2011

ESC Sample # : L535457-04

Date Received : September 10, 2011
Description : EnCana Pavillion

Site ID : PAVILLION

Sample ID : SB-5-11 TP-34-3

Project # : 60196941

Collected By : D. Fairchild
Collection Date : 09/08/11 18:00

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
TPH (GC/FID) Low Fraction	BDL	0.10	mg/l	GRO	09/13/11	1
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	96.2		% Rec.	GRO	09/13/11	1
Volatile Organics						
Benzene	BDL	0.0010	mg/l	8260B	09/11/11	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	09/11/11	1
Toluene	BDL	0.0050	mg/l	8260B	09/11/11	1
Xylenes, Total	BDL	0.0030	mg/l	8260B	09/11/11	1
Surrogate Recovery						
Toluene-d8	103.		% Rec.	8260B	09/11/11	1
Dibromofluoromethane	105.		% Rec.	8260B	09/11/11	1
4-Bromofluorobenzene	92.4		% Rec.	8260B	09/11/11	1
DRO Wyoming C10-C32						
TPH (GC/FID) High Fraction	BDL	0.10	mg/l	8015	09/14/11	1
Surrogate recovery(%)						
o-Terphenyl	98.8		% Rec.	8015	09/14/11	1
Base/Neutral Extractables						
Acenaphthene	BDL	0.0010	mg/l	8270C	09/15/11	1
Acenaphthylene	BDL	0.0010	mg/l	8270C	09/15/11	1
Anthracene	BDL	0.0010	mg/l	8270C	09/15/11	1
Benzidine	BDL	0.010	mg/l	8270C	09/15/11	1
Benzo(a)anthracene	BDL	0.0010	mg/l	8270C	09/15/11	1
Benzo(b)fluoranthene	BDL	0.0010	mg/l	8270C	09/15/11	1
Benzo(k)fluoranthene	BDL	0.0010	mg/l	8270C	09/15/11	1
Benzo(g,h,i)perylene	BDL	0.0010	mg/l	8270C	09/15/11	1
Benzo(a)pyrene	BDL	0.0010	mg/l	8270C	09/15/11	1
Bis(2-chlorethoxy)methane	BDL	0.010	mg/l	8270C	09/15/11	1
Bis(2-chloroethyl)ether	BDL	0.010	mg/l	8270C	09/15/11	1
Bis(2-chloroisopropyl)ether	BDL	0.010	mg/l	8270C	09/15/11	1
4-Bromophenyl-phenylether	BDL	0.010	mg/l	8270C	09/15/11	1
2-Chloronaphthalene	BDL	0.0010	mg/l	8270C	09/15/11	1
4-Chlorophenyl-phenylether	BDL	0.010	mg/l	8270C	09/15/11	1
Chrysene	BDL	0.0010	mg/l	8270C	09/15/11	1
Dibenz(a,h)anthracene	BDL	0.0010	mg/l	8270C	09/15/11	1
3,3-Dichlorobenzidine	BDL	0.010	mg/l	8270C	09/15/11	1
2,4-Dinitrotoluene	BDL	0.010	mg/l	8270C	09/15/11	1
2,6-Dinitrotoluene	BDL	0.010	mg/l	8270C	09/15/11	1
Fluoranthene	BDL	0.0010	mg/l	8270C	09/15/11	1
Fluorene	BDL	0.0010	mg/l	8270C	09/15/11	1
Hexachlorobenzene	BDL	0.0010	mg/l	8270C	09/15/11	1
Hexachloro-1,3-butadiene	BDL	0.010	mg/l	8270C	09/15/11	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

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Est. 1970

REPORT OF ANALYSIS

Mr. Dustin Krajewski
AECOM Inc. - Fort Collins, CO
1601 Prospect Parkway
Fort Collins, CO 80525

September 20, 2011

ESC Sample # : L535457-04

Date Received : September 10, 2011
Description : EnCana Pavillion

Site ID : PAVILLION

Sample ID : SB-5-11 TP-34-3

Project # : 60196941

Collected By : D. Fairchild
Collection Date : 09/08/11 18:00

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Hexachlorocyclopentadiene	BDL	0.010	mg/l	8270C	09/15/11	1
Hexachloroethane	BDL	0.010	mg/l	8270C	09/15/11	1
Indeno(1,2,3-cd)pyrene	BDL	0.0010	mg/l	8270C	09/15/11	1
Isophorone	BDL	0.010	mg/l	8270C	09/15/11	1
Naphthalene	BDL	0.0010	mg/l	8270C	09/15/11	1
Nitrobenzene	BDL	0.010	mg/l	8270C	09/15/11	1
n-Nitrosodimethylamine	BDL	0.010	mg/l	8270C	09/15/11	1
n-Nitrosodiphenylamine	BDL	0.010	mg/l	8270C	09/15/11	1
n-Nitrosodi-n-propylamine	BDL	0.010	mg/l	8270C	09/15/11	1
Phenanthrene	BDL	0.0010	mg/l	8270C	09/15/11	1
Benzylbutyl phthalate	BDL	0.0010	mg/l	8270C	09/15/11	1
Bis(2-ethylhexyl)phthalate	BDL	0.0010	mg/l	8270C	09/15/11	1
Di-n-butyl phthalate	BDL	0.0010	mg/l	8270C	09/15/11	1
Diethyl phthalate	BDL	0.0010	mg/l	8270C	09/15/11	1
Dimethyl phthalate	BDL	0.0010	mg/l	8270C	09/15/11	1
Di-n-octyl phthalate	BDL	0.0010	mg/l	8270C	09/15/11	1
Pyrene	BDL	0.0010	mg/l	8270C	09/15/11	1
1,2,4-Trichlorobenzene	BDL	0.010	mg/l	8270C	09/15/11	1
Acid Extractables						
4-Chloro-3-methylphenol	BDL	0.010	mg/l	8270C	09/15/11	1
2-Chlorophenol	BDL	0.010	mg/l	8270C	09/15/11	1
2,4-Dichlorophenol	BDL	0.010	mg/l	8270C	09/15/11	1
2,4-Dimethylphenol	BDL	0.010	mg/l	8270C	09/15/11	1
4,6-Dinitro-2-methylphenol	BDL	0.010	mg/l	8270C	09/15/11	1
2,4-Dinitrophenol	BDL	0.010	mg/l	8270C	09/15/11	1
2-Nitrophenol	BDL	0.010	mg/l	8270C	09/15/11	1
4-Nitrophenol	BDL	0.010	mg/l	8270C	09/15/11	1
Pentachlorophenol	BDL	0.010	mg/l	8270C	09/15/11	1
Phenol	BDL	0.010	mg/l	8270C	09/15/11	1
2,4,6-Trichlorophenol	BDL	0.010	mg/l	8270C	09/15/11	1
Surrogate Recovery						
2-Fluorophenol	0.860		% Rec.	8270C	09/15/11	1
Phenol-d5	0.400		% Rec.	8270C	09/15/11	1
Nitrobenzene-d5	58.4		% Rec.	8270C	09/15/11	1
2-Fluorobiphenyl	70.2		% Rec.	8270C	09/15/11	1
2,4,6-Tribromophenol	4.69		% Rec.	8270C	09/15/11	1
p-Terphenyl-d14	85.8		% Rec.	8270C	09/15/11	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
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Reported: 09/19/11 17:43 Revised: 09/20/11 08:04

Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L535457-01	WG555187	SAMP	2-Chlorophenol	R1860474	J3
	WG555187	SAMP	Pentachlorophenol	R1860474	J3
L535457-02	WG555187	SAMP	2-Chlorophenol	R1860474	J3
	WG555187	SAMP	Pentachlorophenol	R1860474	J3
	WG554911	SAMP	Xylenes, Total	R1856715	J6
L535457-03	WG555187	SAMP	2-Chlorophenol	R1860474	J3
	WG555187	SAMP	Pentachlorophenol	R1860474	J3
L535457-04	WG555187	SAMP	4-Chloro-3-methylphenol	R1860474	L2
	WG555187	SAMP	2-Chlorophenol	R1860474	J3L2
	WG555187	SAMP	2,4-Dichlorophenol	R1860474	L2
	WG555187	SAMP	2,4-Dimethylphenol	R1860474	L2
	WG555187	SAMP	4,6-Dinitro-2-methylphenol	R1860474	L2
	WG555187	SAMP	2,4-Dinitrophenol	R1860474	L2
	WG555187	SAMP	2-Nitrophenol	R1860474	L2
	WG555187	SAMP	4-Nitrophenol	R1860474	L2
	WG555187	SAMP	Pentachlorophenol	R1860474	J3L2
	WG555187	SAMP	Phenol	R1860474	L2
	WG555187	SAMP	2,4,6-Trichlorophenol	R1860474	L2
	WG555187	SAMP	2-Fluorophenol	R1860474	J2
	WG555187	SAMP	Phenol-d5	R1860474	J2
	WG555187	SAMP	2,4,6-Tribromophenol	R1860474	J2

EPAPAV0045172

Attachment B
Explanation of QC Qualifier Codes

Qualifier	Meaning
J2	Surrogate recovery limits have been exceeded; values are outside lower control limits
J3	The associated batch QC was outside the established quality control range for precision.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low
L2	(ESC) The associated surrogate compound falls below 10%. The data should be used with caution. A re-extraction was not possible due to limited sample volume.

Qualifier Report Information

ESC utilizes sample and result qualifiers as set forth by the EPA Contract Laboratory Program and as required by most certifying bodies including NELAC. In addition to the EPA qualifiers adopted by ESC, we have implemented ESC qualifiers to provide more information pertaining to our analytical results. Each qualifier is designated in the qualifier explanation as either EPA or ESC. Data qualifiers are intended to provide the ESC client with more detailed information concerning the potential bias of reported data. Because of the wide range of constituents and variety of matrices incorporated by most EPA methods,it is common for some compounds to fall outside of established ranges. These exceptions are evaluated and all reported data is valid and useable "unless qualified as 'R' (Rejected)."

Definitions

Accuracy - The relationship of the observed value of a known sample to the true value of a known sample. Represented by percent recovery and relevant to samples such as: control samples, matrix spike recoveries, surrogate recoveries, etc.

Precision - The agreement between a set of samples or between duplicate samples. Relates to how close together the results are and is represented by Relative Percent Differrence.

Surrogate - Organic compounds that are similar in chemical composition, extraction, and chromotography to analytes of interest. The surrogates are used to determine the probable response of the group of analytes that are chemically related to the surrogate compound. Surrogates are added to the sample and carried through all stages of preparation and analyses.

TIC - Tentatively Identified Compound: Compounds detected in samples that are not target compounds, internal standards, system monitoring compounds, or surrogates.

EPAPAV0045173

Summary of Remarks For Samples Printed
09/20/11 at 08:05:01

TSR Signing Reports: 044
R5 - Desired TAT

Always run BTEX by 8260 unless noted otherwise. ln 9/2/11

Sample: L535457-01 Account: ENSRFCCO Received: 09/10/11 11:30 Due Date: 09/16/11 00:00 RPT Date: 09/19/11 17:43

Sample: L535457-02 Account: ENSRFCCO Received: 09/10/11 11:30 Due Date: 09/16/11 00:00 RPT Date: 09/19/11 17:43

Sample: L535457-03 Account: ENSRFCCO Received: 09/10/11 11:30 Due Date: 09/16/11 00:00 RPT Date: 09/19/11 17:43

Sample: L535457-04 Account: ENSRFCCO Received: 09/10/11 11:30 Due Date: 09/16/11 00:00 RPT Date: 09/19/11 17:43

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AECOM Inc. - Fort Collins, CO
Mr. Dustin Krajewski
1601 Prospect Parkway

Fort Collins, CO 80525

Quality Assurance Report
Level II

L535457

September 20, 2011

Laboratory Blank

Analyte	Result	Units	% Rec	Limit	Batch	Date Analyzed
1,1,1,2-Tetrachloroethane	< .001	mg/l			WG554557	09/10/11 22:37
1,1,1-Trichloroethane	< .001	mg/l			WG554557	09/10/11 22:37
1,1,2,2-Tetrachloroethane	< .001	mg/l			WG554557	09/10/11 22:37
1,1,2-Trichloroethane	< .001	mg/l			WG554557	09/10/11 22:37
1,1,2-Trichloro-1,2,2-trifluoroethane	< .001	mg/l			WG554557	09/10/11 22:37
1,1-Dichloroethane	< .001	mg/l			WG554557	09/10/11 22:37
1,1-Dichloroethene	< .001	mg/l			WG554557	09/10/11 22:37
1,1-Dichloropropene	< .001	mg/l			WG554557	09/10/11 22:37
1,2,3-Trichlorobenzene	< .001	mg/l			WG554557	09/10/11 22:37
1,2,3-Trichloropropane	< .001	mg/l			WG554557	09/10/11 22:37
1,2,3-Trimethylbenzene	< .001	mg/l			WG554557	09/10/11 22:37
1,2,4-Trichlorobenzene	< .001	mg/l			WG554557	09/10/11 22:37
1,2,4-Trimethylbenzene	< .001	mg/l			WG554557	09/10/11 22:37
1,2-Dibromo-3-Chloropropane	< .005	mg/l			WG554557	09/10/11 22:37
1,2-Dibromoethane	< .001	mg/l			WG554557	09/10/11 22:37
1,2-Dichlorobenzene	< .001	mg/l			WG554557	09/10/11 22:37
1,2-Dichloroethane	< .001	mg/l			WG554557	09/10/11 22:37
1,2-Dichloropropane	< .001	mg/l			WG554557	09/10/11 22:37
1,3,5-Trimethylbenzene	< .001	mg/l			WG554557	09/10/11 22:37
1,3-Dichlorobenzene	< .001	mg/l			WG554557	09/10/11 22:37
1,3-Dichloropropane	< .001	mg/l			WG554557	09/10/11 22:37
1,4-Dichlorobenzene	< .001	mg/l			WG554557	09/10/11 22:37
2,2-Dichloropropane	< .001	mg/l			WG554557	09/10/11 22:37
2-Butanone (MEK)	< .01	mg/l			WG554557	09/10/11 22:37
2-Chloroethyl vinyl ether	< .05	mg/l			WG554557	09/10/11 22:37
2-Chlorotoluene	< .001	mg/l			WG554557	09/10/11 22:37
4-Chlorotoluene	< .001	mg/l			WG554557	09/10/11 22:37
4-Methyl-2-pentanone (MIBK)	< .01	mg/l			WG554557	09/10/11 22:37
Acetone	< .05	mg/l			WG554557	09/10/11 22:37
Acrolein	< .025	mg/l			WG554557	09/10/11 22:37
Acrylonitrile	< .01	mg/l			WG554557	09/10/11 22:37
Benzene	< .001	mg/l			WG554557	09/10/11 22:37
Bromobenzene	< .001	mg/l			WG554557	09/10/11 22:37
Bromodichloromethane	< .001	mg/l			WG554557	09/10/11 22:37
Bromoform	< .001	mg/l			WG554557	09/10/11 22:37
Bromomethane	< .005	mg/l			WG554557	09/10/11 22:37
Carbon tetrachloride	< .001	mg/l			WG554557	09/10/11 22:37
Chlorobenzene	< .001	mg/l			WG554557	09/10/11 22:37
Chlorodibromomethane	< .001	mg/l			WG554557	09/10/11 22:37
Chloroethane	< .005	mg/l			WG554557	09/10/11 22:37
Chloroform	< .005	mg/l			WG554557	09/10/11 22:37
Chloromethane	< .0025	mg/l			WG554557	09/10/11 22:37
cis-1,2-Dichloroethene	< .001	mg/l			WG554557	09/10/11 22:37
cis-1,3-Dichloropropene	< .001	mg/l			WG554557	09/10/11 22:37
Di-isopropyl ether	< .001	mg/l			WG554557	09/10/11 22:37
Dibromomethane	< .001	mg/l			WG554557	09/10/11 22:37
Dichlorodifluoromethane	< .005	mg/l			WG554557	09/10/11 22:37
Ethylbenzene	< .001	mg/l			WG554557	09/10/11 22:37
Hexachloro-1,3-butadiene	< .001	mg/l			WG554557	09/10/11 22:37
Isopropylbenzene	< .001	mg/l			WG554557	09/10/11 22:37
Methyl tert-butyl ether	< .001	mg/l			WG554557	09/10/11 22:37
Methylene Chloride	< .005	mg/l			WG554557	09/10/11 22:37
n-Butylbenzene	< .001	mg/l			WG554557	09/10/11 22:37
n-Propylbenzene	< .001	mg/l			WG554557	09/10/11 22:37
Naphthalene	< .005	mg/l			WG554557	09/10/11 22:37
p-Isopropyltoluene	< .001	mg/l			WG554557	09/10/11 22:37
sec-Butylbenzene	< .001	mg/l			WG554557	09/10/11 22:37
Styrene	< .001	mg/l			WG554557	09/10/11 22:37
tert-Butylbenzene	< .001	mg/l			WG554557	09/10/11 22:37

* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'

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1601 Prospect Parkway

Fort Collins, CO 80525

Quality Assurance Report
Level II

L535457

September 20, 2011

Laboratory Blank

Analyte	Result	Units	% Rec	Limit	Batch	Date Analyzed
Tetrachloroethene	< .001	mg/l			WG554557	09/10/11 22:37
Toluene	< .005	mg/l			WG554557	09/10/11 22:37
trans-1,2-Dichloroethene	< .001	mg/l			WG554557	09/10/11 22:37
trans-1,3-Dichloropropene	< .001	mg/l			WG554557	09/10/11 22:37
Trichloroethene	< .001	mg/l			WG554557	09/10/11 22:37
Trichlorofluoromethane	< .005	mg/l			WG554557	09/10/11 22:37
Vinyl chloride	< .001	mg/l			WG554557	09/10/11 22:37
Xylenes, Total	< .003	mg/l			WG554557	09/10/11 22:37
4-Bromofluorobenzene		% Rec.	95.98	82-120	WG554557	09/10/11 22:37
Dibromofluoromethane		% Rec.	105.5	82-126	WG554557	09/10/11 22:37
Toluene-d8		% Rec.	101.3	92-112	WG554557	09/10/11 22:37
TPH (GC/FID) Low Fraction	< .1	mg/l			WG554885	09/13/11 16:03
a,a,a-Trifluorotoluene(FID)		% Rec.	97.29	62-128	WG554885	09/13/11 16:03
1,1,1,2-Tetrachloroethane	< .001	mg/l			WG554911	09/13/11 12:58
1,1,1-Trichloroethane	< .001	mg/l			WG554911	09/13/11 12:58
1,1,2,2-Tetrachloroethane	< .001	mg/l			WG554911	09/13/11 12:58
1,1,2-Trichloroethane	< .001	mg/l			WG554911	09/13/11 12:58
1,1,2-Trichloro-1,2,2-trifluoroethane	< .001	mg/l			WG554911	09/13/11 12:58
1,1-Dichloroethane	< .001	mg/l			WG554911	09/13/11 12:58
1,1-Dichloroethene	< .001	mg/l			WG554911	09/13/11 12:58
1,1-Dichloropropene	< .001	mg/l			WG554911	09/13/11 12:58
1,2,3-Trichlorobenzene	< .001	mg/l			WG554911	09/13/11 12:58
1,2,3-Trichloropropane	< .001	mg/l			WG554911	09/13/11 12:58
1,2,3-Trimethylbenzene	< .001	mg/l			WG554911	09/13/11 12:58
1,2,4-Trichlorobenzene	< .001	mg/l			WG554911	09/13/11 12:58
1,2,4-Trimethylbenzene	< .001	mg/l			WG554911	09/13/11 12:58
1,2-Dibromo-3-Chloropropane	< .005	mg/l			WG554911	09/13/11 12:58
1,2-Dibromoethane	< .001	mg/l			WG554911	09/13/11 12:58
1,2-Dichlorobenzene	< .001	mg/l			WG554911	09/13/11 12:58
1,2-Dichloroethane	< .001	mg/l			WG554911	09/13/11 12:58
1,2-Dichloropropane	< .001	mg/l			WG554911	09/13/11 12:58
1,3,5-Trimethylbenzene	< .001	mg/l			WG554911	09/13/11 12:58
1,3-Dichlorobenzene	< .001	mg/l			WG554911	09/13/11 12:58
1,3-Dichloropropane	< .001	mg/l			WG554911	09/13/11 12:58
1,4-Dichlorobenzene	< .001	mg/l			WG554911	09/13/11 12:58
2,2-Dichloropropane	< .001	mg/l			WG554911	09/13/11 12:58
2-Butanone (MEK)	< .01	mg/l			WG554911	09/13/11 12:58
2-Chloroethyl vinyl ether	< .05	mg/l			WG554911	09/13/11 12:58
2-Chlorotoluene	< .001	mg/l			WG554911	09/13/11 12:58
4-Chlorotoluene	< .001	mg/l			WG554911	09/13/11 12:58
4-Methyl-2-pentanone (MIBK)	< .01	mg/l			WG554911	09/13/11 12:58
Acetone	< .05	mg/l			WG554911	09/13/11 12:58
Acrolein	< .025	mg/l			WG554911	09/13/11 12:58
Acrylonitrile	< .01	mg/l			WG554911	09/13/11 12:58
Benzene	< .001	mg/l			WG554911	09/13/11 12:58
Bromobenzene	< .001	mg/l			WG554911	09/13/11 12:58
Bromodichloromethane	< .001	mg/l			WG554911	09/13/11 12:58
Bromoform	< .001	mg/l			WG554911	09/13/11 12:58
Bromomethane	< .005	mg/l			WG554911	09/13/11 12:58
Carbon tetrachloride	< .001	mg/l			WG554911	09/13/11 12:58
Chlorobenzene	< .001	mg/l			WG554911	09/13/11 12:58
Chlorodibromomethane	< .001	mg/l			WG554911	09/13/11 12:58
Chloroethane	< .005	mg/l			WG554911	09/13/11 12:58
Chloroform	< .005	mg/l			WG554911	09/13/11 12:58
Chloromethane	< .0025	mg/l			WG554911	09/13/11 12:58

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Est. 1970

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Mr. Dustin Krajewski
1601 Prospect Parkway

Fort Collins, CO 80525

Quality Assurance Report
Level II

L535457

September 20, 2011

Laboratory Blank

Analyte	Result	Units	% Rec	Limit	Batch	Date Analyzed
cis-1,2-Dichloroethene	< .001	mg/l			WG554911	09/13/11 12:58
cis-1,3-Dichloropropene	< .001	mg/l			WG554911	09/13/11 12:58
Di-isopropyl ether	< .001	mg/l			WG554911	09/13/11 12:58
Dibromomethane	< .001	mg/l			WG554911	09/13/11 12:58
Dichlorodifluoromethane	< .005	mg/l			WG554911	09/13/11 12:58
Ethylbenzene	< .001	mg/l			WG554911	09/13/11 12:58
Hexachloro-1,3-butadiene	< .001	mg/l			WG554911	09/13/11 12:58
Isopropylbenzene	< .001	mg/l			WG554911	09/13/11 12:58
Methyl tert-butyl ether	< .001	mg/l			WG554911	09/13/11 12:58
Methylene Chloride	< .005	mg/l			WG554911	09/13/11 12:58
n-Butylbenzene	< .001	mg/l			WG554911	09/13/11 12:58
n-Propylbenzene	< .001	mg/l			WG554911	09/13/11 12:58
Naphthalene	< .005	mg/l			WG554911	09/13/11 12:58
p-Isopropyltoluene	< .001	mg/l			WG554911	09/13/11 12:58
sec-Butylbenzene	< .001	mg/l			WG554911	09/13/11 12:58
Styrene	< .001	mg/l			WG554911	09/13/11 12:58
tert-Butylbenzene	< .001	mg/l			WG554911	09/13/11 12:58
Tetrachloroethene	< .001	mg/l			WG554911	09/13/11 12:58
Toluene	< .005	mg/l			WG554911	09/13/11 12:58
trans-1,2-Dichloroethene	< .001	mg/l			WG554911	09/13/11 12:58
trans-1,3-Dichloropropene	< .001	mg/l			WG554911	09/13/11 12:58
Trichloroethene	< .001	mg/l			WG554911	09/13/11 12:58
Trichlorofluoromethane	< .005	mg/l			WG554911	09/13/11 12:58
Vinyl chloride	< .001	mg/l			WG554911	09/13/11 12:58
Xylenes, Total	< .003	mg/l			WG554911	09/13/11 12:58
4-Bromofluorobenzene		% Rec.	114.6	82-120	WG554911	09/13/11 12:58
Dibromofluoromethane		% Rec.	103.9	82-126	WG554911	09/13/11 12:58
Toluene-d8		% Rec.	103.5	92-112	WG554911	09/13/11 12:58
TPH (GC/FID) High Fraction	< .1	ppm			WG554605	09/14/11 19:49
o-Terphenyl		% Rec.	102.8	50-150	WG554605	09/14/11 19:49
1,2,4-Trichlorobenzene	< .01	mg/l			WG555187	09/15/11 12:53
2,4,6-Trichlorophenol	< .01	mg/l			WG555187	09/15/11 12:53
2,4-Dichlorophenol	< .01	mg/l			WG555187	09/15/11 12:53
2,4-Dimethylphenol	< .01	mg/l			WG555187	09/15/11 12:53
2,4-Dinitrophenol	< .01	mg/l			WG555187	09/15/11 12:53
2,4-Dinitrotoluene	< .01	mg/l			WG555187	09/15/11 12:53
2,6-Dinitrotoluene	< .01	mg/l			WG555187	09/15/11 12:53
2-Chloronaphthalene	< .001	mg/l			WG555187	09/15/11 12:53
2-Chlorophenol	< .01	mg/l			WG555187	09/15/11 12:53
2-Nitrophenol	< .01	mg/l			WG555187	09/15/11 12:53
3,3-Dichlorobenzidine	< .01	mg/l			WG555187	09/15/11 12:53
4,6-Dinitro-2-methylphenol	< .01	mg/l			WG555187	09/15/11 12:53
4-Bromophenyl-phenylether	< .01	mg/l			WG555187	09/15/11 12:53
4-Chloro-3-methylphenol	< .01	mg/l			WG555187	09/15/11 12:53
4-Chlorophenyl-phenylether	< .01	mg/l			WG555187	09/15/11 12:53
4-Nitrophenol	< .01	mg/l			WG555187	09/15/11 12:53
Acenaphthene	< .001	mg/l			WG555187	09/15/11 12:53
Acenaphthylene	< .001	mg/l			WG555187	09/15/11 12:53
Anthracene	< .001	mg/l			WG555187	09/15/11 12:53
Benzidine	< .01	mg/l			WG555187	09/15/11 12:53
Benzo(a)anthracene	< .001	mg/l			WG555187	09/15/11 12:53
Benzo(a)pyrene	< .001	mg/l			WG555187	09/15/11 12:53
Benzo(b)fluoranthene	< .001	mg/l			WG555187	09/15/11 12:53
Benzo(g,h,i)perylene	< .001	mg/l			WG555187	09/15/11 12:53
Benzo(k)fluoranthene	< .001	mg/l			WG555187	09/15/11 12:53

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Quality Assurance Report
Level II

L535457

September 20, 2011

Laboratory Blank

Analyte	Result	Units	% Rec	Limit	Batch	Date Analyzed
Benzylbutyl phthalate	< .001	mg/l			WG555187	09/15/11 12:53
Bis(2-chlorethoxy)methane	< .01	mg/l			WG555187	09/15/11 12:53
Bis(2-chloroethyl)ether	< .01	mg/l			WG555187	09/15/11 12:53
Bis(2-chloroisopropyl)ether	< .01	mg/l			WG555187	09/15/11 12:53
Bis(2-ethylhexyl)phthalate	< .001	mg/l			WG555187	09/15/11 12:53
Chrysene	< .001	mg/l			WG555187	09/15/11 12:53
Di-n-butyl phthalate	< .001	mg/l			WG555187	09/15/11 12:53
Di-n-octyl phthalate	< .001	mg/l			WG555187	09/15/11 12:53
Dibenz(a,h)anthracene	< .001	mg/l			WG555187	09/15/11 12:53
Diethyl phthalate	< .001	mg/l			WG555187	09/15/11 12:53
Dimethyl phthalate	< .001	mg/l			WG555187	09/15/11 12:53
Fluoranthene	< .001	mg/l			WG555187	09/15/11 12:53
Fluorene	< .001	mg/l			WG555187	09/15/11 12:53
Hexachloro-1,3-butadiene	< .01	mg/l			WG555187	09/15/11 12:53
Hexachlorobenzene	< .001	mg/l			WG555187	09/15/11 12:53
Hexachlorocyclopentadiene	< .01	mg/l			WG555187	09/15/11 12:53
Hexachloroethane	< .01	mg/l			WG555187	09/15/11 12:53
Indeno(1,2,3-cd)pyrene	< .001	mg/l			WG555187	09/15/11 12:53
Isophorone	< .01	mg/l			WG555187	09/15/11 12:53
n-Nitrosodi-n-propylamine	< .01	mg/l			WG555187	09/15/11 12:53
n-Nitrosodimethylamine	< .01	mg/l			WG555187	09/15/11 12:53
n-Nitrosodiphenylamine	< .01	mg/l			WG555187	09/15/11 12:53
Naphthalene	< .001	mg/l			WG555187	09/15/11 12:53
Nitrobenzene	< .01	mg/l			WG555187	09/15/11 12:53
Pentachlorophenol	< .001	mg/l			WG555187	09/15/11 12:53
Phenanthrene	< .001	mg/l			WG555187	09/15/11 12:53
Phenol	< .01	mg/l			WG555187	09/15/11 12:53
Pyrene	< .001	mg/l			WG555187	09/15/11 12:53
2,4,6-Tribromophenol		mg/l	74.01	16-147	WG555187	09/15/11 12:53
2-Fluorobiphenyl		mg/l	73.01	29-127	WG555187	09/15/11 12:53
2-Fluorophenol		mg/l	41.76	10-75	WG555187	09/15/11 12:53
Nitrobenzene-d5		mg/l	63.41	17-119	WG555187	09/15/11 12:53
Phenol-d5		mg/l	29.89	10-63	WG555187	09/15/11 12:53
p-Terphenyl-d14		mg/l	98.42	40-174	WG555187	09/15/11 12:53

Laboratory Control Sample

Analyte	Units	Known Val	Result	% Rec	Limit	Batch
1,1,1,2-Tetrachloroethane	mg/l	.025	0.0259	104.	77-128	WG554557
1,1,1-Trichloroethane	mg/l	.025	0.0264	106.	71-126	WG554557
1,1,2,2-Tetrachloroethane	mg/l	.025	0.0279	112.	78-130	WG554557
1,1,2-Trichloroethane	mg/l	.025	0.0267	107.	81-121	WG554557
1,1,2-Trichloro-1,2,2-trifluoroethane	mg/l	.025	0.0237	94.9	53-143	WG554557
1,1-Dichloroethane	mg/l	.025	0.0285	114.	73-123	WG554557
1,1-Dichloroethene	mg/l	.025	0.0244	97.8	54-134	WG554557
1,1-Dichloropropene	mg/l	.025	0.0280	112.	67-127	WG554557
1,2,3-Trichlorobenzene	mg/l	.025	0.0282	113.	77-130	WG554557
1,2,3-Trichloropropane	mg/l	.025	0.0283	113.	68-130	WG554557
1,2,3-Trimethylbenzene	mg/l	.025	0.0269	108.	70-127	WG554557
1,2,4-Trichlorobenzene	mg/l	.025	0.0283	113.	76-127	WG554557
1,2,4-Trimethylbenzene	mg/l	.025	0.0272	109.	77-129	WG554557
1,2-Dibromo-3-Chloropropane	mg/l	.025	0.0246	98.6	55-142	WG554557
1,2-Dibromoethane	mg/l	.025	0.0266	107.	78-124	WG554557
1,2-Dichlorobenzene	mg/l	.025	0.0279	112.	82-121	WG554557
1,2-Dichloroethane	mg/l	.025	0.0288	115.	69-128	WG554557
1,2-Dichloropropane	mg/l	.025	0.0265	106.	77-121	WG554557
1,3,5-Trimethylbenzene	mg/l	.025	0.0270	108.	78-127	WG554557
1,3-Dichlorobenzene	mg/l	.025	0.0271	108.	77-127	WG554557
1,3-Dichloropropane	mg/l	.025	0.0267	107.	78-117	WG554557

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Quality Assurance Report
Level II

L535457

September 20, 2011

Analyte	Units	Laboratory Control Sample Known Val	Result	% Rec	Limit	Batch
1,4-Dichlorobenzene	mg/l	.025	0.0273	109.	79-117	WG554557
2,2-Dichloropropane	mg/l	.025	0.0242	96.9	63-130	WG554557
2-Butanone (MEK)	mg/l	.125	0.137	110.	58-144	WG554557
2-Chloroethyl vinyl ether	mg/l	.125	0.145	116.	26-172	WG554557
2-Chlorotoluene	mg/l	.025	0.0267	107.	78-123	WG554557
4-Chlorotoluene	mg/l	.025	0.0269	108.	78-122	WG554557
4-Methyl-2-pentanone (MIBK)	mg/l	.125	0.131	105.	58-147	WG554557
Acetone	mg/l	.125	0.110	88.4	49-153	WG554557
Acrolein	mg/l	.125	0.0961	76.9	10-181	WG554557
Acrylonitrile	mg/l	.125	0.154	123.	53-153	WG554557
Benzene	mg/l	.025	0.0274	109.	72-119	WG554557
Bromobenzene	mg/l	.025	0.0276	110.	76-121	WG554557
Bromodichloromethane	mg/l	.025	0.0259	104.	75-127	WG554557
Bromoform	mg/l	.025	0.0249	99.5	61-136	WG554557
Bromomethane	mg/l	.025	0.0391	156.	42-172	WG554557
Carbon tetrachloride	mg/l	.025	0.0243	97.4	63-129	WG554557
Chlorobenzene	mg/l	.025	0.0263	105.	78-123	WG554557
Chlorodibromomethane	mg/l	.025	0.0259	104.	73-128	WG554557
Chloroethane	mg/l	.025	0.0402	161.	52-164	WG554557
Chloroform	mg/l	.025	0.0286	114.	76-122	WG554557
Chloromethane	mg/l	.025	0.0302	121.	50-141	WG554557
cis-1,2-Dichloroethene	mg/l	.025	0.0282	113.	75-121	WG554557
cis-1,3-Dichloropropene	mg/l	.025	0.0252	101.	74-124	WG554557
Di-isopropyl ether	mg/l	.025	0.0273	109.	66-129	WG554557
Dibromomethane	mg/l	.025	0.0267	107.	77-124	WG554557
Dichlorodifluoromethane	mg/l	.025	0.0273	109.	33-173	WG554557
Ethylbenzene	mg/l	.025	0.0259	104.	77-124	WG554557
Hexachloro-1,3-butadiene	mg/l	.025	0.0289	116.	71-134	WG554557
Isopropylbenzene	mg/l	.025	0.0262	105.	74-126	WG554557
Methyl tert-butyl ether	mg/l	.025	0.0279	112.	67-127	WG554557
Methylene Chloride	mg/l	.025	0.0190	76.1	67-122	WG554557
n-Butylbenzene	mg/l	.025	0.0283	113.	74-130	WG554557
n-Propylbenzene	mg/l	.025	0.0275	110.	77-125	WG554557
Naphthalene	mg/l	.025	0.0285	114.	70-134	WG554557
p-Isopropyltoluene	mg/l	.025	0.0271	108.	77-132	WG554557
sec-Butylbenzene	mg/l	.025	0.0265	106.	77-130	WG554557
Styrene	mg/l	.025	0.0275	110.	69-145	WG554557
tert-Butylbenzene	mg/l	.025	0.0261	104.	76-131	WG554557
Tetrachloroethene	mg/l	.025	0.0265	106.	75-121	WG554557
Toluene	mg/l	.025	0.0248	99.0	75-114	WG554557
trans-1,2-Dichloroethene	mg/l	.025	0.0276	111.	63-127	WG554557
trans-1,3-Dichloropropene	mg/l	.025	0.0260	104.	69-124	WG554557
Trichloroethene	mg/l	.025	0.0267	107.	69-131	WG554557
Trichlorofluoromethane	mg/l	.025	0.0364	146.	53-161	WG554557
Vinyl chloride	mg/l	.025	0.0309	123.	55-142	WG554557
Xylenes, Total	mg/l	.075	0.0773	103.	77-123	WG554557
4-Bromofluorobenzene				98.82	82-120	WG554557
Dibromofluoromethane				110.4	82-126	WG554557
Toluene-d8				99.01	92-112	WG554557
TPH (GC/FID) Low Fraction	mg/l	5.5	6.39	116.	70-124	WG554885
a,a,a-Trifluorotoluene(FID)				113.5	62-128	WG554885
1,1,1,2-Tetrachloroethane	mg/l	.025	0.0273	109.	77-128	WG554911
1,1,1-Trichloroethane	mg/l	.025	0.0267	107.	71-126	WG554911
1,1,2,2-Tetrachloroethane	mg/l	.025	0.0228	91.1	78-130	WG554911
1,1,2-Trichloroethane	mg/l	.025	0.0240	96.0	81-121	WG554911

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Level II

L535457

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Analyte	Units	Laboratory Control Sample Known Val	Result	% Rec	Limit	Batch
1,1,2-Trichloro-1,2,2-trifluoroethane	mg/l	.025	0.0240	95.8	53-143	WG554911
1,1-Dichloroethane	mg/l	.025	0.0245	97.8	73-123	WG554911
1,1-Dichloroethene	mg/l	.025	0.0210	84.1	54-134	WG554911
1,1-Dichloropropene	mg/l	.025	0.0233	93.1	67-127	WG554911
1,2,3-Trichlorobenzene	mg/l	.025	0.0256	102.	77-130	WG554911
1,2,3-Trichloropropane	mg/l	.025	0.0251	100.	68-130	WG554911
1,2,3-Trimethylbenzene	mg/l	.025	0.0236	94.5	70-127	WG554911
1,2,4-Trichlorobenzene	mg/l	.025	0.0270	108.	76-127	WG554911
1,2,4-Trimethylbenzene	mg/l	.025	0.0263	105.	77-129	WG554911
1,2-Dibromo-3-Chloropropane	mg/l	.025	0.0220	88.0	55-142	WG554911
1,2-Dibromoethane	mg/l	.025	0.0242	96.7	78-124	WG554911
1,2-Dichlorobenzene	mg/l	.025	0.0242	96.9	82-121	WG554911
1,2-Dichloroethane	mg/l	.025	0.0246	98.3	69-128	WG554911
1,2-Dichloropropane	mg/l	.025	0.0229	91.7	77-121	WG554911
1,3,5-Trimethylbenzene	mg/l	.025	0.0271	108.	78-127	WG554911
1,3-Dichlorobenzene	mg/l	.025	0.0256	102.	77-127	WG554911
1,3-Dichloropropane	mg/l	.025	0.0230	91.8	78-117	WG554911
1,4-Dichlorobenzene	mg/l	.025	0.0237	94.9	79-117	WG554911
2,2-Dichloropropane	mg/l	.025	0.0277	111.	63-130	WG554911
2-Butanone (MEK)	mg/l	.125	0.101	80.6	58-144	WG554911
2-Chloroethyl vinyl ether	mg/l	.125	0.101	80.9	26-172	WG554911
2-Chlorotoluene	mg/l	.025	0.0261	104.	78-123	WG554911
4-Chlorotoluene	mg/l	.025	0.0257	103.	78-122	WG554911
4-Methyl-2-pentanone (MIBK)	mg/l	.125	0.114	91.0	58-147	WG554911
Acetone	mg/l	.125	0.0966	77.3	49-153	WG554911
Acrolein	mg/l	.125	0.0179	14.3	10-181	WG554911
Acrylonitrile	mg/l	.125	0.105	84.4	53-153	WG554911
Benzene	mg/l	.025	0.0227	90.8	72-119	WG554911
Bromobenzene	mg/l	.025	0.0257	103.	76-121	WG554911
Bromodichloromethane	mg/l	.025	0.0261	104.	75-127	WG554911
Bromoform	mg/l	.025	0.0238	95.3	61-136	WG554911
Bromomethane	mg/l	.025	0.0260	104.	42-172	WG554911
Carbon tetrachloride	mg/l	.025	0.0265	106.	63-129	WG554911
Chlorobenzene	mg/l	.025	0.0246	98.3	78-123	WG554911
Chlorodibromomethane	mg/l	.025	0.0281	112.	73-128	WG554911
Chloroethane	mg/l	.025	0.0230	92.1	52-164	WG554911
Chloroform	mg/l	.025	0.0259	104.	76-122	WG554911
Chloromethane	mg/l	.025	0.0183	73.2	50-141	WG554911
cis-1,2-Dichloroethene	mg/l	.025	0.0241	96.2	75-121	WG554911
cis-1,3-Dichloropropene	mg/l	.025	0.0251	100.	74-124	WG554911
Di-isopropyl ether	mg/l	.025	0.0233	93.3	66-129	WG554911
Dibromomethane	mg/l	.025	0.0243	97.4	77-124	WG554911
Dichlorodifluoromethane	mg/l	.025	0.0213	85.1	33-173	WG554911
Ethylbenzene	mg/l	.025	0.0251	100.	77-124	WG554911
Hexachloro-1,3-butadiene	mg/l	.025	0.0251	100.	71-134	WG554911
Isopropylbenzene	mg/l	.025	0.0293	117.	74-126	WG554911
Methyl tert-butyl ether	mg/l	.025	0.0269	108.	67-127	WG554911
Methylene Chloride	mg/l	.025	0.0248	99.2	67-122	WG554911
n-Butylbenzene	mg/l	.025	0.0246	98.4	74-130	WG554911
n-Propylbenzene	mg/l	.025	0.0248	99.2	77-125	WG554911
Naphthalene	mg/l	.025	0.0223	89.4	70-134	WG554911
p-Isopropyltoluene	mg/l	.025	0.0278	111.	77-132	WG554911
sec-Butylbenzene	mg/l	.025	0.0264	106.	77-130	WG554911
Styrene	mg/l	.025	0.0180	71.9	69-145	WG554911
tert-Butylbenzene	mg/l	.025	0.0281	112.	76-131	WG554911
Tetrachloroethene	mg/l	.025	0.0239	95.8	75-121	WG554911
Toluene	mg/l	.025	0.0236	94.3	75-114	WG554911
trans-1,2-Dichloroethene	mg/l	.025	0.0237	94.7	63-127	WG554911
trans-1,3-Dichloropropene	mg/l	.025	0.0239	95.6	69-124	WG554911

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Mr. Dustin Krajewski
1601 Prospect Parkway

Fort Collins, CO 80525

Quality Assurance Report
Level II

L535457

September 20, 2011

Analyte	Units	Laboratory Control Sample Known Val	Result	% Rec	Limit	Batch
Trichloroethene	mg/l	.025	0.0241	96.3	69-131	WG554911
Trichlorofluoromethane	mg/l	.025	0.0249	99.5	53-161	WG554911
Vinyl chloride	mg/l	.025	0.0195	78.1	55-142	WG554911
Xylenes, Total	mg/l	.075	0.0772	103.	77-123	WG554911
4-Bromofluorobenzene				110.3	82-120	WG554911
Dibromofluoromethane				103.2	82-126	WG554911
Toluene-d8				105.0	92-112	WG554911
1,2,4-Trichlorobenzene	mg/l	.01	0.00602	60.2	34-97	WG555187
2,4,6-Trichlorophenol	mg/l	.01	0.00659	65.9	38-113	WG555187
2,4-Dichlorophenol	mg/l	.01	0.00673	67.3	46-105	WG555187
2,4-Dimethylphenol	mg/l	.01	0.00675	67.5	47-108	WG555187
2,4-Dinitrophenol	mg/l	.01	0.00564	56.4	10-121	WG555187
2,4-Dinitrotoluene	mg/l	.01	0.00841	84.1	59-117	WG555187
2,6-Dinitrotoluene	mg/l	.01	0.00751	75.1	57-110	WG555187
2-Chloronaphthalene	mg/l	.01	0.00708	70.8	47-106	WG555187
2-Chlorophenol	mg/l	.01	0.00678	67.8	37-90	WG555187
2-Nitrophenol	mg/l	.01	0.00660	66.0	40-112	WG555187
3,3-Dichlorobenzidine	mg/l	.01	0.00637	63.7	58-116	WG555187
4,6-Dinitro-2-methylphenol	mg/l	.01	0.00756	75.6	21-119	WG555187
4-Bromophenyl-phenylether	mg/l	.01	0.00741	74.1	63-120	WG555187
4-Chloro-3-methylphenol	mg/l	.01	0.00652	65.2	50-105	WG555187
4-Chlorophenyl-phenylether	mg/l	.01	0.00703	70.3	58-115	WG555187
4-Nitrophenol	mg/l	.01	0.00273	27.3	10-53	WG555187
Acenaphthene	mg/l	.01	0.00728	72.8	52-107	WG555187
Acenaphthylene	mg/l	.01	0.00773	77.3	55-119	WG555187
Anthracene	mg/l	.01	0.00822	82.2	65-114	WG555187
Benzidine	mg/l	.01	0.00191	19.1	10-55	WG555187
Benzo(a)anthracene	mg/l	.01	0.00867	86.7	68-113	WG555187
Benzo(a)pyrene	mg/l	.01	0.00784	78.4	68-115	WG555187
Benzo(b)fluoranthene	mg/l	.01	0.00766	76.6	67-114	WG555187
Benzo(g,h,i)perylene	mg/l	.01	0.00885	88.5	52-132	WG555187
Benzo(k)fluoranthene	mg/l	.01	0.00845	84.5	62-116	WG555187
Benzylbutyl phthalate	mg/l	.01	0.00778	77.8	12-166	WG555187
Bis(2-chlorethoxy)methane	mg/l	.01	0.00673	67.3	56-116	WG555187
Bis(2-chloroethyl)ether	mg/l	.01	0.00656	65.6	39-109	WG555187
Bis(2-chloroisopropyl)ether	mg/l	.01	0.00658	65.8	43-108	WG555187
Bis(2-ethylhexyl)phthalate	mg/l	.01	0.00935	93.5	61-147	WG555187
Chrysene	mg/l	.01	0.00819	81.9	65-114	WG555187
Di-n-butyl phthalate	mg/l	.01	0.00807	80.7	56-133	WG555187
Di-n-octyl phthalate	mg/l	.01	0.00923	92.3	59-143	WG555187
Dibenz(a,h)anthracene	mg/l	.01	0.00825	82.5	54-130	WG555187
Diethyl phthalate	mg/l	.01	0.00748	74.8	33-136	WG555187
Dimethyl phthalate	mg/l	.01	0.00567	56.7	10-152	WG555187
Fluoranthene	mg/l	.01	0.00851	85.1	66-120	WG555187
Fluorene	mg/l	.01	0.00704	70.4	58-110	WG555187
Hexachloro-1,3-butadiene	mg/l	.01	0.00706	70.6	34-115	WG555187
Hexachlorobenzene	mg/l	.01	0.00680	68.0	55-117	WG555187
Hexachlorocyclopentadiene	mg/l	.01	0.00940	94.0	20-121	WG555187
Hexachloroethane	mg/l	.01	0.00665	66.5	24-93	WG555187
Indeno(1,2,3-cd)pyrene	mg/l	.01	0.00832	83.2	56-129	WG555187
Isophorone	mg/l	.01	0.00587	58.7	55-108	WG555187
n-Nitrosodi-n-propylamine	mg/l	.01	0.00753	75.3	50-115	WG555187
n-Nitrosodimethylamine	mg/l	.01	0.00449	44.9	12-68	WG555187
n-Nitrosodiphenylamine	mg/l	.01	0.00747	74.7	55-98	WG555187
Naphthalene	mg/l	.01	0.00641	64.1	42-103	WG555187
Nitrobenzene	mg/l	.01	0.00663	66.3	39-102	WG555187
Pentachlorophenol	mg/l	.01	0.00581	58.1	10-101	WG555187

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Phenanthrene	mg/l	.01	0.00777	77.7	61-110	WG555187
Phenol	mg/l	.01	0.00266	26.6	10-53	WG555187
Pyrene	mg/l	.01	0.00825	82.5	65-116	WG555187
2,4,6-Tribromophenol				75.86	16-147	WG555187
2-Fluorobiphenyl				71.71	29-127	WG555187
2-Fluorophenol				38.39	10-75	WG555187
Nitrobenzene-d5				63.33	17-119	WG555187
Phenol-d5				30.06	10-63	WG555187
p-Terphenyl-d14				85.31	40-174	WG555187

Analyte	Units	Laboratory Control Sample Duplicate Result	Ref	%Rec	Limit	RPD	Limit	Batch
1,1,1,2-Tetrachloroethane	mg/l	0.0237	0.0259	95.0	77-128	9.00	20	WG554557
1,1,1-Trichloroethane	mg/l	0.0252	0.0264	101.	71-126	4.73	20	WG554557
1,1,2,2-Tetrachloroethane	mg/l	0.0248	0.0279	99.0	78-130	11.7	20	WG554557
1,1,2-Trichloroethane	mg/l	0.0249	0.0267	100.	81-121	6.97	20	WG554557
1,1,2-Trichloro-1,2,2-trifluoroethane	mg/l	0.0202	0.0237	81.0	53-143	16.2	20	WG554557
1,1-Dichloroethane	mg/l	0.0258	0.0285	103.	73-123	9.91	20	WG554557
1,1-Dichloroethene	mg/l	0.0210	0.0244	84.0	54-134	15.2	20	WG554557
1,1-Dichloropropene	mg/l	0.0255	0.0280	102.	67-127	9.06	20	WG554557
1,2,3-Trichlorobenzene	mg/l	0.0266	0.0282	106.	77-130	5.78	20	WG554557
1,2,3-Trichloropropane	mg/l	0.0261	0.0283	104.	68-130	7.93	20	WG554557
1,2,3-Trimethylbenzene	mg/l	0.0253	0.0269	101.	70-127	6.34	20	WG554557
1,2,4-Trichlorobenzene	mg/l	0.0262	0.0283	105.	76-127	7.64	20	WG554557
1,2,4-Trimethylbenzene	mg/l	0.0243	0.0272	97.0	77-129	11.3	20	WG554557
1,2-Dibromo-3-Chloropropane	mg/l	0.0221	0.0246	88.0	55-142	10.9	20	WG554557
1,2-Dibromoethane	mg/l	0.0249	0.0266	100.	78-124	6.59	20	WG554557
1,2-Dichlorobenzene	mg/l	0.0261	0.0279	104.	82-121	6.66	20	WG554557
1,2-Dichloroethane	mg/l	0.0270	0.0288	108.	69-128	6.53	20	WG554557
1,2-Dichloropropane	mg/l	0.0254	0.0265	101.	77-121	4.52	20	WG554557
1,3,5-Trimethylbenzene	mg/l	0.0242	0.0270	97.0	78-127	11.2	20	WG554557
1,3-Dichlorobenzene	mg/l	0.0237	0.0271	95.0	77-127	13.4	20	WG554557
1,3-Dichloropropane	mg/l	0.0249	0.0267	99.0	78-117	7.27	20	WG554557
1,4-Dichlorobenzene	mg/l	0.0256	0.0273	102.	79-117	6.44	20	WG554557
2,2-Dichloropropane	mg/l	0.0229	0.0242	91.0	63-130	5.76	20	WG554557
2-Butanone (MEK)	mg/l	0.127	0.137	101.	58-144	7.93	20	WG554557
2-Chloroethyl vinyl ether	mg/l	0.148	0.145	118.	26-172	2.03	22	WG554557
2-Chlorotoluene	mg/l	0.0239	0.0267	96.0	78-123	11.2	20	WG554557
4-Chlorotoluene	mg/l	0.0240	0.0269	96.0	78-122	11.5	20	WG554557
4-Methyl-2-pentanone (MIBK)	mg/l	0.129	0.131	103.	58-147	1.31	20	WG554557
Acetone	mg/l	0.125	0.110	100.	49-153	12.0	21	WG554557
Acrolein	mg/l	0.122	0.0961	97.0	10-181	23.6	30	WG554557
Acrylonitrile	mg/l	0.137	0.154	109.	53-153	12.0	20	WG554557
Benzene	mg/l	0.0252	0.0274	101.	72-119	8.19	20	WG554557
Bromobenzene	mg/l	0.0244	0.0276	98.0	76-121	12.4	20	WG554557
Bromodichloromethane	mg/l	0.0247	0.0259	99.0	75-127	4.74	20	WG554557
Bromoform	mg/l	0.0221	0.0249	88.0	61-136	11.7	20	WG554557
Bromomethane	mg/l	0.0345	0.0391	138.	42-172	12.5	20	WG554557
Carbon tetrachloride	mg/l	0.0234	0.0243	94.0	63-129	3.92	20	WG554557
Chlorobenzene	mg/l	0.0247	0.0263	99.0	78-123	6.46	20	WG554557
Chlorodibromomethane	mg/l	0.0240	0.0259	96.0	73-128	7.75	20	WG554557
Chloroethane	mg/l	0.0334	0.0402	134.	52-164	18.5	20	WG554557
Chloroform	mg/l	0.0266	0.0286	106.	76-122	7.28	20	WG554557
Chloromethane	mg/l	0.0263	0.0302	105.	50-141	13.8	20	WG554557
cis-1,2-Dichloroethene	mg/l	0.0260	0.0282	104.	75-121	8.23	20	WG554557
cis-1,3-Dichloropropene	mg/l	0.0249	0.0252	100.	74-124	1.29	20	WG554557
Di-isopropyl ether	mg/l	0.0253	0.0273	101.	66-129	7.41	20	WG554557
Dibromomethane	mg/l	0.0253	0.0267	101.	77-124	5.36	20	WG554557

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Analyte	Units	Laboratory Control Sample Duplicate Result	Ref	%Rec	Limit	RPD	Limit	Batch
Dichlorodifluoromethane	mg/l	0.0237	0.0273	95.0	33-173	14.1	20	WG554557
Ethylbenzene	mg/l	0.0236	0.0259	94.0	77-124	9.08	20	WG554557
Hexachloro-1,3-butadiene	mg/l	0.0266	0.0289	106.	71-134	8.30	20	WG554557
Isopropylbenzene	mg/l	0.0237	0.0262	95.0	74-126	10.0	20	WG554557
Methyl tert-butyl ether	mg/l	0.0250	0.0279	100.	67-127	11.1	20	WG554557
Methylene Chloride	mg/l	0.0257	0.0190	103.	67-122	30.0*	20	WG554557
n-Butylbenzene	mg/l	0.0262	0.0283	105.	74-130	7.73	20	WG554557
n-Propylbenzene	mg/l	0.0241	0.0275	96.0	77-125	13.1	20	WG554557
Naphthalene	mg/l	0.0264	0.0285	106.	70-134	7.74	20	WG554557
p-Isopropyltoluene	mg/l	0.0239	0.0271	95.0	77-132	12.7	20	WG554557
sec-Butylbenzene	mg/l	0.0234	0.0265	94.0	77-130	12.7	20	WG554557
Styrene	mg/l	0.0247	0.0275	99.0	69-145	10.8	20	WG554557
tert-Butylbenzene	mg/l	0.0238	0.0261	95.0	76-131	9.02	20	WG554557
Tetrachloroethene	mg/l	0.0238	0.0265	95.0	75-121	10.6	20	WG554557
Toluene	mg/l	0.0245	0.0248	98.0	75-114	0.890	20	WG554557
trans-1,2-Dichloroethene	mg/l	0.0247	0.0276	99.0	63-127	11.4	20	WG554557
trans-1,3-Dichloropropene	mg/l	0.0260	0.0260	104.	69-124	0.200	20	WG554557
Trichloroethene	mg/l	0.0247	0.0267	99.0	69-131	7.98	20	WG554557
Trichlorofluoromethane	mg/l	0.0311	0.0364	124.	53-161	15.6	20	WG554557
Vinyl chloride	mg/l	0.0260	0.0309	104.	55-142	17.1	20	WG554557
Xylenes, Total	mg/l	0.0712	0.0773	95.0	77-123	8.17	20	WG554557
4-Bromofluorobenzene				94.74	82-120			WG554557
Dibromofluoromethane				108.3	82-126			WG554557
Toluene-d8				103.9	92-112			WG554557
TPH (GC/FID) Low Fraction	mg/l	5.82	6.39	106.	70-124	9.42	20	WG554885
a,a,a-Trifluorotoluene(FID)				105.4	62-128			WG554885
1,1,1,2-Tetrachloroethane	mg/l	0.0265	0.0273	106.	77-128	2.68	20	WG554911
1,1,1-Trichloroethane	mg/l	0.0263	0.0267	105.	71-126	1.40	20	WG554911
1,1,2,2-Tetrachloroethane	mg/l	0.0232	0.0228	93.0	78-130	2.10	20	WG554911
1,1,2-Trichloroethane	mg/l	0.0245	0.0240	98.0	81-121	2.00	20	WG554911
1,1,2-Trichloro-1,2,2-trifluoroethane	mg/l	0.0259	0.0240	104.	53-143	7.88	20	WG554911
1,1-Dichloroethane	mg/l	0.0240	0.0245	96.0	73-123	1.98	20	WG554911
1,1-Dichloroethene	mg/l	0.0260	0.0210	104.	54-134	21.1*	20	WG554911
1,1-Dichloropropene	mg/l	0.0232	0.0233	93.0	67-127	0.220	20	WG554911
1,2,3-Trichlorobenzene	mg/l	0.0246	0.0256	98.0	77-130	4.05	20	WG554911
1,2,3-Trichloropropane	mg/l	0.0258	0.0251	103.	68-130	2.77	20	WG554911
1,2,3-Trimethylbenzene	mg/l	0.0233	0.0236	93.0	70-127	1.45	20	WG554911
1,2,4-Trichlorobenzene	mg/l	0.0258	0.0270	103.	76-127	4.45	20	WG554911
1,2,4-Trimethylbenzene	mg/l	0.0256	0.0263	102.	77-129	2.64	20	WG554911
1,2-Dibromo-3-Chloropropane	mg/l	0.0223	0.0220	89.0	55-142	1.56	20	WG554911
1,2-Dibromoethane	mg/l	0.0256	0.0242	102.	78-124	5.79	20	WG554911
1,2-Dichlorobenzene	mg/l	0.0238	0.0242	95.0	82-121	1.63	20	WG554911
1,2-Dichloroethane	mg/l	0.0249	0.0246	100.	69-128	1.24	20	WG554911
1,2-Dichloropropane	mg/l	0.0228	0.0229	91.0	77-121	0.600	20	WG554911
1,3,5-Trimethylbenzene	mg/l	0.0269	0.0271	107.	78-127	0.940	20	WG554911
1,3-Dichlorobenzene	mg/l	0.0250	0.0256	100.	77-127	2.31	20	WG554911
1,3-Dichloropropane	mg/l	0.0238	0.0230	95.0	78-117	3.66	20	WG554911
1,4-Dichlorobenzene	mg/l	0.0238	0.0237	95.0	79-117	0.300	20	WG554911
2,2-Dichloropropane	mg/l	0.0267	0.0277	107.	63-130	3.57	20	WG554911
2-Butanone (MEK)	mg/l	0.111	0.101	89.0	58-144	10.0	20	WG554911
2-Chloroethyl vinyl ether	mg/l	0.112	0.101	90.0	26-172	10.3	22	WG554911
2-Chlorotoluene	mg/l	0.0252	0.0261	101.	78-123	3.21	20	WG554911
4-Chlorotoluene	mg/l	0.0256	0.0257	102.	78-122	0.490	20	WG554911
4-Methyl-2-pentanone (MIBK)	mg/l	0.121	0.114	97.0	58-147	6.48	20	WG554911
Acetone	mg/l	0.103	0.0966	82.0	49-153	6.34	21	WG554911

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Quality Assurance Report
Level II

L535457

September 20, 2011

Analyte	Units	Laboratory Control Sample Duplicate Result	Ref	%Rec	Limit	RPD	Limit	Batch
Acrolein	mg/l	0.0190	0.0179	15.0	10-181	5.86	30	WG554911
Acrylonitrile	mg/l	0.109	0.105	87.0	53-153	3.44	20	WG554911
Benzene	mg/l	0.0228	0.0227	91.0	72-119	0.230	20	WG554911
Bromobenzene	mg/l	0.0255	0.0257	102.	76-121	0.740	20	WG554911
Bromodichloromethane	mg/l	0.0259	0.0261	104.	75-127	0.620	20	WG554911
Bromoform	mg/l	0.0242	0.0238	97.0	61-136	1.57	20	WG554911
Bromomethane	mg/l	0.0249	0.0260	100.	42-172	4.22	20	WG554911
Carbon tetrachloride	mg/l	0.0261	0.0265	104.	63-129	1.62	20	WG554911
Chlorobenzene	mg/l	0.0245	0.0246	98.0	78-123	0.320	20	WG554911
Chlorodibromomethane	mg/l	0.0283	0.0281	113.	73-128	0.780	20	WG554911
Chloroethane	mg/l	0.0223	0.0230	89.0	52-164	3.18	20	WG554911
Chloroform	mg/l	0.0254	0.0259	102.	76-122	1.95	20	WG554911
Chloromethane	mg/l	0.0171	0.0183	68.0	50-141	7.00	20	WG554911
cis-1,2-Dichloroethene	mg/l	0.0238	0.0241	95.0	75-121	1.17	20	WG554911
cis-1,3-Dichloropropene	mg/l	0.0257	0.0251	103.	74-124	2.61	20	WG554911
Di-isopropyl ether	mg/l	0.0227	0.0233	91.0	66-129	2.63	20	WG554911
Dibromomethane	mg/l	0.0248	0.0243	99.0	77-124	1.71	20	WG554911
Dichlorodifluoromethane	mg/l	0.0213	0.0213	85.0	33-173	0.0200	20	WG554911
Ethylbenzene	mg/l	0.0251	0.0251	100.	77-124	0.180	20	WG554911
Hexachloro-1,3-butadiene	mg/l	0.0252	0.0251	101.	71-134	0.250	20	WG554911
Isopropylbenzene	mg/l	0.0291	0.0293	116.	74-126	0.550	20	WG554911
Methyl tert-butyl ether	mg/l	0.0269	0.0269	108.	67-127	0.150	20	WG554911
Methylene Chloride	mg/l	0.0239	0.0248	95.0	67-122	3.85	20	WG554911
n-Butylbenzene	mg/l	0.0248	0.0246	99.0	74-130	0.900	20	WG554911
n-Propylbenzene	mg/l	0.0247	0.0248	99.0	77-125	0.410	20	WG554911
Naphthalene	mg/l	0.0218	0.0223	87.0	70-134	2.67	20	WG554911
p-Isopropyltoluene	mg/l	0.0280	0.0278	112.	77-132	0.830	20	WG554911
sec-Butylbenzene	mg/l	0.0267	0.0264	107.	77-130	0.910	20	WG554911
Styrene	mg/l	0.0180	0.0180	72.0	69-145	0.0100	20	WG554911
tert-Butylbenzene	mg/l	0.0279	0.0281	112.	76-131	0.690	20	WG554911
Tetrachloroethene	mg/l	0.0239	0.0239	95.0	75-121	0.380	20	WG554911
Toluene	mg/l	0.0239	0.0236	95.0	75-114	1.18	20	WG554911
trans-1,2-Dichloroethene	mg/l	0.0229	0.0237	92.0	63-127	3.33	20	WG554911
trans-1,3-Dichloropropene	mg/l	0.0253	0.0239	101.	69-124	5.92	20	WG554911
Trichloroethene	mg/l	0.0241	0.0241	96.0	69-131	0.280	20	WG554911
Trichlorofluoromethane	mg/l	0.0237	0.0249	95.0	53-161	4.98	20	WG554911
Vinyl chloride	mg/l	0.0190	0.0195	76.0	55-142	2.51	20	WG554911
Xylenes, Total	mg/l	0.0760	0.0772	101.	77-123	1.61	20	WG554911
4-Bromofluorobenzene				110.4	82-120			WG554911
Dibromofluoromethane				101.2	82-126			WG554911
Toluene-d8				103.7	92-112			WG554911
1,2,4-Trichlorobenzene	mg/l	0.00635	0.00602	64.0	34-97	5.36	21	WG555187
2,4,6-Trichlorophenol	mg/l	0.00565	0.00659	56.0	38-113	15.5	29	WG555187
2,4-Dichlorophenol	mg/l	0.00665	0.00673	66.0	46-105	1.18	20	WG555187
2,4-Dimethylphenol	mg/l	0.00673	0.00675	67.0	47-108	0.217	20	WG555187
2,4-Dinitrophenol	mg/l	0.00411	0.00564	41.0	10-121	31.4	40	WG555187
2,4-Dinitrotoluene	mg/l	0.00793	0.00841	79.0	59-117	5.81	20	WG555187
2,6-Dinitrotoluene	mg/l	0.00784	0.00751	78.0	57-110	4.33	20	WG555187
2-Chloronaphthalene	mg/l	0.00714	0.00708	71.0	47-106	0.782	20	WG555187
2-Chlorophenol	mg/l	0.00536	0.00678	54.0	37-90	23.5*	21	WG555187
2-Nitrophenol	mg/l	0.00641	0.00660	64.0	40-112	2.98	22	WG555187
3,3-Dichlorobenzidine	mg/l	0.00626	0.00637	63.0	58-116	1.68	20	WG555187
4,6-Dinitro-2-methylphenol	mg/l	0.00582	0.00756	58.0	21-119	26.0	40	WG555187
4-Bromophenyl-phenylether	mg/l	0.00779	0.00741	78.0	63-120	5.06	20	WG555187
4-Chloro-3-methylphenol	mg/l	0.00728	0.00652	73.0	50-105	11.0	20	WG555187
4-Chlorophenyl-phenylether	mg/l	0.00729	0.00703	73.0	58-115	3.64	20	WG555187
4-Nitrophenol	mg/l	0.00251	0.00273	25.0	10-53	8.26	40	WG555187

* Performance of this Analyte is outside of established criteria.
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Mr. Dustin Krajewski
1601 Prospect Parkway

Fort Collins, CO 80525

Quality Assurance Report
Level II

L535457

September 20, 2011

Analyte	Units	Laboratory Control Sample Duplicate Result	Ref	%Rec	Limit	RPD	Limit	Batch
Acenaphthene	mg/l	0.00768	0.00728	77.0	52-107	5.34	20	WG555187
Acenaphthylene	mg/l	0.00797	0.00773	80.0	55-119	3.09	20	WG555187
Anthracene	mg/l	0.00811	0.00822	81.0	65-114	1.34	20	WG555187
Benzidine	mg/l	0.00202	0.00191	20.0	10-55	5.66	40	WG555187
Benzo(a)anthracene	mg/l	0.00848	0.00867	85.0	68-113	2.24	20	WG555187
Benzo(a)pyrene	mg/l	0.00840	0.00784	84.0	68-115	6.91	20	WG555187
Benzo(b)fluoranthene	mg/l	0.00833	0.00766	83.0	67-114	8.41	20	WG555187
Benzo(g,h,i)perylene	mg/l	0.00936	0.00885	94.0	52-132	5.57	20	WG555187
Benzo(k)fluoranthene	mg/l	0.00860	0.00845	86.0	62-116	1.74	20	WG555187
Benzylbutyl phthalate	mg/l	0.00749	0.00778	75.0	12-166	3.81	20	WG555187
Bis(2-chlorethoxy)methane	mg/l	0.00756	0.00673	76.0	56-116	11.7	20	WG555187
Bis(2-chloroethyl)ether	mg/l	0.00704	0.00656	70.0	39-109	7.12	23	WG555187
Bis(2-chloroisopropyl)ether	mg/l	0.00692	0.00658	69.0	43-108	5.04	20	WG555187
Bis(2-ethylhexyl)phthalate	mg/l	0.00928	0.00935	93.0	61-147	0.783	20	WG555187
Chrysene	mg/l	0.00863	0.00819	86.0	65-114	5.15	20	WG555187
Di-n-butyl phthalate	mg/l	0.00810	0.00807	81.0	56-133	0.412	20	WG555187
Di-n-octyl phthalate	mg/l	0.00929	0.00923	93.0	59-143	0.678	20	WG555187
Dibenz(a,h)anthracene	mg/l	0.00864	0.00825	86.0	54-130	4.59	20	WG555187
Diethyl phthalate	mg/l	0.00725	0.00748	72.0	33-136	3.11	20	WG555187
Dimethyl phthalate	mg/l	0.00516	0.00567	52.0	10-152	9.40	22	WG555187
Fluoranthene	mg/l	0.00856	0.00851	86.0	66-120	0.503	20	WG555187
Fluorene	mg/l	0.00734	0.00704	73.0	58-110	4.19	20	WG555187
Hexachloro-1,3-butadiene	mg/l	0.00725	0.00706	72.0	34-115	2.55	22	WG555187
Hexachlorobenzene	mg/l	0.00696	0.00680	70.0	55-117	2.25	20	WG555187
Hexachlorocyclopentadiene	mg/l	0.00932	0.00940	93.0	20-121	0.827	27	WG555187
Hexachloroethane	mg/l	0.00648	0.00665	65.0	24-93	2.57	25	WG555187
Indeno(1,2,3-cd)pyrene	mg/l	0.00870	0.00832	87.0	56-129	4.55	20	WG555187
Isophorone	mg/l	0.00638	0.00587	64.0	55-108	8.27	20	WG555187
n-Nitrosodi-n-propylamine	mg/l	0.00768	0.00753	77.0	50-115	1.93	20	WG555187
n-Nitrosodimethylamine	mg/l	0.00441	0.00449	44.0	12-68	1.69	31	WG555187
n-Nitrosodiphenylamine	mg/l	0.00749	0.00747	75.0	55-98	0.247	20	WG555187
Naphthalene	mg/l	0.00672	0.00641	67.0	42-103	4.78	20	WG555187
Nitrobenzene	mg/l	0.00729	0.00663	73.0	39-102	9.59	20	WG555187
Pentachlorophenol	mg/l	0.00382	0.00581	38.0	10-101	41.3*	40	WG555187
Phenanthrene	mg/l	0.00806	0.00777	80.0	61-110	3.67	20	WG555187
Phenol	mg/l	0.00249	0.00266	25.0	10-53	6.62	20	WG555187
Pyrene	mg/l	0.00824	0.00825	82.0	65-116	0.0787	20	WG555187
2,4,6-Tribromophenol				68.05	16-147			WG555187
2-Fluorobiphenyl				71.08	29-127			WG555187
2-Fluorophenol				34.21	10-75			WG555187
Nitrobenzene-d5				63.72	17-119			WG555187
Phenol-d5				26.47	10-63			WG555187
p-Terphenyl-d14				75.37	40-174			WG555187

Analyte	Units	Matrix Spike MS Res	Ref Res	TV	% Rec	Limit	Ref Samp	Batch
1,1,1,2-Tetrachloroethane	mg/l	0.0243	0	.025	97.0	71-130	L535449-14	WG554557
1,1,1-Trichloroethane	mg/l	0.0236	0	.025	94.5	58-137	L535449-14	WG554557
1,1,2,2-Tetrachloroethane	mg/l	0.0269	0	.025	108.	64-149	L535449-14	WG554557
1,1,2-Trichloroethane	mg/l	0.0254	0	.025	101.	73-128	L535449-14	WG554557
1,1,2-Trichloro-1,2,2-trifluoroethane	mg/l	0.0193	0	.025	77.2	36-159	L535449-14	WG554557
1,1-Dichloroethane	mg/l	0.0246	0	.025	98.3	58-133	L535449-14	WG554557
1,1-Dichloroethene	mg/l	0.0193	0	.025	77.0	32-152	L535449-14	WG554557
1,1-Dichloropropene	mg/l	0.0236	0	.025	94.3	50-140	L535449-14	WG554557
1,2,3-Trichlorobenzene	mg/l	0.0268	0	.025	107.	68-135	L535449-14	WG554557
1,2,3-Trichloropropane	mg/l	0.0272	0	.025	109.	74-137	L535449-14	WG554557
1,2,3-Trimethylbenzene	mg/l	0.0256	0	.025	102.	67-133	L535449-14	WG554557
1,2,4-Trichlorobenzene	mg/l	0.0281	0	.025	112.	67-133	L535449-14	WG554557

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Quality Assurance Report
Level II

L535457

September 20, 2011

Analyte	Units	MS Res	Matrix Spike Ref Res	TV	% Rec	Limit	Ref Samp	Batch
1,2,4-Trimethylbenzene	mg/l	0.0255	0	.025	102.	62-141	L535449-14	WG554557
1,2-Dibromo-3-Chloropropane	mg/l	0.0230	0	.025	92.0	55-148	L535449-14	WG554557
1,2-Dibromoethane	mg/l	0.0250	0	.025	100.	71-129	L535449-14	WG554557
1,2-Dichlorobenzene	mg/l	0.0268	0	.025	107.	75-125	L535449-14	WG554557
1,2-Dichloroethane	mg/l	0.0258	0	.025	103.	59-135	L535449-14	WG554557
1,2-Dichloropropane	mg/l	0.0241	0	.025	96.2	68-126	L535449-14	WG554557
1,3,5-Trimethylbenzene	mg/l	0.0247	0	.025	98.7	67-136	L535449-14	WG554557
1,3-Dichlorobenzene	mg/l	0.0254	0	.025	101.	69-131	L535449-14	WG554557
1,3-Dichloropropane	mg/l	0.0248	0	.025	99.3	70-122	L535449-14	WG554557
1,4-Dichlorobenzene	mg/l	0.0260	0	.025	104.	70-123	L535449-14	WG554557
2,2-Dichloropropane	mg/l	0.0212	0	.025	85.0	51-141	L535449-14	WG554557
2-Butanone (MEK)	mg/l	0.122	0	.125	97.8	51-149	L535449-14	WG554557
2-Chloroethyl vinyl ether	mg/l	0.00603	0	.125	4.83*	10-161	L535449-14	WG554557
2-Chlorotoluene	mg/l	0.0248	0	.025	99.0	65-133	L535449-14	WG554557
4-Chlorotoluene	mg/l	0.0257	0	.025	103.	67-129	L535449-14	WG554557
4-Methyl-2-pentanone (MIBK)	mg/l	0.124	0	.125	99.0	53-154	L535449-14	WG554557
Acetone	mg/l	0.0903	0	.125	72.2	34-146	L535449-14	WG554557
Acrolein	mg/l	0.0901	0	.125	72.1	10-189	L535449-14	WG554557
Acrylonitrile	mg/l	0.141	0	.125	113.	49-162	L535449-14	WG554557
Benzene	mg/l	0.0236	0	.025	94.4	51-134	L535449-14	WG554557
Bromobenzene	mg/l	0.0255	0	.025	102.	64-130	L535449-14	WG554557
Bromodichloromethane	mg/l	0.0240	0	.025	96.1	67-132	L535449-14	WG554557
Bromoform	mg/l	0.0230	0	.025	92.1	59-137	L535449-14	WG554557
Bromomethane	mg/l	0.0300	0	.025	120.	23-177	L535449-14	WG554557
Carbon tetrachloride	mg/l	0.0207	0	.025	82.7	49-140	L535449-14	WG554557
Chlorobenzene	mg/l	0.0246	0	.025	98.5	69-126	L535449-14	WG554557
Chlorodibromomethane	mg/l	0.0246	0	.025	98.5	68-130	L535449-14	WG554557
Chloroethane	mg/l	0.0326	0	.025	130.	32-177	L535449-14	WG554557
Chloroform	mg/l	0.0260	0	.025	104.	64-130	L535449-14	WG554557
Chloromethane	mg/l	0.0221	0	.025	88.3	27-155	L535449-14	WG554557
cis-1,2-Dichloroethene	mg/l	0.0247	0	.025	98.9	54-137	L535449-14	WG554557
cis-1,3-Dichloropropene	mg/l	0.0246	0	.025	98.2	63-127	L535449-14	WG554557
Di-isopropyl ether	mg/l	0.0250	0	.025	99.9	58-133	L535449-14	WG554557
Dibromomethane	mg/l	0.0242	0	.025	96.6	68-131	L535449-14	WG554557
Dichlorodifluoromethane	mg/l	0.0211	0	.025	84.6	16-188	L535449-14	WG554557
Ethylbenzene	mg/l	0.0238	0	.025	95.4	64-135	L535449-14	WG554557
Hexachloro-1,3-butadiene	mg/l	0.0274	0	.025	110.	64-140	L535449-14	WG554557
Isopropylbenzene	mg/l	0.0245	0	.025	98.2	62-134	L535449-14	WG554557
Methyl tert-butyl ether	mg/l	0.0250	0	.025	100.	55-136	L535449-14	WG554557
Methylene Chloride	mg/l	0.0167	0	.025	66.9	52-130	L535449-14	WG554557
n-Butylbenzene	mg/l	0.0271	0	.025	108.	62-142	L535449-14	WG554557
n-Propylbenzene	mg/l	0.0254	0	.025	102.	62-137	L535449-14	WG554557
Naphthalene	mg/l	0.0270	0	.025	108.	65-140	L535449-14	WG554557
p-Isopropyltoluene	mg/l	0.0252	0	.025	101.	64-142	L535449-14	WG554557
sec-Butylbenzene	mg/l	0.0245	0	.025	98.0	67-139	L535449-14	WG554557
Styrene	mg/l	0.0256	0	.025	102.	58-152	L535449-14	WG554557
tert-Butylbenzene	mg/l	0.0244	0	.025	97.6	66-139	L535449-14	WG554557
Tetrachloroethene	mg/l	0.0237	0	.025	94.9	56-139	L535449-14	WG554557
Toluene	mg/l	0.0227	0	.025	90.6	61-126	L535449-14	WG554557
trans-1,2-Dichloroethene	mg/l	0.0220	0	.025	88.1	45-137	L535449-14	WG554557
trans-1,3-Dichloropropene	mg/l	0.0246	0	.025	98.3	59-130	L535449-14	WG554557
Trichloroethene	mg/l	0.0229	0	.025	91.4	40-155	L535449-14	WG554557
Trichlorofluoromethane	mg/l	0.0311	0	.025	124.	35-177	L535449-14	WG554557
Vinyl chloride	mg/l	0.0245	0	.025	97.9	32-159	L535449-14	WG554557
Xylenes, Total	mg/l	0.0719	0	.075	95.9	64-133	L535449-14	WG554557
4-Bromofluorobenzene					99.08	82-120		WG554557
Dibromofluoromethane					108.7	82-126		WG554557
Toluene-d8					102.0	92-112		WG554557

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TPH (GC/FID) Low Fraction	mg/l	5.67	0	5.5	103.	55-109	L535576-03	WG554885
a,a,a-Trifluorotoluene(FID)					103.4	62-128		WG554885
1,1,1,2-Tetrachloroethane	mg/l	0.282	0	.025	113.	71-130	L535457-02	WG554911
1,1,1-Trichloroethane	mg/l	0.277	0	.025	111.	58-137	L535457-02	WG554911
1,1,2,2-Tetrachloroethane	mg/l	0.282	0	.025	113.	64-149	L535457-02	WG554911
1,1,2-Trichloroethane	mg/l	0.277	0	.025	111.	73-128	L535457-02	WG554911
1,1,2-Trichloro-1,2,2-trifluoroethane	mg/l	0.227	0	.025	90.9	36-159	L535457-02	WG554911
1,1-Dichloroethane	mg/l	0.241	0	.025	96.3	58-133	L535457-02	WG554911
1,1-Dichloroethene	mg/l	0.195	0	.025	77.9	32-152	L535457-02	WG554911
1,1-Dichloropropene	mg/l	0.260	0	.025	104.	50-140	L535457-02	WG554911
1,2,3-Trichlorobenzene	mg/l	0.244	0	.025	97.7	68-135	L535457-02	WG554911
1,2,3-Trichloropropane	mg/l	0.283	0	.025	113.	74-137	L535457-02	WG554911
1,2,3-Trimethylbenzene	mg/l	0.387	0.260	.025	50.9*	67-133	L535457-02	WG554911
1,2,4-Trichlorobenzene	mg/l	0.254	0	.025	102.	67-133	L535457-02	WG554911
1,2,4-Trimethylbenzene	mg/l	0.621	0.700	.025	0*	62-141	L535457-02	WG554911
1,2-Dibromo-3-Chloropropane	mg/l	0.245	0	.025	98.2	55-148	L535457-02	WG554911
1,2-Dibromoethane	mg/l	0.270	0	.025	108.	71-129	L535457-02	WG554911
1,2-Dichlorobenzene	mg/l	0.248	0	.025	99.0	75-125	L535457-02	WG554911
1,2-Dichloroethane	mg/l	0.267	0	.025	107.	59-135	L535457-02	WG554911
1,2-Dichloropropane	mg/l	0.235	0	.025	94.1	68-126	L535457-02	WG554911
1,3,5-Trimethylbenzene	mg/l	0.452	0.370	.025	33.0*	67-136	L535457-02	WG554911
1,3-Dichlorobenzene	mg/l	0.265	0	.025	106.	69-131	L535457-02	WG554911
1,3-Dichloropropane	mg/l	0.251	0	.025	100.	70-122	L535457-02	WG554911
1,4-Dichlorobenzene	mg/l	0.236	0	.025	94.6	70-123	L535457-02	WG554911
2,2-Dichloropropane	mg/l	0.256	0	.025	102.	51-141	L535457-02	WG554911
2-Butanone (MEK)	mg/l	1.16	0	.125	92.6	51-149	L535457-02	WG554911
2-Chloroethyl vinyl ether	mg/l	1.25	0	.125	100.	10-161	L535457-02	WG554911
2-Chlorotoluene	mg/l	0.288	0	.025	115.	65-133	L535457-02	WG554911
4-Chlorotoluene	mg/l	0.273	0	.025	109.	67-129	L535457-02	WG554911
4-Methyl-2-pentanone (MIBK)	mg/l	1.32	0	.125	106.	53-154	L535457-02	WG554911
Acetone	mg/l	1.15	0	.125	92.2	34-146	L535457-02	WG554911
Acrolein	mg/l	1.25	0	.125	99.8	10-189	L535457-02	WG554911
Acrylonitrile	mg/l	1.17	0	.125	93.8	49-162	L535457-02	WG554911
Benzene	mg/l	0.320	0.110	.025	84.1	51-134	L535457-02	WG554911
Bromobenzene	mg/l	0.276	0	.025	110.	64-130	L535457-02	WG554911
Bromodichloromethane	mg/l	0.280	0	.025	112.	67-132	L535457-02	WG554911
Bromoform	mg/l	0.251	0	.025	100.	59-137	L535457-02	WG554911
Bromomethane	mg/l	0.289	0	.025	116.	23-177	L535457-02	WG554911
Carbon tetrachloride	mg/l	0.281	0	.025	112.	49-140	L535457-02	WG554911
Chlorobenzene	mg/l	0.264	0	.025	105.	69-126	L535457-02	WG554911
Chlorodibromomethane	mg/l	0.307	0	.025	123.	68-130	L535457-02	WG554911
Chloroethane	mg/l	0.261	0	.025	104.	32-177	L535457-02	WG554911
Chloroform	mg/l	0.267	0	.025	107.	64-130	L535457-02	WG554911
Chloromethane	mg/l	0.214	0	.025	85.7	27-155	L535457-02	WG554911
cis-1,2-Dichloroethene	mg/l	0.244	0	.025	97.4	54-137	L535457-02	WG554911
cis-1,3-Dichloropropene	mg/l	0.265	0	.025	106.	63-127	L535457-02	WG554911
Di-isopropyl ether	mg/l	0.229	0	.025	91.8	58-133	L535457-02	WG554911
Dibromomethane	mg/l	0.267	0	.025	107.	68-131	L535457-02	WG554911
Dichlorodifluoromethane	mg/l	0.276	0	.025	110.	16-188	L535457-02	WG554911
Ethylbenzene	mg/l	0.424	0.240	.025	73.5	64-135	L535457-02	WG554911
Hexachloro-1,3-butadiene	mg/l	0.256	0	.025	102.	64-140	L535457-02	WG554911
Isopropylbenzene	mg/l	0.344	0.110	.025	93.8	62-134	L535457-02	WG554911
Methyl tert-butyl ether	mg/l	0.257	0	.025	103.	55-136	L535457-02	WG554911
Methylene Chloride	mg/l	0.237	0	.025	94.9	52-130	L535457-02	WG554911
n-Butylbenzene	mg/l	0.290	0.0580	.025	92.8	62-142	L535457-02	WG554911
n-Propylbenzene	mg/l	0.312	0.110	.025	80.9	62-137	L535457-02	WG554911

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AECOM Inc. - Fort Collins, CO
Mr. Dustin Krajewski
1601 Prospect Parkway

Fort Collins, CO 80525

Quality Assurance Report
Level II

L535457

September 20, 2011

Analyte	Units	Matrix Spike MS Res	Ref Res	TV	% Rec	Limit	Ref Samp	Batch
Naphthalene	mg/l	0.374	0.240	.025	53.7*	65-140	L535457-02	WG554911
p-Isopropyltoluene	mg/l	0.363	0.100	.025	105.	64-142	L535457-02	WG554911
sec-Butylbenzene	mg/l	0.302	0.0760	.025	90.5	67-139	L535457-02	WG554911
Styrene	mg/l	0.260	0	.025	104.	58-152	L535457-02	WG554911
tert-Butylbenzene	mg/l	0.309	0.0170	.025	117.	66-139	L535457-02	WG554911
Tetrachloroethene	mg/l	0.264	0	.025	105.	56-139	L535457-02	WG554911
Toluene	mg/l	0.436	0.250	.025	74.4	61-126	L535457-02	WG554911
trans-1,2-Dichloroethene	mg/l	0.248	0	.025	99.3	45-137	L535457-02	WG554911
trans-1,3-Dichloropropene	mg/l	0.264	0	.025	106.	59-130	L535457-02	WG554911
Trichloroethene	mg/l	0.262	0	.025	105.	40-155	L535457-02	WG554911
Trichlorofluoromethane	mg/l	0.291	0	.025	116.	35-177	L535457-02	WG554911
Vinyl chloride	mg/l	0.238	0	.025	95.2	32-159	L535457-02	WG554911
Xylenes, Total	mg/l	1.59	1.20	.075	52.6*	64-133	L535457-02	WG554911
4-Bromofluorobenzene					114.9	82-120		WG554911
Dibromofluoromethane					103.9	82-126		WG554911
Toluene-d8					104.4	92-112		WG554911

Analyte	Units	Matrix Spike Duplicate MSD	Ref	%Rec	Limit	RPD	Limit	Ref Samp	Batch
1,1,1,2-Tetrachloroethane	mg/l	0.0234	0.0243	93.5	71-130	3.71	20	L535449-14	WG554557
1,1,1-Trichloroethane	mg/l	0.0237	0.0236	94.9	58-137	0.340	20	L535449-14	WG554557
1,1,2,2-Tetrachloroethane	mg/l	0.0261	0.0269	104.	64-149	3.12	20	L535449-14	WG554557
1,1,2-Trichloroethane	mg/l	0.0242	0.0254	96.8	73-128	4.66	20	L535449-14	WG554557
1,1,2-Trichloro-1,2,2-trifluoroethane	mg/l	0.0178	0.0193	71.4	36-159	7.80	21	L535449-14	WG554557
1,1-Dichloroethane	mg/l	0.0236	0.0246	94.6	58-133	3.84	20	L535449-14	WG554557
1,1-Dichloroethene	mg/l	0.0178	0.0193	71.1	32-152	7.94	20	L535449-14	WG554557
1,1-Dichloropropene	mg/l	0.0228	0.0236	91.1	50-140	3.42	20	L535449-14	WG554557
1,2,3-Trichlorobenzene	mg/l	0.0262	0.0268	105.	68-135	2.28	20	L535449-14	WG554557
1,2,3-Trichloropropane	mg/l	0.0268	0.0272	107.	74-137	1.71	20	L535449-14	WG554557
1,2,3-Trimethylbenzene	mg/l	0.0249	0.0256	99.4	67-133	2.95	20	L535449-14	WG554557
1,2,4-Trichlorobenzene	mg/l	0.0265	0.0281	106.	67-133	5.63	20	L535449-14	WG554557
1,2,4-Trimethylbenzene	mg/l	0.0242	0.0255	96.7	62-141	5.40	20	L535449-14	WG554557
1,2-Dibromo-3-Chloropropane	mg/l	0.0225	0.0230	90.2	55-148	1.96	22	L535449-14	WG554557
1,2-Dibromoethane	mg/l	0.0245	0.0250	98.1	71-129	1.87	20	L535449-14	WG554557
1,2-Dichlorobenzene	mg/l	0.0257	0.0268	103.	75-125	4.09	20	L535449-14	WG554557
1,2-Dichloroethane	mg/l	0.0251	0.0258	100.	59-135	3.04	20	L535449-14	WG554557
1,2-Dichloropropane	mg/l	0.0239	0.0241	95.5	68-126	0.710	20	L535449-14	WG554557
1,3,5-Trimethylbenzene	mg/l	0.0240	0.0247	96.0	67-136	2.77	20	L535449-14	WG554557
1,3-Dichlorobenzene	mg/l	0.0237	0.0254	94.9	69-131	6.68	20	L535449-14	WG554557
1,3-Dichloropropane	mg/l	0.0244	0.0248	97.7	70-122	1.60	20	L535449-14	WG554557
1,4-Dichlorobenzene	mg/l	0.0253	0.0260	101.	70-123	2.61	20	L535449-14	WG554557
2,2-Dichloropropane	mg/l	0.0222	0.0212	88.8	51-141	4.36	20	L535449-14	WG554557
2-Butanone (MEK)	mg/l	0.122	0.122	97.6	51-149	0.160	22	L535449-14	WG554557
2-Chloroethyl vinyl ether	mg/l	0.000689	0.00603	0.551*	10-161	159.*	40	L535449-14	WG554557
2-Chlorotoluene	mg/l	0.0238	0.0248	95.3	65-133	3.81	20	L535449-14	WG554557
4-Chlorotoluene	mg/l	0.0241	0.0257	96.3	67-129	6.52	20	L535449-14	WG554557
4-Methyl-2-pentanone (MIBK)	mg/l	0.130	0.124	104.	53-154	4.95	21	L535449-14	WG554557
Acetone	mg/l	0.108	0.0903	86.2	34-146	17.6	22	L535449-14	WG554557
Acrolein	mg/l	0.126	0.0901	101.	10-189	33.2*	30	L535449-14	WG554557
Acrylonitrile	mg/l	0.135	0.141	108.	49-162	4.34	20	L535449-14	WG554557
Benzene	mg/l	0.0229	0.0236	91.4	51-134	3.24	20	L535449-14	WG554557
Bromobenzene	mg/l	0.0243	0.0255	97.0	64-130	4.99	20	L535449-14	WG554557
Bromodichloromethane	mg/l	0.0232	0.0240	93.0	67-132	3.35	20	L535449-14	WG554557
Bromoform	mg/l	0.0226	0.0230	90.4	59-137	1.91	20	L535449-14	WG554557
Bromomethane	mg/l	0.0300	0.0300	120.	23-177	0.0300	21	L535449-14	WG554557
Carbon tetrachloride	mg/l	0.0203	0.0207	81.1	49-140	2.01	20	L535449-14	WG554557
Chlorobenzene	mg/l	0.0235	0.0246	93.9	69-126	4.72	20	L535449-14	WG554557
Chlorodibromomethane	mg/l	0.0237	0.0246	94.7	68-130	3.89	20	L535449-14	WG554557

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Est. 1970

AECOM Inc. - Fort Collins, CO
Mr. Dustin Krajewski
1601 Prospect Parkway

Fort Collins, CO 80525

Quality Assurance Report
Level II

L535457

September 20, 2011

Analyte	Units	Matrix Spike Duplicate MSD	Ref	%Rec	Limit	RPD	Limit	Ref Samp	Batch
Chloroethane	mg/l	0.0305	0.0326	122.	32-177	6.58	21	L535449-14	WG554557
Chloroform	mg/l	0.0249	0.0260	99.6	64-130	4.19	20	L535449-14	WG554557
Chloromethane	mg/l	0.0210	0.0221	83.9	27-155	5.12	20	L535449-14	WG554557
cis-1,2-Dichloroethene	mg/l	0.0237	0.0247	94.9	54-137	4.13	20	L535449-14	WG554557
cis-1,3-Dichloropropene	mg/l	0.0243	0.0246	97.0	63-127	1.18	20	L535449-14	WG554557
Di-isopropyl ether	mg/l	0.0242	0.0250	96.9	58-133	3.08	20	L535449-14	WG554557
Dibromomethane	mg/l	0.0235	0.0242	93.8	68-131	2.95	20	L535449-14	WG554557
Dichlorodifluoromethane	mg/l	0.0196	0.0211	78.3	16-188	7.67	22	L535449-14	WG554557
Ethylbenzene	mg/l	0.0231	0.0238	92.6	64-135	2.98	20	L535449-14	WG554557
Hexachloro-1,3-butadiene	mg/l	0.0265	0.0274	106.	64-140	3.39	20	L535449-14	WG554557
Isopropylbenzene	mg/l	0.0237	0.0245	94.9	62-134	3.36	20	L535449-14	WG554557
Methyl tert-butyl ether	mg/l	0.0245	0.0250	97.9	55-136	2.22	20	L535449-14	WG554557
Methylene Chloride	mg/l	0.0232	0.0167	93.0	52-130	32.6*	20	L535449-14	WG554557
n-Butylbenzene	mg/l	0.0265	0.0271	106.	62-142	2.19	20	L535449-14	WG554557
n-Propylbenzene	mg/l	0.0244	0.0254	97.5	62-137	4.15	20	L535449-14	WG554557
Naphthalene	mg/l	0.0265	0.0270	106.	65-140	1.88	20	L535449-14	WG554557
p-Isopropyltoluene	mg/l	0.0240	0.0252	95.9	64-142	4.82	20	L535449-14	WG554557
sec-Butylbenzene	mg/l	0.0237	0.0245	94.7	67-139	3.39	20	L535449-14	WG554557
Styrene	mg/l	0.0249	0.0256	99.5	58-152	2.82	20	L535449-14	WG554557
tert-Butylbenzene	mg/l	0.0232	0.0244	92.7	66-139	5.22	20	L535449-14	WG554557
Tetrachloroethene	mg/l	0.0227	0.0237	90.8	56-139	4.43	20	L535449-14	WG554557
Toluene	mg/l	0.0228	0.0227	91.0	61-126	0.480	20	L535449-14	WG554557
trans-1,2-Dichloroethene	mg/l	0.0210	0.0220	83.9	45-137	4.80	20	L535449-14	WG554557
trans-1,3-Dichloropropene	mg/l	0.0250	0.0246	99.8	59-130	1.59	20	L535449-14	WG554557
Trichloroethene	mg/l	0.0224	0.0229	89.7	40-155	1.88	20	L535449-14	WG554557
Trichlorofluoromethane	mg/l	0.0304	0.0311	122.	35-177	2.28	23	L535449-14	WG554557
Vinyl chloride	mg/l	0.0227	0.0245	90.7	32-159	7.64	21	L535449-14	WG554557
Xylenes, Total	mg/l	0.0698	0.0719	93.1	64-133	2.98	20	L535449-14	WG554557
4-Bromofluorobenzene				96.40	82-120				WG554557
Dibromofluoromethane				107.9	82-126				WG554557
Toluene-d8				105.5	92-112				WG554557
TPH (GC/FID) Low Fraction	mg/l	5.64	5.67	103.	55-109	0.460	20	L535576-03	WG554885
a,a,a-Trifluorotoluene(FID)				102.6	62-128				WG554885
1,1,1,2-Tetrachloroethane	mg/l	0.266	0.282	106.	71-130	5.85	20	L535457-02	WG554911
1,1,1-Trichloroethane	mg/l	0.264	0.277	105.	58-137	4.99	20	L535457-02	WG554911
1,1,2,2-Tetrachloroethane	mg/l	0.259	0.282	104.	64-149	8.48	20	L535457-02	WG554911
1,1,2-Trichloroethane	mg/l	0.260	0.277	104.	73-128	6.48	20	L535457-02	WG554911
1,1,2-Trichloro-1,2,2-trifluoroethane	mg/l	0.241	0.227	96.5	36-159	6.04	21	L535457-02	WG554911
1,1-Dichloroethane	mg/l	0.231	0.241	92.4	58-133	4.10	20	L535457-02	WG554911
1,1-Dichloroethene	mg/l	0.232	0.195	92.7	32-152	17.4	20	L535457-02	WG554911
1,1-Dichloropropene	mg/l	0.249	0.260	99.4	50-140	4.64	20	L535457-02	WG554911
1,2,3-Trichlorobenzene	mg/l	0.235	0.244	93.8	68-135	4.02	20	L535457-02	WG554911
1,2,3-Trichloropropane	mg/l	0.0138	0.283	5.52*	74-137	181.*	20	L535457-02	WG554911
1,2,3-Trimethylbenzene	mg/l	0.385	0.387	49.8*	67-133	0.720	20	L535457-02	WG554911
1,2,4-Trichlorobenzene	mg/l	0.241	0.254	96.2	67-133	5.59	20	L535457-02	WG554911
1,2,4-Trimethylbenzene	mg/l	0.615	0.621	0*	62-141	0.940	20	L535457-02	WG554911
1,2-Dibromo-3-Chloropropane	mg/l	0.240	0.245	95.8	55-148	2.42	22	L535457-02	WG554911
1,2-Dibromoethane	mg/l	0.265	0.270	106.	71-129	1.68	20	L535457-02	WG554911
1,2-Dichlorobenzene	mg/l	0.242	0.248	96.8	75-125	2.26	20	L535457-02	WG554911
1,2-Dichloroethane	mg/l	0.254	0.267	102.	59-135	5.26	20	L535457-02	WG554911
1,2-Dichloropropane	mg/l	0.228	0.235	91.2	68-126	3.08	20	L535457-02	WG554911
1,3,5-Trimethylbenzene	mg/l	0.444	0.452	29.5*	67-136	1.94	20	L535457-02	WG554911
1,3-Dichlorobenzene	mg/l	0.255	0.265	102.	69-131	3.82	20	L535457-02	WG554911
1,3-Dichloropropane	mg/l	0.244	0.251	97.7	70-122	2.79	20	L535457-02	WG554911
1,4-Dichlorobenzene	mg/l	0.233	0.236	93.2	70-123	1.43	20	L535457-02	WG554911

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Analyte	Units	Matrix Spike Duplicate MSD	Ref	%Rec	Limit	RPD	Limit	Ref Samp	Batch
2,2-Dichloropropane	mg/l	0.252	0.256	101.	51-141	1.41	20	L535457-02	WG554911
2-Butanone (MEK)	mg/l	1.15	1.16	91.8	51-149	0.780	22	L535457-02	WG554911
2-Chloroethyl vinyl ether	mg/l	1.25	1.25	99.8	10-161	0.480	40	L535457-02	WG554911
2-Chlorotoluene	mg/l	0.275	0.288	110.	65-133	4.41	20	L535457-02	WG554911
4-Chlorotoluene	mg/l	0.261	0.273	104.	67-129	4.70	20	L535457-02	WG554911
4-Methyl-2-pentanone (MIBK)	mg/l	1.27	1.32	102.	53-154	4.03	21	L535457-02	WG554911
Acetone	mg/l	1.12	1.15	89.9	34-146	2.52	22	L535457-02	WG554911
Acrolein	mg/l	1.20	1.25	95.9	10-189	3.92	30	L535457-02	WG554911
Acrylonitrile	mg/l	1.15	1.17	91.9	49-162	2.04	20	L535457-02	WG554911
Benzene	mg/l	0.319	0.320	83.5	51-134	0.470	20	L535457-02	WG554911
Bromobenzene	mg/l	0.265	0.276	106.	64-130	3.78	20	L535457-02	WG554911
Bromodichloromethane	mg/l	0.267	0.280	107.	67-132	5.07	20	L535457-02	WG554911
Bromoform	mg/l	0.247	0.251	99.0	59-137	1.52	20	L535457-02	WG554911
Bromomethane	mg/l	0.274	0.289	110.	23-177	5.14	21	L535457-02	WG554911
Carbon tetrachloride	mg/l	0.258	0.281	103.	49-140	8.32	20	L535457-02	WG554911
Chlorobenzene	mg/l	0.258	0.264	103.	69-126	2.19	20	L535457-02	WG554911
Chlorodibromomethane	mg/l	0.296	0.307	118.	68-130	3.88	20	L535457-02	WG554911
Chloroethane	mg/l	0.257	0.261	103.	32-177	1.60	21	L535457-02	WG554911
Chloroform	mg/l	0.255	0.267	102.	64-130	4.60	20	L535457-02	WG554911
Chloromethane	mg/l	0.201	0.214	80.2	27-155	6.56	20	L535457-02	WG554911
cis-1,2-Dichloroethene	mg/l	0.239	0.244	95.7	54-137	1.84	20	L535457-02	WG554911
cis-1,3-Dichloropropene	mg/l	0.261	0.265	104.	63-127	1.37	20	L535457-02	WG554911
Di-isopropyl ether	mg/l	0.223	0.229	89.2	58-133	2.82	20	L535457-02	WG554911
Dibromomethane	mg/l	0.257	0.267	103.	68-131	3.95	20	L535457-02	WG554911
Dichlorodifluoromethane	mg/l	0.251	0.276	100.	16-188	9.26	22	L535457-02	WG554911
Ethylbenzene	mg/l	0.424	0.424	73.8	64-135	0.190	20	L535457-02	WG554911
Hexachloro-1,3-butadiene	mg/l	0.241	0.256	96.3	64-140	6.14	20	L535457-02	WG554911
Isopropylbenzene	mg/l	0.332	0.344	88.9	62-134	3.60	20	L535457-02	WG554911
Methyl tert-butyl ether	mg/l	0.256	0.257	102.	55-136	0.260	20	L535457-02	WG554911
Methylene Chloride	mg/l	0.234	0.237	93.8	52-130	1.23	20	L535457-02	WG554911
n-Butylbenzene	mg/l	0.274	0.290	86.4	62-142	5.72	20	L535457-02	WG554911
n-Propylbenzene	mg/l	0.301	0.312	76.5	62-137	3.57	20	L535457-02	WG554911
Naphthalene	mg/l	0.377	0.374	54.8*	65-140	0.750	20	L535457-02	WG554911
p-Isopropyltoluene	mg/l	0.342	0.363	96.8	64-142	5.97	20	L535457-02	WG554911
sec-Butylbenzene	mg/l	0.287	0.302	84.2	67-139	5.32	20	L535457-02	WG554911
Styrene	mg/l	0.255	0.260	102.	58-152	2.07	20	L535457-02	WG554911
tert-Butylbenzene	mg/l	0.294	0.309	111.	66-139	4.79	20	L535457-02	WG554911
Tetrachloroethene	mg/l	0.254	0.264	102.	56-139	3.62	20	L535457-02	WG554911
Toluene	mg/l	0.445	0.436	77.9	61-126	1.96	20	L535457-02	WG554911
trans-1,2-Dichloroethene	mg/l	0.242	0.248	96.9	45-137	2.53	20	L535457-02	WG554911
trans-1,3-Dichloropropene	mg/l	0.259	0.264	104.	59-130	1.71	20	L535457-02	WG554911
Trichloroethene	mg/l	0.253	0.262	101.	40-155	3.73	20	L535457-02	WG554911
Trichlorofluoromethane	mg/l	0.264	0.291	106.	35-177	9.65	23	L535457-02	WG554911
Vinyl chloride	mg/l	0.226	0.238	90.4	32-159	5.12	21	L535457-02	WG554911
Xylenes, Total	mg/l	1.61	1.59	54.2*	64-133	0.710	20	L535457-02	WG554911
4-Bromofluorobenzene				112.5	82-120				WG554911
Dibromofluoromethane				103.1	82-126				WG554911
Toluene-d8				104.4	92-112				WG554911

Batch number /Run number / Sample number cross reference

WG554557: R1856012: L535457-01 03 04
WG554885: R1856492: L535457-01 02 03 04
WG554911: R1856715: L535457-02
WG554605: R1858592: L535457-01 02 03 04
WG555187: R1860474: L535457-01 02 03 04

* * Calculations are performed prior to rounding of reported values.
* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'

EPAPAV0045190

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AECOM Inc. - Fort Collins, CO
Mr. Dustin Krajewski
1601 Prospect Parkway

Fort Collins, CO 80525

Quality Assurance Report
Level II

L535457

September 20, 2011

The data package includes a summary of the analytic results of the quality control samples required by the SW-846 or CWA methods. The quality control samples include a method blank, a laboratory control sample, and the matrix spike/matrix spike duplicate analysis. If a target parameter is outside the method limits, every sample that is effected is flagged with the appropriate qualifier in Appendix B of the analytic report.

Method Blank - an aliquot of reagent water carried through the entire analytic process. The method blank results indicate if any possible contamination exposure during the sample handling, digestion or extraction process, and analysis. Concentrations of target analytes above the reporting limit in the method blank are qualified with the "B" qualifier.

Laboratory Control Sample - is a sample of known concentration that is carried through the digestion/extraction and analysis process. The percent recovery, expressed as a percentage of the theoretical concentration, has statistical control limits indicating that the analytic process is "in control". If a target analyte is outside the control limits for the laboratory control sample or any other control sample, the parameter is flagged with a "J4" qualifier for all effected samples.

Matrix Spike and Matrix Spike Duplicate - is two aliquots of an environmental sample that is spiked with known concentrations of target analytes. The percent recovery of the target analytes also has statistical control limits. If any recoveries that are outside the method control limits, the sample that was selected for matrix spike/matrix spike duplicate analysis is flagged with either a "J5" or a "J6". The relative percent difference (%RPD) between the matrix spike and the matrix spike duplicate recoveries is all calculated. If the RPD is above the method limit, the effected samples are flagged with a "J3" qualifier.

EPAPAV0045191

AECOM, Inc.
1601 Prospect Pkwy.
Fort Collins, CO 80525

Alternate billing information:

Report to: Dustin Krajewski
Email to: dustin.krajewski@aecom.com

Project Description: EnCana Pavillion
City/Sate Collected: WY

Phone: 970-493-8878
FAX:
Client Project #: 60196941
ESC Key: ENSRFCCO-ENCANAPA

Collected by: D. Fairchild
Site/Facility ID#: Pavillion
P.O.#:

Collected by (signature): Dave Fairchild
Packed on Ice N (Y)

Rush? (Lab MUST Be Notified)
____ Same Day.....200%
____ Next Day.....100%
____ Two Day.....50%

Date Results Needed:
Email? __No X Yes
FAX? X No __Yes

Analysis/Container/Preservative

Chain of Custody
Page ___ of ___

Prepared by:

ENVIRONMENTAL SCIENCE CORP.
12065 Lebanon Road
Mt. Juliet, TN 37122
Phone (615) 758-5858
Phone (800) 767-5859
FAX (615) 758-5859

E149

CoCode ENSRFCCO (lab use only)
Template/Prelogin
Shipped Via:

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs JE	BTEX (8260)	TPH	DRO C10-32	SVOC				Remarks/Contaminant	Sample # (lab only)
SB-1-11(BF-4-8)	Grab	GW	—	09.08.11	16:45	8	X	X	X	X					L 535452.01
SB-3-11 (BF-4-8)	↓	↓	—	09.08.11	16:35	8	X	X	X	X					.02
SB-4-11(TP-34-3)			—	09.08.11	1840	8	X	X	X	X					.03
SB-5-11(TP-34-3)			-	09.08.11	18:00	8	X	X	X	X					.04

*Matrix: SS - Soil/Solid GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other _____ 8734 3433 0291 8734 3433 0306

pH _____ Temp _____
Flow _____ Other _____

Remarks: ~~2 coolers~~ BF 4 coolers

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Samples returned via: ☐ UPS ☑ FedEx ☐ Courier ☐		Condition: (lab use only)	
Dave Fairchild	09.09.11	1700					
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: 3.1°C	Bottles Received: 3+TB		
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 9-10-11	Time: 1130	pH Checked:	NCF: ✓

EPAPAV0045192

ESC
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NON-CONFORMANCE FORM

Login No.: 1535457

Date: 9-10-11

Evaluated by: Jasen

Client: ENSRFCCO

Non-Conformance (check applicable items)

- ☐ Parameter(s) past holding time
- ☐ Improper temperature
- ☐ Improper container type
- ☐ Improper preservation
- ☐ Container lid not intact
- ☑ Login Clarification Needed
- ☐ Chain of custody is incomplete
- ☐ Chain of Custody is missing (see below)
- ☐ Broken container(s) (See below)
- ☐ Broken container: sufficient sample volume remains for analysis requested (See below)

If no COC: Received by_____
Date:_____ Time:_____
Temp:____ Cont. Rec____ pH:____
☐ Fedex ☐ UPS ☐ SWA ☐ Other____
Tracking #_____

- ☐ Insufficient packing material around container
- ☐ Insufficient packing material inside cooler
- ☐ Improper handling by carrier (FedEx / UPS / Courier
- ☐ Sample was frozen

Comments: What TPH?

Login Instructions: TSR Initials: LN

Client informed by call / email / fax / voice mail / date: 9/12/11 time: 11:00

Client contact: per quote

CROWY + DROWY

EPAPAV0045193

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Est. 1970

Mr. Dustin Krajewski
AECOM Inc. - Fort Collins, CO
1601 Prospect Parkway
Fort Collins, CO 80525

Report Summary

Tuesday September 13, 2011

Report Number: L534392
Samples Received: 09/03/11
Client Project: 60221849

Description: EnCana Pavillion

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By: Leslie Newton

Leslie Newton , ESC Representative

Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT - PH-0197, FL - E87487
GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016, NC - ENV375/DW21704, ND - R-140
NJ - TN002,NJ NELAP - TN002, SC - 84004, TN - 2006, VA - 00109, WV - 233
AZ - 0612, MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032008A,
TX - T104704245, OK-9915

Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.
Note: The use of the preparatory EPA Method 3511 is not approved or endorsed by the CA ELAP.

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Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

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REPORT OF ANALYSIS

Mr. Dustin Krajewski
AECOM Inc. - Fort Collins, CO
1601 Prospect Parkway
Fort Collins, CO 80525

September 13, 2011

ESC Sample # : L534392-01

Date Received : September 03, 2011
Description : EnCana Pavillion

Site ID : PAVILLION WY

Sample ID : SB-1-11 MP-18-4 14-15 FT

Project # : 60221849

Collected By : Jeremy Hurshman
Collection Date : 09/01/11 09:15

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	GRO	09/06/11	5
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	98.0		% Rec.	GRO	09/06/11	5
DRO Wyoming C10-C32						
TPH (GC/FID) High Fraction	BDL	4.0	mg/kg	8015	09/08/11	1
Surrogate recovery(%)						
o-Terphenyl	57.1		% Rec.	8015	09/08/11	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.
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REPORT OF ANALYSIS

Mr. Dustin Krajewski
AECOM Inc. - Fort Collins, CO
1601 Prospect Parkway
Fort Collins, CO 80525

September 13, 2011

ESC Sample # : L534392-02

Date Received : September 03, 2011
Description : EnCana Pavillion

Site ID : PAVILLION WY

Sample ID : SB-2-11 MP-18-4 14-15 FT

Project # : 60221849

Collected By : Jeremy Hurshman
Collection Date : 09/01/11 09:50

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	GRO	09/06/11	5
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	97.9		% Rec.	GRO	09/06/11	5
DRO Wyoming C10-C32						
TPH (GC/FID) High Fraction	BDL	4.0	mg/kg	8015	09/08/11	1
Surrogate recovery(%)						
o-Terphenyl	71.8		% Rec.	8015	09/08/11	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
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REPORT OF ANALYSIS

Mr. Dustin Krajewski
AECOM Inc. - Fort Collins, CO
1601 Prospect Parkway
Fort Collins, CO 80525

September 13, 2011

ESC Sample # : L534392-03

Date Received : September 03, 2011
Description : EnCana Pavillion

Site ID : PAVILLION WY

Sample ID : SB-3-11 MP-18-4 11-12 FT

Project # : 60221849

Collected By : Jeremy Hurshman
Collection Date : 09/01/11 10:15

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	GRO	09/06/11	5
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	98.6		% Rec.	GRO	09/06/11	5
DRO Wyoming C10-C32						
TPH (GC/FID) High Fraction	4.4	4.0	mg/kg	8015	09/08/11	1
Surrogate recovery(%)						
o-Terphenyl	66.2		% Rec.	8015	09/08/11	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.
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REPORT OF ANALYSIS

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AECOM Inc. - Fort Collins, CO
1601 Prospect Parkway
Fort Collins, CO 80525

September 13, 2011

ESC Sample # : L534392-04

Date Received : September 03, 2011
Description : EnCana Pavillion

Site ID : PAVILLION WY

Sample ID : SB-4-11 MP-18-4 2-4 FT

Project # : 60221849

Collected By : Jeremy Hurshman
Collection Date : 09/01/11 11:15

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	GRO	09/06/11	5
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	97.4		% Rec.	GRO	09/06/11	5
DRO Wyoming C10-C32						
TPH (GC/FID) High Fraction	BDL	4.0	mg/kg	8015	09/08/11	1
Surrogate recovery(%)						
o-Terphenyl	73.3		% Rec.	8015	09/08/11	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
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REPORT OF ANALYSIS

Mr. Dustin Krajewski
AECOM Inc. - Fort Collins, CO
1601 Prospect Parkway
Fort Collins, CO 80525

September 13, 2011

ESC Sample # : L534392-05

Date Received : September 03, 2011
Description : EnCana Pavillion

Site ID : PAVILLION WY

Sample ID : SB-5-11 MP-18-4 10-12 FT

Project # : 60221849

Collected By : Jeremy Hurshman
Collection Date : 09/01/11 10:50

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
TPH (GC/FID) Low Fraction	5.6	5.0	mg/kg	GRO	09/06/11	50
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	99.4		% Rec.	GRO	09/06/11	50
Benzene	BDL	0.0050	mg/kg	8260B	09/04/11	5
Toluene	BDL	0.025	mg/kg	8260B	09/04/11	5
Ethylbenzene	0.013	0.0050	mg/kg	8260B	09/04/11	5
Total Xylenes	0.084	0.015	mg/kg	8260B	09/04/11	5
Surrogate Recovery						
Toluene-d8	96.3		% Rec.	8260B	09/04/11	5
Dibromofluoromethane	96.2		% Rec.	8260B	09/04/11	5
a,a,a-Trifluorotoluene	100.		% Rec.	8260B	09/04/11	5
4-Bromofluorobenzene	96.4		% Rec.	8260B	09/04/11	5
DRO Wyoming C10-C32						
TPH (GC/FID) High Fraction	5600	200	mg/kg	8015	09/08/11	50
Surrogate recovery(%)						
o-Terphenyl	0.00		% Rec.	8015	09/08/11	50
Base/Neutral Extractables						
Acenaphthene	3.1	1.6	mg/kg	8270C	09/09/11	50
Acenaphthylene	BDL	1.6	mg/kg	8270C	09/09/11	50
Anthracene	2.9	1.6	mg/kg	8270C	09/09/11	50
Benzidine	BDL	17.	mg/kg	8270C	09/09/11	50
Benzo(a)anthracene	BDL	1.6	mg/kg	8270C	09/09/11	50
Benzo(b)fluoranthene	BDL	1.6	mg/kg	8270C	09/09/11	50
Benzo(k)fluoranthene	BDL	1.6	mg/kg	8270C	09/09/11	50
Benzo(g,h,i)perylene	BDL	1.6	mg/kg	8270C	09/09/11	50
Benzo(a)pyrene	BDL	1.6	mg/kg	8270C	09/09/11	50
Bis(2-chlorethoxy)methane	BDL	17.	mg/kg	8270C	09/09/11	50
Bis(2-chloroethyl)ether	BDL	17.	mg/kg	8270C	09/09/11	50
Bis(2-chloroisopropyl)ether	BDL	17.	mg/kg	8270C	09/09/11	50
4-Bromophenyl-phenylether	BDL	17.	mg/kg	8270C	09/09/11	50
2-Chloronaphthalene	BDL	1.6	mg/kg	8270C	09/09/11	50
4-Chlorophenyl-phenylether	BDL	17.	mg/kg	8270C	09/09/11	50
Chrysene	BDL	1.6	mg/kg	8270C	09/09/11	50
Dibenz(a,h)anthracene	BDL	1.6	mg/kg	8270C	09/09/11	50
3,3-Dichlorobenzidine	BDL	17.	mg/kg	8270C	09/09/11	50
2,4-Dinitrotoluene	BDL	17.	mg/kg	8270C	09/09/11	50
2,6-Dinitrotoluene	BDL	17.	mg/kg	8270C	09/09/11	50
Fluoranthene	BDL	1.6	mg/kg	8270C	09/09/11	50
Fluorene	5.8	1.6	mg/kg	8270C	09/09/11	50
Hexachlorobenzene	BDL	17.	mg/kg	8270C	09/09/11	50
Hexachloro-1,3-butadiene	BDL	17.	mg/kg	8270C	09/09/11	50

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

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REPORT OF ANALYSIS

Mr. Dustin Krajewski
AECOM Inc. - Fort Collins, CO
1601 Prospect Parkway
Fort Collins, CO 80525

September 13, 2011

ESC Sample # : L534392-05

Date Received : September 03, 2011
Description : EnCana Pavillion

Site ID : PAVILLION WY

Sample ID : SB-5-11 MP-18-4 10-12 FT

Project # : 60221849

Collected By : Jeremy Hurshman
Collection Date : 09/01/11 10:50

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Hexachlorocyclopentadiene	BDL	17.	mg/kg	8270C	09/09/11	50
Hexachloroethane	BDL	17.	mg/kg	8270C	09/09/11	50
Indeno(1,2,3-cd)pyrene	BDL	1.6	mg/kg	8270C	09/09/11	50
Isophorone	BDL	17.	mg/kg	8270C	09/09/11	50
Naphthalene	BDL	1.6	mg/kg	8270C	09/09/11	50
Nitrobenzene	BDL	17.	mg/kg	8270C	09/09/11	50
n-Nitrosodimethylamine	BDL	17.	mg/kg	8270C	09/09/11	50
n-Nitrosodiphenylamine	BDL	17.	mg/kg	8270C	09/09/11	50
n-Nitrosodi-n-propylamine	BDL	17.	mg/kg	8270C	09/09/11	50
Phenanthrene	11.	1.6	mg/kg	8270C	09/09/11	50
Benzylbutyl phthalate	BDL	17.	mg/kg	8270C	09/09/11	50
Bis(2-ethylhexyl)phthalate	BDL	17.	mg/kg	8270C	09/09/11	50
Di-n-butyl phthalate	BDL	17.	mg/kg	8270C	09/09/11	50
Diethyl phthalate	BDL	17.	mg/kg	8270C	09/09/11	50
Dimethyl phthalate	BDL	17.	mg/kg	8270C	09/09/11	50
Di-n-octyl phthalate	BDL	17.	mg/kg	8270C	09/09/11	50
Pyrene	BDL	1.6	mg/kg	8270C	09/09/11	50
1,2,4-Trichlorobenzene	BDL	17.	mg/kg	8270C	09/09/11	50
Acid Extractables						
4-Chloro-3-methylphenol	BDL	17.	mg/kg	8270C	09/09/11	50
2-Chlorophenol	BDL	17.	mg/kg	8270C	09/09/11	50
2,4-Dichlorophenol	BDL	17.	mg/kg	8270C	09/09/11	50
2,4-Dimethylphenol	BDL	17.	mg/kg	8270C	09/09/11	50
4,6-Dinitro-2-methylphenol	BDL	17.	mg/kg	8270C	09/09/11	50
2,4-Dinitrophenol	BDL	17.	mg/kg	8270C	09/09/11	50
2-Nitrophenol	BDL	17.	mg/kg	8270C	09/09/11	50
4-Nitrophenol	BDL	17.	mg/kg	8270C	09/09/11	50
Pentachlorophenol	BDL	17.	mg/kg	8270C	09/09/11	50
Phenol	BDL	17.	mg/kg	8270C	09/09/11	50
2,4,6-Trichlorophenol	BDL	17.	mg/kg	8270C	09/09/11	50
Surrogate Recovery						
2-Fluorophenol	0.00		% Rec.	8270C	09/09/11	50
Phenol-d5	0.00		% Rec.	8270C	09/09/11	50
Nitrobenzene-d5	0.00		% Rec.	8270C	09/09/11	50
2-Fluorobiphenyl	0.00		% Rec.	8270C	09/09/11	50
2,4,6-Tribromophenol	0.00		% Rec.	8270C	09/09/11	50
p-Terphenyl-d14	0.00		% Rec.	8270C	09/09/11	50

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
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REPORT OF ANALYSIS

Mr. Dustin Krajewski
AECOM Inc. - Fort Collins, CO
1601 Prospect Parkway
Fort Collins, CO 80525

September 13, 2011

ESC Sample # : L534392-06

Date Received : September 03, 2011
Description : EnCana Pavillion

Site ID : PAVILLION WY

Sample ID : DUP-1-11 MP-18-4 10-12 FT

Project # : 60221849

Collected By : Jeremy Hurshman
Collection Date : 09/01/11 00:00

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
TPH (GC/FID) Low Fraction	3.1	0.50	mg/kg	GRO	09/06/11	5
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	96.9		% Rec.	GRO	09/06/11	5
Benzene	BDL	0.0050	mg/kg	8260B	09/04/11	5
Toluene	BDL	0.025	mg/kg	8260B	09/04/11	5
Ethylbenzene	0.0076	0.0050	mg/kg	8260B	09/04/11	5
Total Xylenes	0.049	0.015	mg/kg	8260B	09/04/11	5
Surrogate Recovery						
Toluene-d8	93.3		% Rec.	8260B	09/04/11	5
Dibromofluoromethane	101.		% Rec.	8260B	09/04/11	5
a,a,a-Trifluorotoluene	90.3		% Rec.	8260B	09/04/11	5
4-Bromofluorobenzene	127.		% Rec.	8260B	09/04/11	5
DRO Wyoming C10-C32						
TPH (GC/FID) High Fraction	13000	400	mg/kg	8015	09/08/11	100
Surrogate recovery(%)						
o-Terphenyl	0.00		% Rec.	8015	09/08/11	100
Base/Neutral Extractables						
Acenaphthene	1.9	1.6	mg/kg	8270C	09/09/11	50
Acenaphthylene	BDL	1.6	mg/kg	8270C	09/09/11	50
Anthracene	1.8	1.6	mg/kg	8270C	09/09/11	50
Benzidine	BDL	17.	mg/kg	8270C	09/09/11	50
Benzo(a)anthracene	BDL	1.6	mg/kg	8270C	09/09/11	50
Benzo(b)fluoranthene	BDL	1.6	mg/kg	8270C	09/09/11	50
Benzo(k)fluoranthene	BDL	1.6	mg/kg	8270C	09/09/11	50
Benzo(g,h,i)perylene	BDL	1.6	mg/kg	8270C	09/09/11	50
Benzo(a)pyrene	BDL	1.6	mg/kg	8270C	09/09/11	50
Bis(2-chlorethoxy)methane	BDL	17.	mg/kg	8270C	09/09/11	50
Bis(2-chloroethyl)ether	BDL	17.	mg/kg	8270C	09/09/11	50
Bis(2-chloroisopropyl)ether	BDL	17.	mg/kg	8270C	09/09/11	50
4-Bromophenyl-phenylether	BDL	17.	mg/kg	8270C	09/09/11	50
2-Chloronaphthalene	BDL	1.6	mg/kg	8270C	09/09/11	50
4-Chlorophenyl-phenylether	BDL	17.	mg/kg	8270C	09/09/11	50
Chrysene	BDL	1.6	mg/kg	8270C	09/09/11	50
Dibenz(a,h)anthracene	BDL	1.6	mg/kg	8270C	09/09/11	50
3,3-Dichlorobenzidine	BDL	17.	mg/kg	8270C	09/09/11	50
2,4-Dinitrotoluene	BDL	17.	mg/kg	8270C	09/09/11	50
2,6-Dinitrotoluene	BDL	17.	mg/kg	8270C	09/09/11	50
Fluoranthene	BDL	1.6	mg/kg	8270C	09/09/11	50
Fluorene	3.2	1.6	mg/kg	8270C	09/09/11	50
Hexachlorobenzene	BDL	17.	mg/kg	8270C	09/09/11	50
Hexachloro-1,3-butadiene	BDL	17.	mg/kg	8270C	09/09/11	50

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

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REPORT OF ANALYSIS

Mr. Dustin Krajewski
AECOM Inc. - Fort Collins, CO
1601 Prospect Parkway
Fort Collins, CO 80525

September 13, 2011

ESC Sample # : L534392-06

Date Received : September 03, 2011
Description : EnCana Pavillion

Site ID : PAVILLION WY

Sample ID : DUP-1-11 MP-18-4 10-12 FT

Project # : 60221849

Collected By : Jeremy Hurshman
Collection Date : 09/01/11 00:00

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Hexachlorocyclopentadiene	BDL	17.	mg/kg	8270C	09/09/11	50
Hexachloroethane	BDL	17.	mg/kg	8270C	09/09/11	50
Indeno(1,2,3-cd)pyrene	BDL	1.6	mg/kg	8270C	09/09/11	50
Isophorone	BDL	17.	mg/kg	8270C	09/09/11	50
Naphthalene	BDL	1.6	mg/kg	8270C	09/09/11	50
Nitrobenzene	BDL	17.	mg/kg	8270C	09/09/11	50
n-Nitrosodimethylamine	BDL	17.	mg/kg	8270C	09/09/11	50
n-Nitrosodiphenylamine	BDL	17.	mg/kg	8270C	09/09/11	50
n-Nitrosodi-n-propylamine	BDL	17.	mg/kg	8270C	09/09/11	50
Phenanthrene	4.8	1.6	mg/kg	8270C	09/09/11	50
Benzylbutyl phthalate	BDL	17.	mg/kg	8270C	09/09/11	50
Bis(2-ethylhexyl)phthalate	BDL	17.	mg/kg	8270C	09/09/11	50
Di-n-butyl phthalate	BDL	17.	mg/kg	8270C	09/09/11	50
Diethyl phthalate	BDL	17.	mg/kg	8270C	09/09/11	50
Dimethyl phthalate	BDL	17.	mg/kg	8270C	09/09/11	50
Di-n-octyl phthalate	BDL	17.	mg/kg	8270C	09/09/11	50
Pyrene	BDL	1.6	mg/kg	8270C	09/09/11	50
1,2,4-Trichlorobenzene	BDL	17.	mg/kg	8270C	09/09/11	50
Acid Extractables						
4-Chloro-3-methylphenol	BDL	17.	mg/kg	8270C	09/09/11	50
2-Chlorophenol	BDL	17.	mg/kg	8270C	09/09/11	50
2,4-Dichlorophenol	BDL	17.	mg/kg	8270C	09/09/11	50
2,4-Dimethylphenol	BDL	17.	mg/kg	8270C	09/09/11	50
4,6-Dinitro-2-methylphenol	BDL	17.	mg/kg	8270C	09/09/11	50
2,4-Dinitrophenol	BDL	17.	mg/kg	8270C	09/09/11	50
2-Nitrophenol	BDL	17.	mg/kg	8270C	09/09/11	50
4-Nitrophenol	BDL	17.	mg/kg	8270C	09/09/11	50
Pentachlorophenol	BDL	17.	mg/kg	8270C	09/09/11	50
Phenol	BDL	17.	mg/kg	8270C	09/09/11	50
2,4,6-Trichlorophenol	BDL	17.	mg/kg	8270C	09/09/11	50
Surrogate Recovery						
2-Fluorophenol	0.00		% Rec.	8270C	09/09/11	50
Phenol-d5	0.00		% Rec.	8270C	09/09/11	50
Nitrobenzene-d5	0.00		% Rec.	8270C	09/09/11	50
2-Fluorobiphenyl	0.00		% Rec.	8270C	09/09/11	50
2,4,6-Tribromophenol	0.00		% Rec.	8270C	09/09/11	50
p-Terphenyl-d14	0.00		% Rec.	8270C	09/09/11	50

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
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REPORT OF ANALYSIS

Mr. Dustin Krajewski
AECOM Inc. - Fort Collins, CO
1601 Prospect Parkway
Fort Collins, CO 80525

September 13, 2011

ESC Sample # : L534392-07

Date Received : September 03, 2011
Description : EnCana Pavillion

Site ID : PAVILLION WY

Sample ID : BG-1-11 PF-34-3 0-1 FT

Project # : 60221849

Collected By : Jeremy Hurshman
Collection Date : 09/01/11 15:40

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Sodium Adsorption Ratio	1.0			Calc.	09/08/11	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
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REPORT OF ANALYSIS

Mr. Dustin Krajewski
AECOM Inc. - Fort Collins, CO
1601 Prospect Parkway
Fort Collins, CO 80525

September 13, 2011

ESC Sample # : L534392-08

Date Received : September 03, 2011
Description : EnCana Pavillion

Site ID : PAVILLION WY

Sample ID : BG-1-11 PF-34-3 0-1 FT

Project # : 60221849

Collected By : Jeremy Hurshman
Collection Date : 09/01/11 15:42

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Sodium Adsorption Ratio	0.53			Calc.	09/08/11	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
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REPORT OF ANALYSIS

Mr. Dustin Krajewski
AECOM Inc. - Fort Collins, CO
1601 Prospect Parkway
Fort Collins, CO 80525

September 13, 2011

ESC Sample # : L534392-09

Date Received : September 03, 2011
Description : EnCana Pavillion

Site ID : PAVILLION WY

Sample ID : BG-3-11 PF-34-3 0-1 FT

Project # : 60221849

Collected By : Jeremy Hurshman
Collection Date : 09/01/11 15:44

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Sodium Adsorption Ratio	1.8			Calc.	09/08/11	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
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REPORT OF ANALYSIS

Mr. Dustin Krajewski
AECOM Inc. - Fort Collins, CO
1601 Prospect Parkway
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September 13, 2011

ESC Sample # : L534392-10

Date Received : September 03, 2011
Description : EnCana Pavillion

Site ID : PAVILLION WY

Sample ID : BG-4-11 PF-34-3 0-1 FT

Project # : 60221849

Collected By : Jeremy Hurshman
Collection Date : 09/01/11 15:46

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Sodium Adsorption Ratio	0.68			Calc.	09/08/11	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
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REPORT OF ANALYSIS

Mr. Dustin Krajewski
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1601 Prospect Parkway
Fort Collins, CO 80525

September 13, 2011

ESC Sample # : L534392-11

Date Received : September 03, 2011
Description : EnCana Pavillion

Site ID : PAVILLION WY

Sample ID : BG-5-11 PF-34-3 0-1 FT

Project # : 60221849

Collected By : Jeremy Hurshman
Collection Date : 09/01/11 15:48

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Sodium Adsorption Ratio	1.3			Calc.	09/08/11	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
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REPORT OF ANALYSIS

Mr. Dustin Krajewski
AECOM Inc. - Fort Collins, CO
1601 Prospect Parkway
Fort Collins, CO 80525

September 13, 2011

ESC Sample # : L534392-12

Date Received : September 03, 2011
Description : EnCana Pavillion

Site ID : PAVILLION WY

Sample ID : TRIP BLANK

Project # : 60221849

Collected By : Jeremy Hurshman
Collection Date : 09/01/11 08:00

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzene	BDL	0.0010	mg/l	8260B	09/04/11	1
Toluene	BDL	0.0050	mg/l	8260B	09/04/11	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	09/04/11	1
Total Xylenes	BDL	0.0030	mg/l	8260B	09/04/11	1
Surrogate Recovery						
Toluene-d8	103.		% Rec.	8260B	09/04/11	1
Dibromofluoromethane	107.		% Rec.	8260B	09/04/11	1
a,a,a-Trifluorotoluene	107.		% Rec.	8260B	09/04/11	1
4-Bromofluorobenzene	109.		% Rec.	8260B	09/04/11	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
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REPORT OF ANALYSIS

Mr. Dustin Krajewski
AECOM Inc. - Fort Collins, CO
1601 Prospect Parkway
Fort Collins, CO 80525

September 13, 2011

ESC Sample # : L534392-13

Date Received : September 03, 2011
Description : EnCana Pavillion

Site ID : PAVILLION WY

Sample ID : SB-DEEP-11 TP-24-3 5-10 FT

Project # : 60221849

Collected By : Jeremy Hurshman
Collection Date : 09/02/11 09:00

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
TPH (GC/FID) Low Fraction	590	10.	mg/kg	GRO	09/06/11	100
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	98.4		% Rec.	GRO	09/06/11	100
Benzene	BDL	0.10	mg/kg	8260B	09/05/11	100
Toluene	BDL	0.50	mg/kg	8260B	09/05/11	100
Ethylbenzene	1.2	0.10	mg/kg	8260B	09/05/11	100
Total Xylenes	11.	0.30	mg/kg	8260B	09/05/11	100
Surrogate Recovery						
Toluene-d8	99.3		% Rec.	8260B	09/05/11	100
Dibromofluoromethane	82.2		% Rec.	8260B	09/05/11	100
a,a,a-Trifluorotoluene	108.		% Rec.	8260B	09/05/11	100
4-Bromofluorobenzene	48.5		% Rec.	8260B	09/05/11	100
DRO Wyoming C10-C32						
TPH (GC/FID) High Fraction	1700	80.	mg/kg	8015	09/08/11	20
Surrogate recovery(%)						
o-Terphenyl	0.00		% Rec.	8015	09/08/11	20
Base/Neutral Extractables						
Acenaphthene	0.050	0.033	mg/kg	8270C	09/08/11	1
Acenaphthylene	BDL	0.033	mg/kg	8270C	09/08/11	1
Anthracene	BDL	0.033	mg/kg	8270C	09/08/11	1
Benzidine	BDL	0.33	mg/kg	8270C	09/08/11	1
Benzo(a)anthracene	BDL	0.033	mg/kg	8270C	09/08/11	1
Benzo(b)fluoranthene	BDL	0.033	mg/kg	8270C	09/08/11	1
Benzo(k)fluoranthene	BDL	0.033	mg/kg	8270C	09/08/11	1
Benzo(g,h,i)perylene	BDL	0.033	mg/kg	8270C	09/08/11	1
Benzo(a)pyrene	BDL	0.033	mg/kg	8270C	09/08/11	1
Bis(2-chlorethoxy)methane	BDL	6.7	mg/kg	8270C	09/09/11	20
Bis(2-chloroethyl)ether	BDL	6.7	mg/kg	8270C	09/09/11	20
Bis(2-chloroisopropyl)ether	BDL	6.7	mg/kg	8270C	09/09/11	20
4-Bromophenyl-phenylether	BDL	0.33	mg/kg	8270C	09/08/11	1
2-Chloronaphthalene	BDL	0.033	mg/kg	8270C	09/08/11	1
4-Chlorophenyl-phenylether	BDL	0.33	mg/kg	8270C	09/08/11	1
Chrysene	BDL	0.033	mg/kg	8270C	09/08/11	1
Dibenz(a,h)anthracene	BDL	0.033	mg/kg	8270C	09/08/11	1
3,3-Dichlorobenzidine	BDL	0.33	mg/kg	8270C	09/08/11	1
2,4-Dinitrotoluene	BDL	0.33	mg/kg	8270C	09/08/11	1
2,6-Dinitrotoluene	BDL	0.33	mg/kg	8270C	09/08/11	1
Fluoranthene	BDL	0.033	mg/kg	8270C	09/08/11	1
Fluorene	0.034	0.033	mg/kg	8270C	09/08/11	1
Hexachlorobenzene	BDL	0.33	mg/kg	8270C	09/08/11	1
Hexachloro-1,3-butadiene	BDL	6.7	mg/kg	8270C	09/09/11	20

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L534392-13 (V8260BTEX) - Non-target compounds too high to run at a lower dilution.

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REPORT OF ANALYSIS

Mr. Dustin Krajewski
AECOM Inc. - Fort Collins, CO
1601 Prospect Parkway
Fort Collins, CO 80525

September 13, 2011

ESC Sample # : L534392-13

Date Received : September 03, 2011
Description : EnCana Pavillion

Site ID : PAVILLION WY

Sample ID : SB-DEEP-11 TP-24-3 5-10 FT

Project # : 60221849

Collected By : Jeremy Hurshman
Collection Date : 09/02/11 09:00

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Hexachlorocyclopentadiene	BDL	0.33	mg/kg	8270C	09/08/11	1
Hexachloroethane	BDL	6.7	mg/kg	8270C	09/09/11	20
Indeno(1,2,3-cd)pyrene	BDL	0.033	mg/kg	8270C	09/08/11	1
Isophorone	BDL	6.7	mg/kg	8270C	09/09/11	20
Naphthalene	2.5	0.66	mg/kg	8270C	09/09/11	20
Nitrobenzene	BDL	6.7	mg/kg	8270C	09/09/11	20
n-Nitrosodimethylamine	BDL	6.7	mg/kg	8270C	09/09/11	20
n-Nitrosodiphenylamine	BDL	0.33	mg/kg	8270C	09/08/11	1
n-Nitrosodi-n-propylamine	BDL	6.7	mg/kg	8270C	09/09/11	20
Phenanthrene	BDL	0.033	mg/kg	8270C	09/08/11	1
Benzylbutyl phthalate	BDL	0.33	mg/kg	8270C	09/08/11	1
Bis(2-ethylhexyl)phthalate	BDL	0.33	mg/kg	8270C	09/08/11	1
Di-n-butyl phthalate	BDL	0.33	mg/kg	8270C	09/08/11	1
Diethyl phthalate	BDL	0.33	mg/kg	8270C	09/08/11	1
Dimethyl phthalate	BDL	0.33	mg/kg	8270C	09/08/11	1
Di-n-octyl phthalate	BDL	0.33	mg/kg	8270C	09/08/11	1
Pyrene	BDL	0.033	mg/kg	8270C	09/08/11	1
1,2,4-Trichlorobenzene	BDL	6.7	mg/kg	8270C	09/09/11	20
Acid Extractables						
4-Chloro-3-methylphenol	BDL	6.7	mg/kg	8270C	09/09/11	20
2-Chlorophenol	BDL	6.7	mg/kg	8270C	09/09/11	20
2,4-Dichlorophenol	BDL	6.7	mg/kg	8270C	09/09/11	20
2,4-Dimethylphenol	BDL	6.7	mg/kg	8270C	09/09/11	20
4,6-Dinitro-2-methylphenol	BDL	0.33	mg/kg	8270C	09/08/11	1
2,4-Dinitrophenol	BDL	0.33	mg/kg	8270C	09/08/11	1
2-Nitrophenol	BDL	6.7	mg/kg	8270C	09/09/11	20
4-Nitrophenol	BDL	0.33	mg/kg	8270C	09/08/11	1
Pentachlorophenol	BDL	0.33	mg/kg	8270C	09/08/11	1
Phenol	BDL	6.7	mg/kg	8270C	09/09/11	20
2,4,6-Trichlorophenol	BDL	0.33	mg/kg	8270C	09/08/11	1
Surrogate Recovery						
2-Fluorophenol	0.00		% Rec.	8270C	09/09/11	20
Phenol-d5	0.00		% Rec.	8270C	09/09/11	20
Nitrobenzene-d5	0.00		% Rec.	8270C	09/09/11	20
2-Fluorobiphenyl	62.5		% Rec.	8270C	09/08/11	1
2,4,6-Tribromophenol	72.8		% Rec.	8270C	09/08/11	1
p-Terphenyl-d14	74.8		% Rec.	8270C	09/08/11	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.
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.
Reported: 09/13/11 12:47 Printed: 09/13/11 12:47
L534392-13 (V8260BTEX) - Non-target compounds too high to run at a lower dilution.

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Est. 1970

REPORT OF ANALYSIS

Mr. Dustin Krajewski
AECOM Inc. - Fort Collins, CO
1601 Prospect Parkway
Fort Collins, CO 80525

September 13, 2011

ESC Sample # : L534392-14

Date Received : September 03, 2011
Description : EnCana Pavillion

Site ID : PAVILLION WY

Sample ID : SB-DEEP-11 TP-24-3 10-15 FT

Project # : 60221849

Collected By : Jeremy Hurshman
Collection Date : 09/02/11 09:20

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
TPH (GC/FID) Low Fraction	2000	25.	mg/kg	GRO	09/06/11	250
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	89.7		% Rec.	GRO	09/06/11	250
Benzene	0.55	0.25	mg/kg	8260B	09/05/11	250
Toluene	BDL	1.2	mg/kg	8260B	09/05/11	250
Ethylbenzene	11.	0.25	mg/kg	8260B	09/05/11	250
Total Xylenes	70.	0.75	mg/kg	8260B	09/05/11	250
Surrogate Recovery						
Toluene-d8	105.		% Rec.	8260B	09/05/11	250
Dibromofluoromethane	82.4		% Rec.	8260B	09/05/11	250
a,a,a-Trifluorotoluene	106.		% Rec.	8260B	09/05/11	250
4-Bromofluorobenzene	151.		% Rec.	8260B	09/05/11	250
DRO Wyoming C10-C32						
TPH (GC/FID) High Fraction	700	20.	mg/kg	8015	09/08/11	5
Surrogate recovery(%)						
o-Terphenyl	98.7		% Rec.	8015	09/08/11	5

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
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Reported: 09/13/11 12:47 Printed: 09/13/11 12:47
L534392-14 (V8260BTEX) - Non-target compounds too high to run at a lower dilution.

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REPORT OF ANALYSIS

Mr. Dustin Krajewski
AECOM Inc. - Fort Collins, CO
1601 Prospect Parkway
Fort Collins, CO 80525

September 13, 2011

ESC Sample # : L534392-15

Date Received : September 03, 2011
Description : EnCana Pavillion

Site ID : PAVILLION WY

Sample ID : DUP-1-11 TP-24-3 10-15 FT

Project # : 60221849

Collected By : Jeremy Hurshman
Collection Date : 09/02/11 00:00

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
TPH (GC/FID) Low Fraction	1600	50.	mg/kg	GRO	09/08/11	500
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	92.5		% Rec.	GRO	09/08/11	500
Benzene	0.51	0.050	mg/kg	8260B	09/05/11	50
Toluene	BDL	0.25	mg/kg	8260B	09/05/11	50
Ethylbenzene	4.2	0.50	mg/kg	8260B	09/06/11	500
Total Xylenes	24.	1.5	mg/kg	8260B	09/06/11	500
Surrogate Recovery						
Toluene-d8	111.		% Rec.	8260B	09/05/11	50
Dibromofluoromethane	74.0		% Rec.	8260B	09/05/11	50
a,a,a-Trifluorotoluene	95.8		% Rec.	8260B	09/05/11	50
4-Bromofluorobenzene	200.		% Rec.	8260B	09/05/11	50
DRO Wyoming C10-C32						
TPH (GC/FID) High Fraction	1900	40.	mg/kg	8015	09/08/11	10
Surrogate recovery(%)						
o-Terphenyl	105.		% Rec.	8015	09/08/11	10

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.
This report shall not be reproduced, except in full, without the written approval from ESC.
.
Reported: 09/13/11 12:47 Printed: 09/13/11 12:47

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REPORT OF ANALYSIS

Mr. Dustin Krajewski
AECOM Inc. - Fort Collins, CO
1601 Prospect Parkway
Fort Collins, CO 80525

September 13, 2011

ESC Sample # : L534392-16

Date Received : September 03, 2011
Description : EnCana Pavillion

Site ID : PAVILLION WY

Sample ID : SB-DEEP-11 TP-24-3 15-20 FT

Project # : 60221849

Collected By : Jeremy Hurshman
Collection Date : 09/02/11 09:30

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
TPH (GC/FID) Low Fraction	23.	5.0	mg/kg	GRO	09/08/11	50
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	94.4		% Rec.	GRO	09/08/11	50
Benzene	BDL	0.050	mg/kg	8260B	09/06/11	50
Toluene	BDL	0.25	mg/kg	8260B	09/06/11	50
Ethylbenzene	0.072	0.050	mg/kg	8260B	09/06/11	50
Total Xylenes	0.48	0.15	mg/kg	8260B	09/06/11	50
Surrogate Recovery						
Toluene-d8	103.		% Rec.	8260B	09/06/11	50
Dibromofluoromethane	78.0		% Rec.	8260B	09/06/11	50
a,a,a-Trifluorotoluene	112.		% Rec.	8260B	09/06/11	50
4-Bromofluorobenzene	118.		% Rec.	8260B	09/06/11	50
DRO Wyoming C10-C32						
TPH (GC/FID) High Fraction	410	20.	mg/kg	8015	09/08/11	5
Surrogate recovery(%)						
o-Terphenyl	90.5		% Rec.	8015	09/08/11	5

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.
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.
Reported: 09/13/11 12:47 Printed: 09/13/11 12:47
L534392-16 (V8260BTEX) - IS/SURR failed on lower dilution.

Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L534392-05	WG554010	SAMP	Benzidine	R1850133	J4
	WG554010	SAMP	2-Fluorophenol	R1850133	J7
	WG554010	SAMP	Phenol-d5	R1850133	J7
	WG554010	SAMP	Nitrobenzene-d5	R1850133	J7
	WG554010	SAMP	2-Fluorobiphenyl	R1850133	J7
	WG554010	SAMP	2,4,6-Tribromophenol	R1850133	J7
	WG554010	SAMP	p-Terphenyl-d14	R1850133	J7
	WG553869	SAMP	o-Terphenyl	R1849498	J7
L534392-06	WG554010	SAMP	Benzidine	R1850133	J4
	WG554010	SAMP	2-Fluorophenol	R1850133	J7
	WG554010	SAMP	Phenol-d5	R1850133	J7
	WG554010	SAMP	Nitrobenzene-d5	R1850133	J7
	WG554010	SAMP	2-Fluorobiphenyl	R1850133	J7
	WG554010	SAMP	2,4,6-Tribromophenol	R1850133	J7
	WG554010	SAMP	p-Terphenyl-d14	R1850133	J7
	WG553869	SAMP	o-Terphenyl	R1849498	J7
L534392-13	WG554010	SAMP	Benzidine	R1850133	J4
	WG554010	SAMP	2-Fluorophenol	R1850133	J7
	WG554010	SAMP	Phenol-d5	R1850133	J7
	WG554010	SAMP	Nitrobenzene-d5	R1850133	J7
	WG553648	SAMP	4-Bromofluorobenzene	R1845872	J2
	WG553869	SAMP	o-Terphenyl	R1849498	J7
L534392-14	WG553648	SAMP	4-Bromofluorobenzene	R1845872	J1
L534392-15	WG553648	SAMP	4-Bromofluorobenzene	R1845872	J1
L534392-16	WG554018	SAMP	TPH (GC/FID) High Fraction	R1849995	J3

EPAPAV0045214

Attachment B
Explanation of QC Qualifier Codes

Qualifier	Meaning
J1	Surrogate recovery limits have been exceeded; values are outside upper control limits
J2	Surrogate recovery limits have been exceeded; values are outside lower control limits
J3	The associated batch QC was outside the established quality control range for precision.
J4	The associated batch QC was outside the established quality control range for accuracy.
J7	Surrogate recovery limits cannot be evaluated; surrogates were diluted out

Qualifier Report Information

ESC utilizes sample and result qualifiers as set forth by the EPA Contract Laboratory Program and as required by most certifying bodies including NELAC. In addition to the EPA qualifiers adopted by ESC, we have implemented ESC qualifiers to provide more information pertaining to our analytical results. Each qualifier is designated in the qualifier explanation as either EPA or ESC. Data qualifiers are intended to provide the ESC client with more detailed information concerning the potential bias of reported data. Because of the wide range of constituents and variety of matrices incorporated by most EPA methods,it is common for some compounds to fall outside of established ranges. These exceptions are evaluated and all reported data is valid and useable "unless qualified as 'R' (Rejected)."

Definitions

Accuracy - The relationship of the observed value of a known sample to the true value of a known sample. Represented by percent recovery and relevant to samples such as: control samples, matrix spike recoveries, surrogate recoveries, etc.

Precision - The agreement between a set of samples or between duplicate samples. Relates to how close together the results are and is represented by Relative Percent Differrence.

Surrogate - Organic compounds that are similar in chemical composition, extraction, and chromotography to analytes of interest. The surrogates are used to determine the probable response of the group of analytes that are chemically related to the surrogate compound. Surrogates are added to the sample and carried through all stages of preparation and analyses.

TIC - Tentatively Identified Compound: Compounds detected in samples that are not target compounds, internal standards, system monitoring compounds, or surrogates.

EPAPAV0045215

Summary of Remarks For Samples Printed
09/13/11 at 12:47:53

TSR Signing Reports: 044
R5 - Desired TAT

Always run BTEX by 8260 unless noted otherwise. ln 9/2/11

Sample: L534392-01 Account: ENSRFCCO Received: 09/03/11 09:00 Due Date: 09/12/11 00:00 RPT Date: 09/13/11 12:47

Sample: L534392-02 Account: ENSRFCCO Received: 09/03/11 09:00 Due Date: 09/12/11 00:00 RPT Date: 09/13/11 12:47

Sample: L534392-03 Account: ENSRFCCO Received: 09/03/11 09:00 Due Date: 09/12/11 00:00 RPT Date: 09/13/11 12:47

Sample: L534392-04 Account: ENSRFCCO Received: 09/03/11 09:00 Due Date: 09/12/11 00:00 RPT Date: 09/13/11 12:47

Sample: L534392-05 Account: ENSRFCCO Received: 09/03/11 09:00 Due Date: 09/12/11 00:00 RPT Date: 09/13/11 12:47

Sample: L534392-06 Account: ENSRFCCO Received: 09/03/11 09:00 Due Date: 09/12/11 00:00 RPT Date: 09/13/11 12:47

Sample: L534392-07 Account: ENSRFCCO Received: 09/03/11 09:00 Due Date: 09/12/11 00:00 RPT Date: 09/13/11 12:47

Sample: L534392-08 Account: ENSRFCCO Received: 09/03/11 09:00 Due Date: 09/12/11 00:00 RPT Date: 09/13/11 12:47

Sample: L534392-09 Account: ENSRFCCO Received: 09/03/11 09:00 Due Date: 09/12/11 00:00 RPT Date: 09/13/11 12:47

Sample: L534392-10 Account: ENSRFCCO Received: 09/03/11 09:00 Due Date: 09/12/11 00:00 RPT Date: 09/13/11 12:47

Sample: L534392-11 Account: ENSRFCCO Received: 09/03/11 09:00 Due Date: 09/12/11 00:00 RPT Date: 09/13/11 12:47

Sample: L534392-12 Account: ENSRFCCO Received: 09/03/11 09:00 Due Date: 09/12/11 00:00 RPT Date: 09/13/11 12:47

Sample: L534392-13 Account: ENSRFCCO Received: 09/03/11 09:00 Due Date: 09/12/11 00:00 RPT Date: 09/13/11 12:47

Sample: L534392-14 Account: ENSRFCCO Received: 09/03/11 09:00 Due Date: 09/12/11 00:00 RPT Date: 09/13/11 12:47

Sample: L534392-15 Account: ENSRFCCO Received: 09/03/11 09:00 Due Date: 09/12/11 00:00 RPT Date: 09/13/11 12:47

Sample: L534392-16 Account: ENSRFCCO Received: 09/03/11 09:00 Due Date: 09/12/11 00:00 RPT Date: 09/13/11 12:47

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AECOM Inc. - Fort Collins, CO
Mr. Dustin Krajewski
1601 Prospect Parkway

Fort Collins, CO 80525

Quality Assurance Report
Level II

L534392

September 13, 2011

Laboratory Blank

Analyte	Result	Units	% Rec	Limit	Batch	Date Analyzed
Benzene	< .001	mg/l			WG553655	09/04/11 16:35
Ethylbenzene	< .001	mg/l			WG553655	09/04/11 16:35
Toluene	< .005	mg/l			WG553655	09/04/11 16:35
Total Xylenes	< .003	mg/l			WG553655	09/04/11 16:35
4-Bromofluorobenzene		% Rec.	113.2	75-128	WG553655	09/04/11 16:35
Dibromofluoromethane		% Rec.	104.7	79-125	WG553655	09/04/11 16:35
Toluene-d8		% Rec.	102.1	87-114	WG553655	09/04/11 16:35
a,a,a-Trifluorotoluene		% Rec.	107.4	84-114	WG553655	09/04/11 16:35
Benzene	< .001	mg/kg			WG553648	09/04/11 23:15
Ethylbenzene	< .001	mg/kg			WG553648	09/04/11 23:15
Toluene	< .005	mg/kg			WG553648	09/04/11 23:15
Total Xylenes	< .003	mg/kg			WG553648	09/04/11 23:15
4-Bromofluorobenzene		% Rec.	111.7	59-140	WG553648	09/04/11 23:15
Dibromofluoromethane		% Rec.	90.19	63-139	WG553648	09/04/11 23:15
Toluene-d8		% Rec.	96.40	84-116	WG553648	09/04/11 23:15
a,a,a-Trifluorotoluene		% Rec.	103.3	80-118	WG553648	09/04/11 23:15
Benzene	< .001	mg/kg			WG553890	09/06/11 15:27
Ethylbenzene	< .001	mg/kg			WG553890	09/06/11 15:27
Toluene	< .005	mg/kg			WG553890	09/06/11 15:27
Total Xylenes	< .003	mg/kg			WG553890	09/06/11 15:27
4-Bromofluorobenzene		% Rec.	113.5	59-140	WG553890	09/06/11 15:27
Dibromofluoromethane		% Rec.	88.00	63-139	WG553890	09/06/11 15:27
Toluene-d8		% Rec.	99.70	84-116	WG553890	09/06/11 15:27
a,a,a-Trifluorotoluene		% Rec.	107.7	80-118	WG553890	09/06/11 15:27
TPH (GC/FID) High Fraction	< 4	ppm			WG553869	09/07/11 19:19
o-Terphenyl		% Rec.	73.82	50-150	WG553869	09/07/11 19:19
TPH (GC/FID) Low Fraction	< .1	mg/kg			WG553732	09/06/11 07:03
a,a,a-Trifluorotoluene(FID)		% Rec.	98.94	59-128	WG553732	09/06/11 07:03
TPH (GC/FID) High Fraction	< 4	ppm			WG554018	09/08/11 10:41
o-Terphenyl		% Rec.	71.57	50-150	WG554018	09/08/11 10:41
1,2,4-Trichlorobenzene	< .333	mg/kg			WG554010	09/08/11 11:12
2,4,6-Trichlorophenol	< .333	mg/kg			WG554010	09/08/11 11:12
2,4-Dichlorophenol	< .333	mg/kg			WG554010	09/08/11 11:12
2,4-Dimethylphenol	< .333	mg/kg			WG554010	09/08/11 11:12
2,4-Dinitrophenol	< .333	mg/kg			WG554010	09/08/11 11:12
2,4-Dinitrotoluene	< .333	mg/kg			WG554010	09/08/11 11:12
2,6-Dinitrotoluene	< .333	mg/kg			WG554010	09/08/11 11:12
2-Chloronaphthalene	< .033	mg/kg			WG554010	09/08/11 11:12
2-Chlorophenol	< .333	mg/kg			WG554010	09/08/11 11:12
2-Nitrophenol	< .333	mg/kg			WG554010	09/08/11 11:12
3,3-Dichlorobenzidine	< .333	mg/kg			WG554010	09/08/11 11:12
4,6-Dinitro-2-methylphenol	< .333	mg/kg			WG554010	09/08/11 11:12
4-Bromophenyl-phenylether	< .333	mg/kg			WG554010	09/08/11 11:12
4-Chloro-3-methylphenol	< .333	mg/kg			WG554010	09/08/11 11:12
4-Chlorophenyl-phenylether	< .333	mg/kg			WG554010	09/08/11 11:12
4-Nitrophenol	< .333	mg/kg			WG554010	09/08/11 11:12
Acenaphthene	< .033	mg/kg			WG554010	09/08/11 11:12

* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'

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Fort Collins, CO 80525

Quality Assurance Report
Level II

L534392

September 13, 2011

Laboratory Blank

Analyte	Result	Units	% Rec	Limit	Batch	Date Analyzed
Acenaphthylene	< .033	mg/kg			WG554010	09/08/11 11:12
Anthracene	< .033	mg/kg			WG554010	09/08/11 11:12
Benzidine	< .333	mg/kg			WG554010	09/08/11 11:12
Benzo(a)anthracene	< .033	mg/kg			WG554010	09/08/11 11:12
Benzo(a)pyrene	< .033	mg/kg			WG554010	09/08/11 11:12
Benzo(b)fluoranthene	< .033	mg/kg			WG554010	09/08/11 11:12
Benzo(g,h,i)perylene	< .033	mg/kg			WG554010	09/08/11 11:12
Benzo(k)fluoranthene	< .033	mg/kg			WG554010	09/08/11 11:12
Benzylbutyl phthalate	< .333	mg/kg			WG554010	09/08/11 11:12
Bis(2-chlorethoxy)methane	< .333	mg/kg			WG554010	09/08/11 11:12
Bis(2-chloroethyl)ether	< .333	mg/kg			WG554010	09/08/11 11:12
Bis(2-chloroisopropyl)ether	< .333	mg/kg			WG554010	09/08/11 11:12
Bis(2-ethylhexyl)phthalate	< .333	mg/kg			WG554010	09/08/11 11:12
Chrysene	< .033	mg/kg			WG554010	09/08/11 11:12
Di-n-butyl phthalate	< .333	mg/kg			WG554010	09/08/11 11:12
Di-n-octyl phthalate	< .333	mg/kg			WG554010	09/08/11 11:12
Dibenz(a,h)anthracene	< .033	mg/kg			WG554010	09/08/11 11:12
Diethyl phthalate	< .333	mg/kg			WG554010	09/08/11 11:12
Dimethyl phthalate	< .333	mg/kg			WG554010	09/08/11 11:12
Fluoranthene	< .033	mg/kg			WG554010	09/08/11 11:12
Fluorene	< .033	mg/kg			WG554010	09/08/11 11:12
Hexachloro-1,3-butadiene	< .333	mg/kg			WG554010	09/08/11 11:12
Hexachlorobenzene	< .333	mg/kg			WG554010	09/08/11 11:12
Hexachlorocyclopentadiene	< .333	mg/kg			WG554010	09/08/11 11:12
Hexachloroethane	< .333	mg/kg			WG554010	09/08/11 11:12
Indeno(1,2,3-cd)pyrene	< .033	mg/kg			WG554010	09/08/11 11:12
Isophorone	< .333	mg/kg			WG554010	09/08/11 11:12
n-Nitrosodi-n-propylamine	< .333	mg/kg			WG554010	09/08/11 11:12
n-Nitrosodimethylamine	< .333	mg/kg			WG554010	09/08/11 11:12
n-Nitrosodiphenylamine	< .333	mg/kg			WG554010	09/08/11 11:12
Naphthalene	< .033	mg/kg			WG554010	09/08/11 11:12
Nitrobenzene	< .333	mg/kg			WG554010	09/08/11 11:12
Pentachlorophenol	< .333	mg/kg			WG554010	09/08/11 11:12
Phenanthrene	< .033	mg/kg			WG554010	09/08/11 11:12
Phenol	< .333	mg/kg			WG554010	09/08/11 11:12
Pyrene	< .033	mg/kg			WG554010	09/08/11 11:12
2,4,6-Tribromophenol		mg/kg	57.23	16-136	WG554010	09/08/11 11:12
2-Fluorobiphenyl		mg/kg	57.69	37-119	WG554010	09/08/11 11:12
2-Fluorophenol		mg/kg	42.62	22-114	WG554010	09/08/11 11:12
Nitrobenzene-d5		mg/kg	57.79	20-114	WG554010	09/08/11 11:12
Phenol-d5		mg/kg	61.10	26-127	WG554010	09/08/11 11:12
p-Terphenyl-d14		mg/kg	65.93	15-174	WG554010	09/08/11 11:12
TPH (GC/FID) Low Fraction	< .1	mg/kg			WG554093	09/08/11 08:16
a,a,a-Trifluorotoluene(FID)		% Rec.	94.47	59-128	WG554093	09/08/11 08:16

Laboratory Control Sample

Analyte	Units	Known Val	Result	% Rec	Limit	Batch
Benzene	mg/l	.025	0.0267	107.	67-126	WG553655
Ethylbenzene	mg/l	.025	0.0261	105.	76-129	WG553655
Toluene	mg/l	.025	0.0247	98.7	72-122	WG553655
Total Xylenes	mg/l	.075	0.0770	103.	75-128	WG553655
4-Bromofluorobenzene				108.2	75-128	WG553655
Dibromofluoromethane				106.4	79-125	WG553655
Toluene-d8				103.9	87-114	WG553655
a,a,a-Trifluorotoluene				107.1	84-114	WG553655

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Mr. Dustin Krajewski
1601 Prospect Parkway

Fort Collins, CO 80525

Quality Assurance Report
Level II

L534392

September 13, 2011

Analyte	Units	Laboratory Control Sample Known Val	Result	% Rec	Limit	Batch
Benzene	mg/kg	.025	0.0247	98.9	65-128	WG553648
Ethylbenzene	mg/kg	.025	0.0271	109.	74-128	WG553648
Toluene	mg/kg	.025	0.0236	94.3	70-120	WG553648
Total Xylenes	mg/kg	.075	0.0814	109.	74-127	WG553648
4-Bromofluorobenzene				110.6	59-140	WG553648
Dibromofluoromethane				96.61	63-139	WG553648
Toluene-d8				98.34	84-116	WG553648
a,a,a-Trifluorotoluene				108.4	80-118	WG553648
Benzene	mg/kg	.025	0.0181	72.2	65-128	WG553890
Ethylbenzene	mg/kg	.025	0.0214	85.6	74-128	WG553890
Toluene	mg/kg	.025	0.0189	75.5	70-120	WG553890
Total Xylenes	mg/kg	.075	0.0643	85.7	74-127	WG553890
4-Bromofluorobenzene				100.1	59-140	WG553890
Dibromofluoromethane				91.22	63-139	WG553890
Toluene-d8				100.0	84-116	WG553890
a,a,a-Trifluorotoluene				113.0	80-118	WG553890
TPH (GC/FID) Low Fraction	mg/kg	5.5	5.79	105.	67-135	WG553732
a,a,a-Trifluorotoluene(FID)				102.7	59-128	WG553732
1,2,4-Trichlorobenzene	mg/kg	.333	0.220	66.1	48-87	WG554010
2,4,6-Trichlorophenol	mg/kg	.333	0.269	80.9	50-98	WG554010
2,4-Dichlorophenol	mg/kg	.333	0.252	75.7	56-96	WG554010
2,4-Dimethylphenol	mg/kg	.333	0.243	72.9	52-101	WG554010
2,4-Dinitrophenol	mg/kg	.333	0.219	65.6	10-109	WG554010
2,4-Dinitrotoluene	mg/kg	.333	0.262	78.6	54-103	WG554010
2,6-Dinitrotoluene	mg/kg	.333	0.264	79.4	53-99	WG554010
2-Chloronaphthalene	mg/kg	.333	0.249	74.9	55-96	WG554010
2-Chlorophenol	mg/kg	.333	0.225	67.6	52-88	WG554010
2-Nitrophenol	mg/kg	.333	0.241	72.3	55-106	WG554010
3,3-Dichlorobenzidine	mg/kg	.333	0.149	44.6	36-84	WG554010
4,6-Dinitro-2-methylphenol	mg/kg	.333	0.228	68.3	24-98	WG554010
4-Bromophenyl-phenylether	mg/kg	.333	0.246	73.7	58-111	WG554010
4-Chloro-3-methylphenol	mg/kg	.333	0.253	76.0	58-98	WG554010
4-Chlorophenyl-phenylether	mg/kg	.333	0.249	74.7	59-103	WG554010
4-Nitrophenol	mg/kg	.333	0.224	67.2	34-101	WG554010
Acenaphthene	mg/kg	.333	0.264	79.2	55-96	WG554010
Acenaphthylene	mg/kg	.333	0.265	79.5	61-107	WG554010
Anthracene	mg/kg	.333	0.259	77.7	58-105	WG554010
Benzidine	mg/kg	.333	0.00534	1.60*	10-21	WG554010
Benzo(a)anthracene	mg/kg	.333	0.260	78.1	56-103	WG554010
Benzo(a)pyrene	mg/kg	.333	0.261	78.3	57-103	WG554010
Benzo(b)fluoranthene	mg/kg	.333	0.252	75.6	52-106	WG554010
Benzo(g,h,i)perylene	mg/kg	.333	0.255	76.7	47-112	WG554010
Benzo(k)fluoranthene	mg/kg	.333	0.269	80.8	53-104	WG554010
Benzylbutyl phthalate	mg/kg	.333	0.273	81.9	61-118	WG554010
Bis(2-chlorethoxy)methane	mg/kg	.333	0.255	76.6	58-104	WG554010
Bis(2-chloroethyl)ether	mg/kg	.333	0.236	70.8	51-103	WG554010
Bis(2-chloroisopropyl)ether	mg/kg	.333	0.252	75.6	56-95	WG554010
Bis(2-ethylhexyl)phthalate	mg/kg	.333	0.293	88.0	56-120	WG554010
Chrysene	mg/kg	.333	0.259	77.9	55-102	WG554010
Di-n-butyl phthalate	mg/kg	.333	0.250	75.2	59-114	WG554010
Di-n-octyl phthalate	mg/kg	.333	0.302	90.8	51-119	WG554010
Dibenz(a,h)anthracene	mg/kg	.333	0.256	76.8	49-111	WG554010

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Quality Assurance Report
Level II

L534392

September 13, 2011

Analyte	Units	Laboratory Control Sample Known Val	Result	% Rec	Limit	Batch
Diethyl phthalate	mg/kg	.333	0.264	79.3	61-105	WG554010
Dimethyl phthalate	mg/kg	.333	0.258	77.6	60-106	WG554010
Fluoranthene	mg/kg	.333	0.262	78.7	59-108	WG554010
Fluorene	mg/kg	.333	0.247	74.1	59-100	WG554010
Hexachloro-1,3-butadiene	mg/kg	.333	0.249	74.9	53-106	WG554010
Hexachlorobenzene	mg/kg	.333	0.245	73.5	50-108	WG554010
Hexachlorocyclopentadiene	mg/kg	.333	0.275	82.7	36-117	WG554010
Hexachloroethane	mg/kg	.333	0.236	70.9	45-83	WG554010
Indeno(1,2,3-cd)pyrene	mg/kg	.333	0.262	78.7	50-110	WG554010
Isophorone	mg/kg	.333	0.214	64.2	51-99	WG554010
n-Nitrosodi-n-propylamine	mg/kg	.333	0.280	84.0	52-103	WG554010
n-Nitrosodimethylamine	mg/kg	.333	0.185	55.7	31-107	WG554010
n-Nitrosodiphenylamine	mg/kg	.333	0.254	76.3	57-121	WG554010
Naphthalene	mg/kg	.333	0.239	71.9	55-91	WG554010
Nitrobenzene	mg/kg	.333	0.250	75.2	47-92	WG554010
Pentachlorophenol	mg/kg	.333	0.185	55.4	10-89	WG554010
Phenanthrene	mg/kg	.333	0.258	77.3	55-103	WG554010
Phenol	mg/kg	.333	0.242	72.6	49-99	WG554010
Pyrene	mg/kg	.333	0.257	77.1	54-104	WG554010
2,4,6-Tribromophenol				77.85	16-136	WG554010
2-Fluorobiphenyl				73.88	37-119	WG554010
2-Fluorophenol				76.28	22-114	WG554010
Nitrobenzene-d5				77.93	20-114	WG554010
Phenol-d5				83.47	26-127	WG554010
p-Terphenyl-d14				73.93	15-174	WG554010
TPH (GC/FID) Low Fraction	mg/kg	5.5	6.35	115.	67-135	WG554093
a,a,a-Trifluorotoluene(FID)				99.34	59-128	WG554093

Analyte	Units	Laboratory Control Sample Duplicate Result	Ref	%Rec	Limit	RPD	Limit	Batch
Benzene	mg/l	0.0262	0.0267	105.	67-126	1.54	20	WG553655
Ethylbenzene	mg/l	0.0251	0.0261	100.	76-129	4.10	20	WG553655
Toluene	mg/l	0.0247	0.0247	99.0	72-122	0.150	20	WG553655
Total Xylenes	mg/l	0.0738	0.0770	98.0	75-128	4.18	20	WG553655
4-Bromofluorobenzene				103.9	75-128			WG553655
Dibromofluoromethane				107.0	79-125			WG553655
Toluene-d8				103.3	87-114			WG553655
a,a,a-Trifluorotoluene				105.0	84-114			WG553655
Benzene	mg/kg	0.0273	0.0247	109.	65-128	10.0	20	WG553648
Ethylbenzene	mg/kg	0.0280	0.0271	112.	74-128	3.17	20	WG553648
Toluene	mg/kg	0.0256	0.0236	102.	70-120	8.22	20	WG553648
Total Xylenes	mg/kg	0.0841	0.0814	112.	74-127	3.19	20	WG553648
4-Bromofluorobenzene				104.2	59-140			WG553648
Dibromofluoromethane				98.95	63-139			WG553648
Toluene-d8				99.27	84-116			WG553648
a,a,a-Trifluorotoluene				102.7	80-118			WG553648
Benzene	mg/kg	0.0189	0.0181	76.0	65-128	4.59	20	WG553890
Ethylbenzene	mg/kg	0.0222	0.0214	89.0	74-128	3.76	20	WG553890
Toluene	mg/kg	0.0189	0.0189	76.0	70-120	0.340	20	WG553890
Total Xylenes	mg/kg	0.0671	0.0643	89.0	74-127	4.26	20	WG553890
4-Bromofluorobenzene				101.7	59-140			WG553890
Dibromofluoromethane				91.84	63-139			WG553890

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Quality Assurance Report
Level II

L534392

September 13, 2011

Analyte	Units	Laboratory Result	Control Ref	Sample %Rec	Duplicate Limit	RPD	Limit	Batch
Toluene-d8				98.63	84-116			
a,a,a-Trifluorotoluene				108.0	80-118			
TPH (GC/FID) Low Fraction	mg/kg	5.75	5.79	104.	67-135	0.640	20	WG553732
a,a,a-Trifluorotoluene(FID)				100.2	59-128			WG553732
1,2,4-Trichlorobenzene	mg/kg	0.188	0.220	56.0	48-87	15.8	20	WG554010
2,4,6-Trichlorophenol	mg/kg	0.233	0.269	70.0	50-98	14.4	20	WG554010
2,4-Dichlorophenol	mg/kg	0.226	0.252	68.0	56-96	10.7	20	WG554010
2,4-Dimethylphenol	mg/kg	0.226	0.243	68.0	52-101	7.15	20	WG554010
2,4-Dinitrophenol	mg/kg	0.214	0.219	64.0	10-109	2.29	39	WG554010
2,4-Dinitrotoluene	mg/kg	0.216	0.262	65.0	54-103	19.2	20	WG554010
2,6-Dinitrotoluene	mg/kg	0.234	0.264	70.0	53-99	12.1	20	WG554010
2-Chloronaphthalene	mg/kg	0.224	0.249	67.0	55-96	10.9	20	WG554010
2-Chlorophenol	mg/kg	0.201	0.225	60.0	52-88	11.5	20	WG554010
2-Nitrophenol	mg/kg	0.215	0.241	64.0	55-106	11.4	20	WG554010
3,3-Dichlorobenzidine	mg/kg	0.147	0.149	44.0	36-84	0.868	20	WG554010
4,6-Dinitro-2-methylphenol	mg/kg	0.217	0.228	65.0	24-98	4.95	32	WG554010
4-Bromophenyl-phenylether	mg/kg	0.248	0.246	74.0	58-111	1.09	20	WG554010
4-Chloro-3-methylphenol	mg/kg	0.225	0.253	68.0	58-98	11.7	20	WG554010
4-Chlorophenyl-phenylether	mg/kg	0.218	0.249	65.0	59-103	13.2	20	WG554010
4-Nitrophenol	mg/kg	0.195	0.224	58.0	34-101	13.9	26	WG554010
Acenaphthene	mg/kg	0.236	0.264	71.0	55-96	11.3	20	WG554010
Acenaphthylene	mg/kg	0.239	0.265	72.0	61-107	10.2	20	WG554010
Anthracene	mg/kg	0.228	0.259	68.0	58-105	12.6	20	WG554010
Benzidine	mg/kg	0.00681	0.00534	2*	10-21	24.2	40	WG554010
Benzo(a)anthracene	mg/kg	0.238	0.260	72.0	56-103	8.69	20	WG554010
Benzo(a)pyrene	mg/kg	0.237	0.261	71.0	57-103	9.50	20	WG554010
Benzo(b)fluoranthene	mg/kg	0.224	0.252	67.0	52-106	11.4	20	WG554010
Benzo(g,h,i)perylene	mg/kg	0.225	0.255	68.0	47-112	12.5	20	WG554010
Benzo(k)fluoranthene	mg/kg	0.239	0.269	72.0	53-104	12.0	20	WG554010
Benzylbutyl phthalate	mg/kg	0.245	0.273	74.0	61-118	10.5	20	WG554010
Bis(2-chlorethoxy)methane	mg/kg	0.237	0.255	71.0	58-104	7.34	20	WG554010
Bis(2-chloroethyl)ether	mg/kg	0.214	0.236	64.0	51-103	9.86	20	WG554010
Bis(2-chloroisopropyl)ether	mg/kg	0.217	0.252	65.0	56-95	14.7	20	WG554010
Bis(2-ethylhexyl)phthalate	mg/kg	0.254	0.293	76.0	56-120	14.4	20	WG554010
Chrysene	mg/kg	0.241	0.259	72.0	55-102	7.52	20	WG554010
Di-n-butyl phthalate	mg/kg	0.235	0.250	70.0	59-114	6.49	20	WG554010
Di-n-octyl phthalate	mg/kg	0.267	0.302	80.0	51-119	12.3	22	WG554010
Dibenz(a,h)anthracene	mg/kg	0.227	0.256	68.0	49-111	11.9	20	WG554010
Diethyl phthalate	mg/kg	0.236	0.264	71.0	61-105	11.2	20	WG554010
Dimethyl phthalate	mg/kg	0.232	0.258	70.0	60-106	10.7	20	WG554010
Fluoranthene	mg/kg	0.228	0.262	68.0	59-108	13.9	20	WG554010
Fluorene	mg/kg	0.224	0.247	67.0	59-100	9.74	20	WG554010
Hexachloro-1,3-butadiene	mg/kg	0.211	0.249	63.0	53-106	16.6	20	WG554010
Hexachlorobenzene	mg/kg	0.205	0.245	62.0	50-108	17.6	20	WG554010
Hexachlorocyclopentadiene	mg/kg	0.269	0.275	81.0	36-117	2.31	20	WG554010
Hexachloroethane	mg/kg	0.210	0.236	63.0	45-83	11.5	20	WG554010
Indeno(1,2,3-cd)pyrene	mg/kg	0.230	0.262	69.0	50-110	13.3	20	WG554010
Isophorone	mg/kg	0.197	0.214	59.0	51-99	8.29	20	WG554010
n-Nitrosodi-n-propylamine	mg/kg	0.250	0.280	75.0	52-103	11.3	20	WG554010
n-Nitrosodimethylamine	mg/kg	0.194	0.185	58.0	31-107	4.49	23	WG554010
n-Nitrosodiphenylamine	mg/kg	0.234	0.254	70.0	57-121	8.04	20	WG554010
Naphthalene	mg/kg	0.213	0.239	64.0	55-91	11.8	20	WG554010
Nitrobenzene	mg/kg	0.215	0.250	64.0	47-92	15.4	20	WG554010
Pentachlorophenol	mg/kg	0.183	0.185	55.0	10-89	1.01	28	WG554010
Phenanthrene	mg/kg	0.239	0.258	72.0	55-103	7.44	20	WG554010
Phenol	mg/kg	0.200	0.242	60.0	49-99	18.9	20	WG554010
Pyrene	mg/kg	0.241	0.257	72.0	54-104	6.52	20	WG554010

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Quality Assurance Report
Level II

L534392

September 13, 2011

Analyte	Units	Laboratory Control Sample Duplicate Result	Ref	%Rec	Limit	RPD	Limit	Batch
2,4,6-Tribromophenol				67.08	16-136			
2-Fluorobiphenyl				67.53	37-119			
2-Fluorophenol				63.63	22-114			
Nitrobenzene-d5				62.71	20-114			
Phenol-d5				73.94	26-127			
p-Terphenyl-d14				69.23	15-174			
TPH (GC/FID) Low Fraction	mg/kg	6.01	6.35	109.	67-135	5.42	20	WG554093
a,a,a-Trifluorotoluene(FID)				98.21	59-128			WG554093

Analyte	Units	Matrix Spike MS Res	Ref Res	TV	% Rec	Limit	Ref Samp	Batch
Benzene	mg/l	0.0242	0	.025	96.6	16-158	L534390-01	WG553655
Ethylbenzene	mg/l	0.0251	0	.025	100.	29-150	L534390-01	WG553655
Toluene	mg/l	0.0233	0	.025	93.1	22-152	L534390-01	WG553655
Total Xylenes	mg/l	0.0745	0	.075	99.3	27-151	L534390-01	WG553655
4-Bromofluorobenzene					110.0	75-128		WG553655
Dibromofluoromethane					106.6	79-125		WG553655
Toluene-d8					104.1	87-114		WG553655
a,a,a-Trifluorotoluene					107.3	84-114		WG553655
Benzene	mg/kg	0.114	0	.025	91.5	16-143	L534392-05	WG553648
Ethylbenzene	mg/kg	0.123	0.0130	.025	87.8	12-137	L534392-05	WG553648
Toluene	mg/kg	0.107	0	.025	86.0	12-136	L534392-05	WG553648
Total Xylenes	mg/kg	0.401	0.0840	.075	84.4	10-138	L534392-05	WG553648
4-Bromofluorobenzene					90.90	59-140		WG553648
Dibromofluoromethane					104.9	63-139		WG553648
Toluene-d8					94.15	84-116		WG553648
a,a,a-Trifluorotoluene					97.71	80-118		WG553648
Benzene	mg/kg	0.0152	0	.025	60.7	16-143	L534087-10	WG553890
Ethylbenzene	mg/kg	0.0123	0	.025	49.1	12-137	L534087-10	WG553890
Toluene	mg/kg	0.0123	0	.025	49.2	12-136	L534087-10	WG553890
Total Xylenes	mg/kg	0.0372	0	.075	49.6	10-138	L534087-10	WG553890
4-Bromofluorobenzene					44.37*	59-140		WG553890
Dibromofluoromethane					97.20	63-139		WG553890
Toluene-d8					85.33	84-116		WG553890
a,a,a-Trifluorotoluene					97.24	80-118		WG553890
TPH (GC/FID) Low Fraction	mg/kg	323.	0	5.5	134.*	55-109	L534391-01	WG553732
a,a,a-Trifluorotoluene(FID)					101.3	59-128		WG553732
TPH (GC/FID) Low Fraction	mg/kg	24.5	0	5.5	89.2	55-109	L534136-13	WG554093
a,a,a-Trifluorotoluene(FID)					99.06	59-128		WG554093
1,2,4-Trichlorobenzene	mg/kg	0.213	0	.333	63.9	27-118	L534248-06	WG554010
2,4,6-Trichlorophenol	mg/kg	0.234	0	.333	70.1	18-140	L534248-06	WG554010
2,4-Dichlorophenol	mg/kg	0.231	0	.333	69.3	30-134	L534248-06	WG554010
2,4-Dimethylphenol	mg/kg	0.218	0	.333	65.5	13-147	L534248-06	WG554010
2,4-Dinitrophenol	mg/kg	0.0839	0	.333	25.2	10-110	L534248-06	WG554010
2,4-Dinitrotoluene	mg/kg	0.218	0	.333	65.4	12-146	L534248-06	WG554010
2,6-Dinitrotoluene	mg/kg	0.230	0	.333	69.0	10-150	L534248-06	WG554010
2-Chloronaphthalene	mg/kg	0.229	0	.333	68.6	31-127	L534248-06	WG554010
2-Chlorophenol	mg/kg	0.200	0	.333	60.0	26-120	L534248-06	WG554010

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1601 Prospect Parkway

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Quality Assurance Report
Level II

L534392

September 13, 2011

Analyte	Units	Matrix Spike MS Res	Ref Res	TV	% Rec	Limit	Ref Samp	Batch
2-Nitrophenol	mg/kg	0.181	0	.333	54.5	10-156	L534248-06	WG554010
3,3-Dichlorobenzidine	mg/kg	0.167	0	.333	50.1	10-127	L534248-06	WG554010
4,6-Dinitro-2-methylphenol	mg/kg	0.0158	0	.333	4.74*	10-124	L534248-06	WG554010
4-Bromophenyl-phenylether	mg/kg	0.248	0	.333	74.6	27-150	L534248-06	WG554010
4-Chloro-3-methylphenol	mg/kg	0.224	0	.333	67.3	24-140	L534248-06	WG554010
4-Chlorophenyl-phenylether	mg/kg	0.223	0	.333	67.0	27-142	L534248-06	WG554010
4-Nitrophenol	mg/kg	0.220	0	.333	66.0	10-166	L534248-06	WG554010
Acenaphthene	mg/kg	0.238	0	.333	71.6	30-132	L534248-06	WG554010
Acenaphthylene	mg/kg	0.240	0	.333	71.9	31-144	L534248-06	WG554010
Anthracene	mg/kg	0.246	0	.333	73.9	27-140	L534248-06	WG554010
Benzidine	mg/kg	0.00685	0	.333	2.06*	10-55	L534248-06	WG554010
Benzo(a)anthracene	mg/kg	0.259	0	.333	77.6	22-139	L534248-06	WG554010
Benzo(a)pyrene	mg/kg	0.280	0	.333	84.2	16-148	L534248-06	WG554010
Benzo(b)fluoranthene	mg/kg	0.330	0	.333	99.2	13-152	L534248-06	WG554010
Benzo(g,h,i)perylene	mg/kg	0.0897	0	.333	26.9	10-137	L534248-06	WG554010
Benzo(k)fluoranthene	mg/kg	0.336	0	.333	101.	15-152	L534248-06	WG554010
Benzylbutyl phthalate	mg/kg	0.237	0	.333	71.3	20-168	L534248-06	WG554010
Bis(2-chlorethoxy)methane	mg/kg	0.241	0	.333	72.2	32-141	L534248-06	WG554010
Bis(2-chloroethyl)ether	mg/kg	0.232	0	.333	69.8	25-139	L534248-06	WG554010
Bis(2-chloroisopropyl)ether	mg/kg	0.208	0	.333	62.4	32-128	L534248-06	WG554010
Bis(2-ethylhexyl)phthalate	mg/kg	0.230	0	.333	69.0	20-163	L534248-06	WG554010
Chrysene	mg/kg	0.262	0	.333	78.6	20-139	L534248-06	WG554010
Di-n-butyl phthalate	mg/kg	0.240	0	.333	72.2	24-149	L534248-06	WG554010
Di-n-octyl phthalate	mg/kg	0.243	0	.333	73.1	14-164	L534248-06	WG554010
Dibenz(a,h)anthracene	mg/kg	0.110	0	.333	33.0	10-137	L534248-06	WG554010
Diethyl phthalate	mg/kg	0.246	0	.333	73.8	28-142	L534248-06	WG554010
Dimethyl phthalate	mg/kg	0.234	0	.333	70.2	31-142	L534248-06	WG554010
Fluoranthene	mg/kg	0.308	0	.333	92.6	24-145	L534248-06	WG554010
Fluorene	mg/kg	0.224	0	.333	67.2	30-138	L534248-06	WG554010
Hexachloro-1,3-butadiene	mg/kg	0.237	0	.333	71.2	29-136	L534248-06	WG554010
Hexachlorobenzene	mg/kg	0.227	0	.333	68.0	26-136	L534248-06	WG554010
Hexachlorocyclopentadiene	mg/kg	0.137	0	.333	41.2	10-124	L534248-06	WG554010
Hexachloroethane	mg/kg	0.158	0	.333	47.5	21-107	L534248-06	WG554010
Indeno(1,2,3-cd)pyrene	mg/kg	0.111	0	.333	33.2	10-139	L534248-06	WG554010
Isophorone	mg/kg	0.196	0	.333	58.9	26-134	L534248-06	WG554010
n-Nitrosodi-n-propylamine	mg/kg	0.229	0	.333	68.6	24-141	L534248-06	WG554010
n-Nitrosodimethylamine	mg/kg	0.146	0	.333	43.9	18-126	L534248-06	WG554010
n-Nitrosodiphenylamine	mg/kg	0.240	0	.333	72.2	16-128	L534248-06	WG554010
Naphthalene	mg/kg	0.231	0	.333	69.4	31-124	L534248-06	WG554010
Nitrobenzene	mg/kg	0.232	0	.333	69.7	22-122	L534248-06	WG554010
Pentachlorophenol	mg/kg	0.207	0	.333	62.0	10-124	L534248-06	WG554010
Phenanthrene	mg/kg	0.288	0	.333	86.4	25-139	L534248-06	WG554010
Phenol	mg/kg	0.199	0	.333	59.7	22-129	L534248-06	WG554010
Pyrene	mg/kg	0.259	0	.333	77.7	23-145	L534248-06	WG554010
2,4,6-Tribromophenol					76.33	16-136		WG554010
2-Fluorobiphenyl					69.94	37-119		WG554010
2-Fluorophenol					49.75	22-114		WG554010
Nitrobenzene-d5					74.66	20-114		WG554010
Phenol-d5					73.30	26-127		WG554010
p-Terphenyl-d14					65.01	15-174		WG554010

Analyte	Units	Matrix Spike Duplicate MSD	Ref	%Rec	Limit	RPD	Limit	Ref Samp	Batch
Benzene	mg/l	0.0268	0.0242	107.	16-158	10.5	21	L534390-01	WG553655
Ethylbenzene	mg/l	0.0281	0.0251	112.	29-150	11.3	24	L534390-01	WG553655
Toluene	mg/l	0.0260	0.0233	104.	22-152	11.2	22	L534390-01	WG553655
Total Xylenes	mg/l	0.0826	0.0745	110.	27-151	10.4	23	L534390-01	WG553655
4-Bromofluorobenzene				108.2	75-128				WG553655

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Quality Assurance Report
Level II

L534392

September 13, 2011

Analyte	Units	MSD	Ref	Matrix Spike Duplicate %Rec	Limit	RPD	Limit	Ref Samp	Batch
Dibromofluoromethane				106.8	79-125				
Toluene-d8				102.4	87-114				
a,a,a-Trifluorotoluene				106.7	84-114				
Benzene	mg/kg	0.118	0.114	94.1	16-143	2.80	31	L534392-05	WG553648
Ethylbenzene	mg/kg	0.122	0.123	87.1	12-137	0.720	36	L534392-05	WG553648
Toluene	mg/kg	0.111	0.107	88.6	12-136	3.03	32	L534392-05	WG553648
Total Xylenes	mg/kg	0.403	0.401	84.9	10-138	0.470	36	L534392-05	WG553648
4-Bromofluorobenzene				89.47	59-140				WG553648
Dibromofluoromethane				100.4	63-139				WG553648
Toluene-d8				92.60	84-116				WG553648
a,a,a-Trifluorotoluene				92.59	80-118				WG553648
Benzene	mg/kg	0.0176	0.0152	70.5	16-143	15.0	31	L534087-10	WG553890
Ethylbenzene	mg/kg	0.0158	0.0123	63.3	12-137	25.2	36	L534087-10	WG553890
Toluene	mg/kg	0.0153	0.0123	61.2	12-136	21.7	32	L534087-10	WG553890
Total Xylenes	mg/kg	0.0469	0.0372	62.5	10-138	23.1	36	L534087-10	WG553890
4-Bromofluorobenzene				47.76*	59-140				WG553890
Dibromofluoromethane				90.74	63-139				WG553890
Toluene-d8				87.40	84-116				WG553890
a,a,a-Trifluorotoluene				101.4	80-118				WG553890
TPH (GC/FID) Low Fraction	mg/kg	265.	323.	109.	55-109	19.9	20	L534391-01	WG553732
a,a,a-Trifluorotoluene(FID)				105.2	59-128				WG553732
TPH (GC/FID) Low Fraction	mg/kg	21.4	24.5	78.0	55-109	13.4	20	L534136-13	WG554093
a,a,a-Trifluorotoluene(FID)				96.05	59-128				WG554093
1,2,4-Trichlorobenzene	mg/kg	0.201	0.213	60.3	27-118	5.82	23	L534248-06	WG554010
2,4,6-Trichlorophenol	mg/kg	0.240	0.234	72.1	18-140	2.78	26	L534248-06	WG554010
2,4-Dichlorophenol	mg/kg	0.244	0.231	73.2	30-134	5.59	23	L534248-06	WG554010
2,4-Dimethylphenol	mg/kg	0.240	0.218	72.1	13-147	9.56	27	L534248-06	WG554010
2,4-Dinitrophenol	mg/kg	0.0853	0.0839	25.6	10-110	1.67	40	L534248-06	WG554010
2,4-Dinitrotoluene	mg/kg	0.225	0.218	67.4	12-146	3.04	25	L534248-06	WG554010
2,6-Dinitrotoluene	mg/kg	0.223	0.230	67.1	10-150	2.73	23	L534248-06	WG554010
2-Chloronaphthalene	mg/kg	0.240	0.229	71.9	31-127	4.67	23	L534248-06	WG554010
2-Chlorophenol	mg/kg	0.214	0.200	64.3	26-120	6.85	21	L534248-06	WG554010
2-Nitrophenol	mg/kg	0.192	0.181	57.7	10-156	5.68	24	L534248-06	WG554010
3,3-Dichlorobenzidine	mg/kg	0.167	0.167	50.3	10-127	0.404	40	L534248-06	WG554010
4,6-Dinitro-2-methylphenol	mg/kg	0.0169	0.0158	5.08*	10-124	6.78	40	L534248-06	WG554010
4-Bromophenyl-phenylether	mg/kg	0.238	0.248	71.5	27-150	4.14	20	L534248-06	WG554010
4-Chloro-3-methylphenol	mg/kg	0.249	0.224	74.8	24-140	10.6	22	L534248-06	WG554010
4-Chlorophenyl-phenylether	mg/kg	0.234	0.223	70.4	27-142	4.94	21	L534248-06	WG554010
4-Nitrophenol	mg/kg	0.231	0.220	69.4	10-166	5.03	35	L534248-06	WG554010
Acenaphthene	mg/kg	0.244	0.238	73.2	30-132	2.19	21	L534248-06	WG554010
Acenaphthylene	mg/kg	0.249	0.240	74.7	31-144	3.78	24	L534248-06	WG554010
Anthracene	mg/kg	0.238	0.246	71.6	27-140	3.09	20	L534248-06	WG554010
Benzidine	mg/kg	0.00311	0.00685	0.934*	10-55	75.0*	36	L534248-06	WG554010
Benzo(a)anthracene	mg/kg	0.243	0.259	73.0	22-139	6.18	22	L534248-06	WG554010
Benzo(a)pyrene	mg/kg	0.287	0.280	86.3	16-148	2.43	21	L534248-06	WG554010
Benzo(b)fluoranthene	mg/kg	0.323	0.330	96.9	13-152	2.30	24	L534248-06	WG554010
Benzo(g,h,i)perylene	mg/kg	0.0873	0.0897	26.2	10-137	2.77	32	L534248-06	WG554010
Benzo(k)fluoranthene	mg/kg	0.364	0.336	109.	15-152	8.08	22	L534248-06	WG554010
Benzylbutyl phthalate	mg/kg	0.230	0.237	69.0	20-168	3.20	23	L534248-06	WG554010
Bis(2-chlorethoxy)methane	mg/kg	0.278	0.241	83.3	32-141	14.2	20	L534248-06	WG554010
Bis(2-chloroethyl)ether	mg/kg	0.252	0.232	75.6	25-139	7.98	26	L534248-06	WG554010

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Quality Assurance Report
Level II

L534392

September 13, 2011

Analyte	Units	Matrix Spike MSD	Ref	Duplicate %Rec	Limit	RPD	Limit	Ref Samp	Batch
Bis(2-chloroisopropyl)ether	mg/kg	0.217	0.208	65.2	32-128	4.32	22	L534248-06	WG554010
Bis(2-ethylhexyl)phthalate	mg/kg	0.244	0.230	73.2	20-163	5.84	24	L534248-06	WG554010
Chrysene	mg/kg	0.246	0.262	74.0	20-139	6.04	23	L534248-06	WG554010
Di-n-butyl phthalate	mg/kg	0.247	0.240	74.2	24-149	2.78	24	L534248-06	WG554010
Di-n-octyl phthalate	mg/kg	0.238	0.243	71.4	14-164	2.26	24	L534248-06	WG554010
Dibenz(a,h)anthracene	mg/kg	0.118	0.110	35.5	10-137	7.22	29	L534248-06	WG554010
Diethyl phthalate	mg/kg	0.245	0.246	73.4	28-142	0.571	23	L534248-06	WG554010
Dimethyl phthalate	mg/kg	0.249	0.234	74.7	31-142	6.16	22	L534248-06	WG554010
Fluoranthene	mg/kg	0.251	0.308	75.4	24-145	20.5	29	L534248-06	WG554010
Fluorene	mg/kg	0.242	0.224	72.6	30-138	7.73	22	L534248-06	WG554010
Hexachloro-1,3-butadiene	mg/kg	0.215	0.237	64.7	29-136	9.62	22	L534248-06	WG554010
Hexachlorobenzene	mg/kg	0.226	0.227	67.8	26-136	0.327	20	L534248-06	WG554010
Hexachlorocyclopentadiene	mg/kg	0.141	0.137	42.3	10-124	2.75	33	L534248-06	WG554010
Hexachloroethane	mg/kg	0.156	0.158	46.8	21-107	1.48	27	L534248-06	WG554010
Indeno(1,2,3-cd)pyrene	mg/kg	0.111	0.111	33.4	10-139	0.653	32	L534248-06	WG554010
Isophorone	mg/kg	0.209	0.196	62.7	26-134	6.23	20	L534248-06	WG554010
n-Nitrosodi-n-propylamine	mg/kg	0.250	0.229	75.2	24-141	9.11	20	L534248-06	WG554010
n-Nitrosodimethylamine	mg/kg	0.140	0.146	42.1	18-126	4.19	27	L534248-06	WG554010
n-Nitrosodiphenylamine	mg/kg	0.232	0.240	69.7	16-128	3.43	25	L534248-06	WG554010
Naphthalene	mg/kg	0.234	0.231	70.3	31-124	1.32	25	L534248-06	WG554010
Nitrobenzene	mg/kg	0.234	0.232	70.1	22-122	0.623	20	L534248-06	WG554010
Pentachlorophenol	mg/kg	0.209	0.207	62.8	10-124	1.16	34	L534248-06	WG554010
Phenanthrene	mg/kg	0.244	0.288	73.3	25-139	16.4	25	L534248-06	WG554010
Phenol	mg/kg	0.222	0.199	66.6	22-129	11.0	25	L534248-06	WG554010
Pyrene	mg/kg	0.229	0.259	68.7	23-145	12.2	30	L534248-06	WG554010
2,4,6-Tribromophenol				70.02	16-136				WG554010
2-Fluorobiphenyl				71.53	37-119				WG554010
2-Fluorophenol				52.34	22-114				WG554010
Nitrobenzene-d5				72.42	20-114				WG554010
Phenol-d5				78.11	26-127				WG554010
p-Terphenyl-d14				68.49	15-174				WG554010

Batch number /Run number / Sample number cross reference

WG553655: R1844193: L534392-12
WG553648: R1845872: L534392-05 06 13 14 15
WG553890: R1846772: L534392-15 16
WG553869: R1849498: L534392-01 02 03 04 05 06 13
WG553732: R1849852: L534392-01 02 03 04 05 06 13 14
WG554018: R1849995: L534392-14 15 16
WG554010: R1850133: L534392-05 06 13
WG554093: R1850176: L534392-15 16
WG553903: R1850914: L534392-07 08 09 10 11

* * Calculations are performed prior to rounding of reported values.
* Performance of this Analyte is outside of established criteria.
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EPAPAV0045225

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Quality Assurance Report
Level II

L534392

September 13, 2011

The data package includes a summary of the analytic results of the quality control samples required by the SW-846 or CWA methods. The quality control samples include a method blank, a laboratory control sample, and the matrix spike/matrix spike duplicate analysis. If a target parameter is outside the method limits, every sample that is effected is flagged with the appropriate qualifier in Appendix B of the analytic report.

Method Blank - an aliquot of reagent water carried through the entire analytic process. The method blank results indicate if any possible contamination exposure during the sample handling, digestion or extraction process, and analysis. Concentrations of target analytes above the reporting limit in the method blank are qualified with the "B" qualifier.

Laboratory Control Sample - is a sample of known concentration that is carried through the digestion/extraction and analysis process. The percent recovery, expressed as a percentage of the theoretical concentration, has statistical control limits indicating that the analytic process is "in control". If a target analyte is outside the control limits for the laboratory control sample or any other control sample, the parameter is flagged with a "J4" qualifier for all effected samples.

Matrix Spike and Matrix Spike Duplicate - is two aliquots of an environmental sample that is spiked with known concentrations of target analytes. The percent recovery of the target analytes also has statistical control limits. If any recoveries that are outside the method control limits, the sample that was selected for matrix spike/matrix spike duplicate analysis is flagged with either a "J5" or a "J6". The relative percent difference (%RPD) between the matrix spike and the matrix spike duplicate recoveries is all calculated. If the RPD is above the method limit, the effected samples are flagged with a "J3" qualifier.

EPAPAV0045226

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Alternate billing information:

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Project Description: EnCana Pavillion

City/Sate Collected: WY

Phone: 970-493-8878

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Client Project #: 60221849

ESC Key: ENSRFCCO-ENCANAPA

Collected by: Jeremy Hutchman

Site/Facility ID#: Pavillion, WY

P.O.#:

Collected by (signature): T. [illegible]

Packed on Ice N Y X

Rush? (Lab MUST Be Notified)
____ Same Day.....200%
____ Next Day.....100%
____ Two Day.....50%

Date Results Needed:
Email? __No__Yes
FAX? __No__Yes

Analysis/Container/Preservative

E245

Chain of Custody Page 1 of 2

Prepared by:

ENVIRONMENTAL SCIENCE CORP.
12065 Lebanon Road
Mt. Juliet, TN 37122
Phone (615) 758-5858
Phone (800) 767-5859
FAX (615) 758-5859

CoCode ENSRFCCO (lab use only)
Template/Prelogin
Shipped Via:

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs	TPH-GRO+DRO	BTEX 8260	SVOC's	SAR					Remarks/Contaminant	Sample # (lab only)
SB-1-11 (MR-18-4)(14-15)	Grab	SS	14-15	9/1/11	0915	1	X									L554092-01
SB-2-11 (MR-18-4)(14-15)			14-15	9/1/11	0950	1	X									02
SB-3-11 (MR-18-4)(11-12)			11-12	9/1/11	1015	1	X									03
SB-4-11 (MR-18-4)(2-4)			2-4	9/1/11	1115	1	X									04
SB-5-11 (MR-18-4)(10-12)			10-12	9/1/11	1050	3	X	X	X							05
DUP-1-11 (MR-18-4)(10-12)			10-12	9/1/11	—	3	X	X	X							06
BG-1-11 (PF-34-3)(0-1)			0-1	9/1/11	1540	1				X						07
BG-2-11 (PF-34-3)(0-1)			0-1	9/1/11	1542	1				X						08
BG-3-11 (PF-34-3)(0-1)			0-1	9/1/11	1544	1				X						09

*Matrix: SS - Soil/Solid GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other_____ pH _____ Temp _____

Remarks:

4963 4559 4733 Flow _____ Other _____

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Samples returned via: ☐ UPS ☒ FedEx ☐ Courier ☐	Condition: (lab use only)
T. [illegible]	9/2/11	1200	fed ex		OK
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: 2.4°C / Bottles Received: 25	
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 9/3/11 / Time: 0900	pH Checked: / NCF:

AECOM, Inc.
1601 Prospect Pkwy.
Fort Collins, CO 80525

Alternate billing information:

Report to: Dustin krajewski

Email to: Dustin.krajewski@aecom.com

Chain of Custody
Page 2 of 2

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ENVIRONMENTAL SCIENCE CORP.
12065 Lebanon Road
Mt. Juliet, TN 37122
Phone (615) 758-5858
Phone (800) 767-5859
FAX (615) 758-5859

Project Description: EnCana Pavillion

City/State Collected: WY

Phone: 970-493-8878
FAX:

Client Project #: 60221849

ESC Key: ENSRFCCO-ENCANAPA

Collected by: Jerry Hutchison

Site/Facility ID#: Pavillion, WY

P.O.#:

Collected by (signature):

Packed on Ice N Y X

Rush? (Lab MUST Be Notified)
____ Same Day.....200%
____ Next Day.....100%
____ Two Day.....50%

Date Results Needed:
Email? __No__Yes
FAX? __No__Yes

CoCode ENSRFCCO (lab use only)
Template/Prelogin
Shipped Via:

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs	SAR	BTEX	TPH-GRO-DRO	SVOC's				Remarks/Contaminant	Sample # (lab only)
BG-4-11 (PF-34-3)(0-1)	Grab	SS	0-1	9/1/11	1546	1	X								L534392-10
BG-5-11 (PF-34-3)(0-1)	Grab	SS	0-1	9/1/11	1548	1	X								-11
Trip blank	Grab	WT	—	9/1/11	800	1		X							-12
SB-deep-11 (TP-24-3)(5-10)	Grab	SS	5-10	9/2/11	9:00	3		X	X	X					-13
SB-deep-11 (TP-24-3)(10-15)	Grab	SS	10-15	9/2/11	0920	2		X	X						-14
Dup-1-11 (TP-24-3)(10-15)	Grab	SS	10-15	9/2/11	—	2		X	X						-15
SB-deep-11 (TP-24-3)(15-20)	Grab	SS	15-20	9/2/11	0930	2		X	X						-16

*Matrix: **SS** - Soil/Solid **GW** - Groundwater **WW** - Waste\Water **DW** - Drinking Water **OT** - Other_____

pH _____ Temp _____

Remarks:

Flow _____ Other _____

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Samples returned via: ☐ UPS ☒ FedEx ☐ Courier ☐	Condition: (lab use only)
	9/2/11	1200	fedex		OK
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: 2.4c / Bottles Received: 25	
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 9/3/11 / Time: 0900	pH Checked: / NCF: