AECOM Environment

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

Submitted by:
AECOM
Fort Collins, Colorado
60221849.900
February 2012

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

2011 Pit Investigation Report – Pavillion Fee 31-9

DRAFT

AECOM Environment

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2011 Pit Investigation Report – Pavillion Fee 31-9

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List of Acronyms

AECOM	AECOM Technical Services, Inc.
bgs	below ground surface
DRO	diesel range organics
Encana	Encana Oil & Gas (USA) Inc.
GRO	gasoline range organics
IME	Inberg Miller Engineers
PF 31-9	Pavillion Fee 31-9
PID	photoionization detector
SAR	sodium adsorption ratio
SHWD	Solid and Hazardous Waste Division
SVOC	semi-volatile organic compounds
TPH	total petroleum hydrocarbons
USEPA	U.S. Environmental Protection Agency
WDEQ	Wyoming Department of Environmental Quality
WOGCC	Wyoming Oil and Gas Conservation Commission

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EPAPAV0045559

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EPAPAV0045561

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 Pavillion Fee 31-9 (PF 31-9) 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 PF 31-9 location was drilled using a closed loop system. It is not known whether environmental conditions at this site have been investigated. 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 associated with the soil cuttings that were buried on-site. The site also was selected because of the presumed shallow groundwater. This report documents the investigation activities performed at the PF 31-9 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 PF 31-9 included: utility clearance; soil boring advancement and soil sampling; and final field surveying of all boreholes.

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

Three soil borings were advanced at the site using direct-push drilling technology following utility clearance. Soil borings SB-1-11 (PF 31-9) through SB-3-11 (PF 31-9) were advanced approximately within the former soil cuttings pit as shown in **Figure 2-1**. Drilling activities were performed by Inberg Miller Engineers (IME) of Riverton, Wyoming, on August 29, 2011. Each soil boring was logged by a field geologist. Photoionization detector (PID) headspace readings were collected and recorded at approximately 2-foot intervals. Copies of the soil boring logs are provided in **Appendix A**.

All soil borings were installed to a depth of 15 feet below ground surface (bgs). Groundwater was not encountered at any of the soil boring locations. PID readings from all borings were less than 10 parts per million. Visual impacts were not observed in any of the borings.

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 from each boring was collected near the bottom of each boring for analysis of total petroleum hydrocarbons (TPH) as gasoline range organics (GRO) and diesel range organics (DRO), as required by Wyoming Oil and Gas Conservation Commission (WOGCC). One sample also was collected for analysis of semi-volatile organic compounds (SVOC). Boring SB-2-11 (PF 31-9) was randomly selected for SVOC analysis since evidence of soil impacts was not observed in any of the soil borings. The sampling and analysis conducted on each boring is provided below:

- SB-1-11 (PF 31-9) – One sample was collected for TPH analysis and one sample for SAR analysis;
- SB-2-11 (PF 31-9) – One sample was collected for TPH analysis, one sample for SVOC analysis, and one sample for SAR analysis; and
- SB-3-11 (PF 31-9) – One sample was collected for TPH analysis and one sample for SAR analysis.

All soil samples were submitted to Environmental Science Corporation 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 8270C. 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 and are shown on **Figure 2-1**. All soil borings were plugged and abandoned using hydrated bentonite chips.

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3.0 Analytical Sample Summary

3.1 Soil Sample Results

Three soil samples were submitted for analysis of TPH-GRO and DRO. One soil sample was submitted for analysis of SVOC. Three soil samples were submitted for analysis of SAR. Soil sample TPH results were compared to a TPH concentration of 1,000 milligrams per kilogram. 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. Concentrations of SAR were compared to background levels. The background levels are based on 13 soil samples that were collected at various locations within the Pavillion Natural Gas Field (described below). 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**.

TPH-GRO, TPH-DRO, and SVOCs were 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 13 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 PF 31-9, Tribal Pavillion 21-9, and WE Lloyd #1 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 3-2**. 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 3-3**. This confirms the appropriate statistical test is the Two-Sample t-test assuming equal variance.

Table 3-3 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 are not significantly different.

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4.0 Discussion

Analytical results at the site indicate that soil constituent concentrations are below applicable cleanup levels. The SAR background evaluation concluded that the background and site data are not significantly different. No further investigation is recommended at site PF 31-9.

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EPAPAV0045565

5.0 References

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

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Tables

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EPAPAV0045567

Draft - Table 3-1 - Soil Sample Analytical Results, August 29, 2011
Pavillion Fee 31-9, Pavillion Natural Gas Field, Wyoming

Sample Name					SB-1-11	SB-1-11	SB-2-11	SB-2-11[1]	SB-2-11	SB-3-11	SB-3-11
Sample Depth (feet)					0-1	14-15	0-1	6-8	14-15	0-1	13-15
Sample Date					8/29/2011	8/29/2011	8/29/2011	8/29/2011	8/29/2011	8/29/2011	8/29/2011
Analyte	**Units**	**Method**	**Residential Soil Cleanup Level[3] (mg/kg)**	**Migration to Groundwater Cleanup Level[3] (mg/kg)**	**Results**						
Sodium Adsorption Ratio (SAR)	N/A	Calc.	NA[4]	NA[4]	1.9	--	4.7	--	--	11	--
TPH (GC/FID) Low Fraction	mg/kg	GRO	1,000 (Combined)[2]		--	< 0.50	--	--	< 0.50	--	< 0.50
TPH (GC/FID) High Fraction (DRO Wyoming C10-C32)	mg/kg	8015			--	< 4.0	--	--	< 4.0	--	< 4.0
Semi-Volatile Organic Compounds (SVOC)	mg/kg	8270C	Note[3]	Note[3]	--	--	--	Not Detected[1]	--	--	--

Notes:

-- = not analyze; < = sample result is less than the laboratory detection limit; DRO = diesel range organics; FID = flame ionization detector; GC = gas chromatograph; GRO = gasoline range organics; mg/kg = milligrams per kilogram; NA = not available; TPH = total petroleum hydrocarbons

[1] Sample SB-2-11 6-8 was analyzed for SVOCs using method 8270C. All 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

[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.

DRAFT - Table 3-2 - Statistical Output of the SAR 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 Pavillion Fee 34-3, Pavillion Fee 31-9, and Tribal Pavillion 21-9.

DRAFT - Table 3-3 - Statistical Output of the SAR 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
* Welch-Satterthwaite: Do Not Reject H0, Conclude Site = Background

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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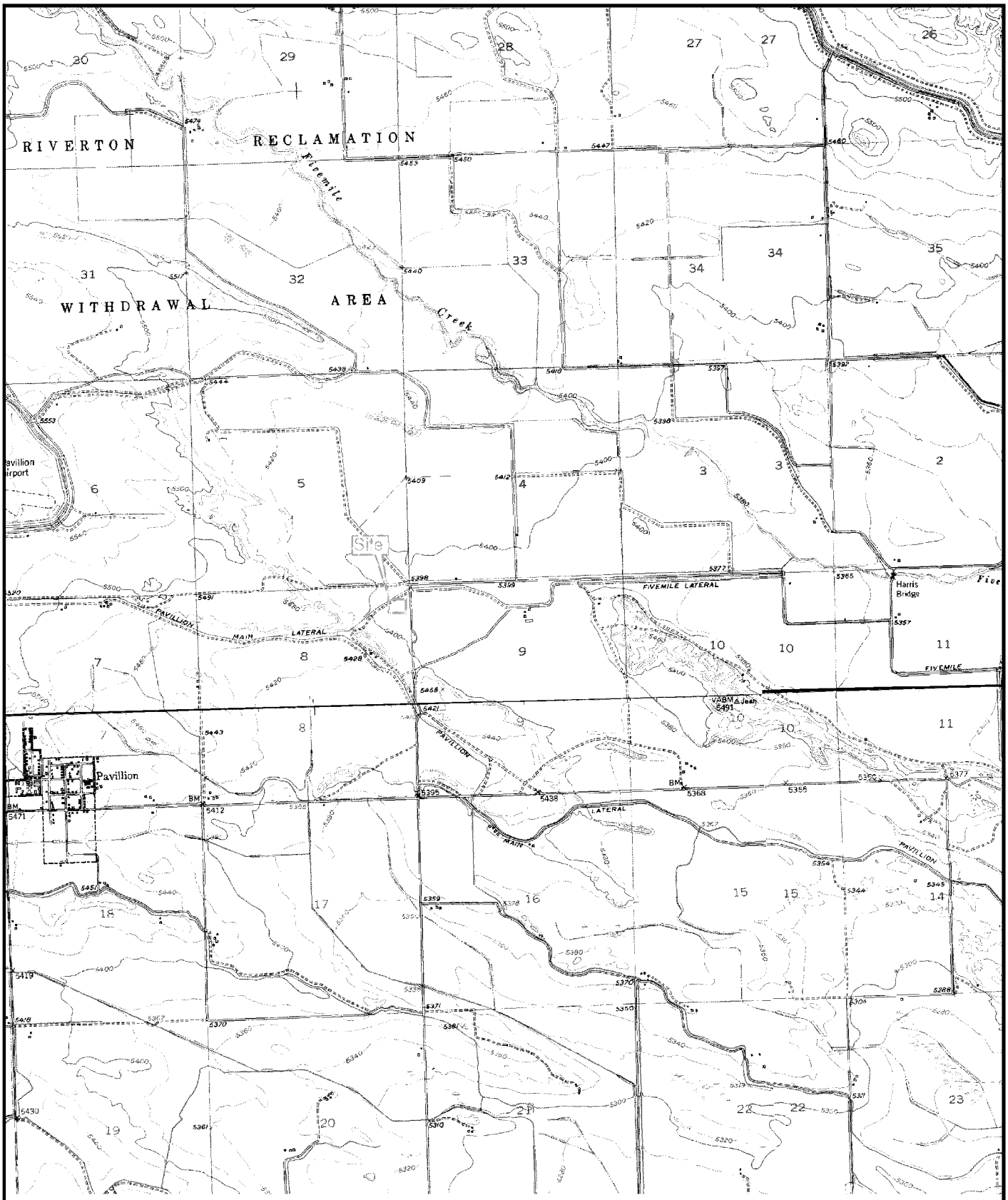
EPAPAV0045571



AECOM

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

PAVILLION FEE 31-9
SITE LOCATION MAP

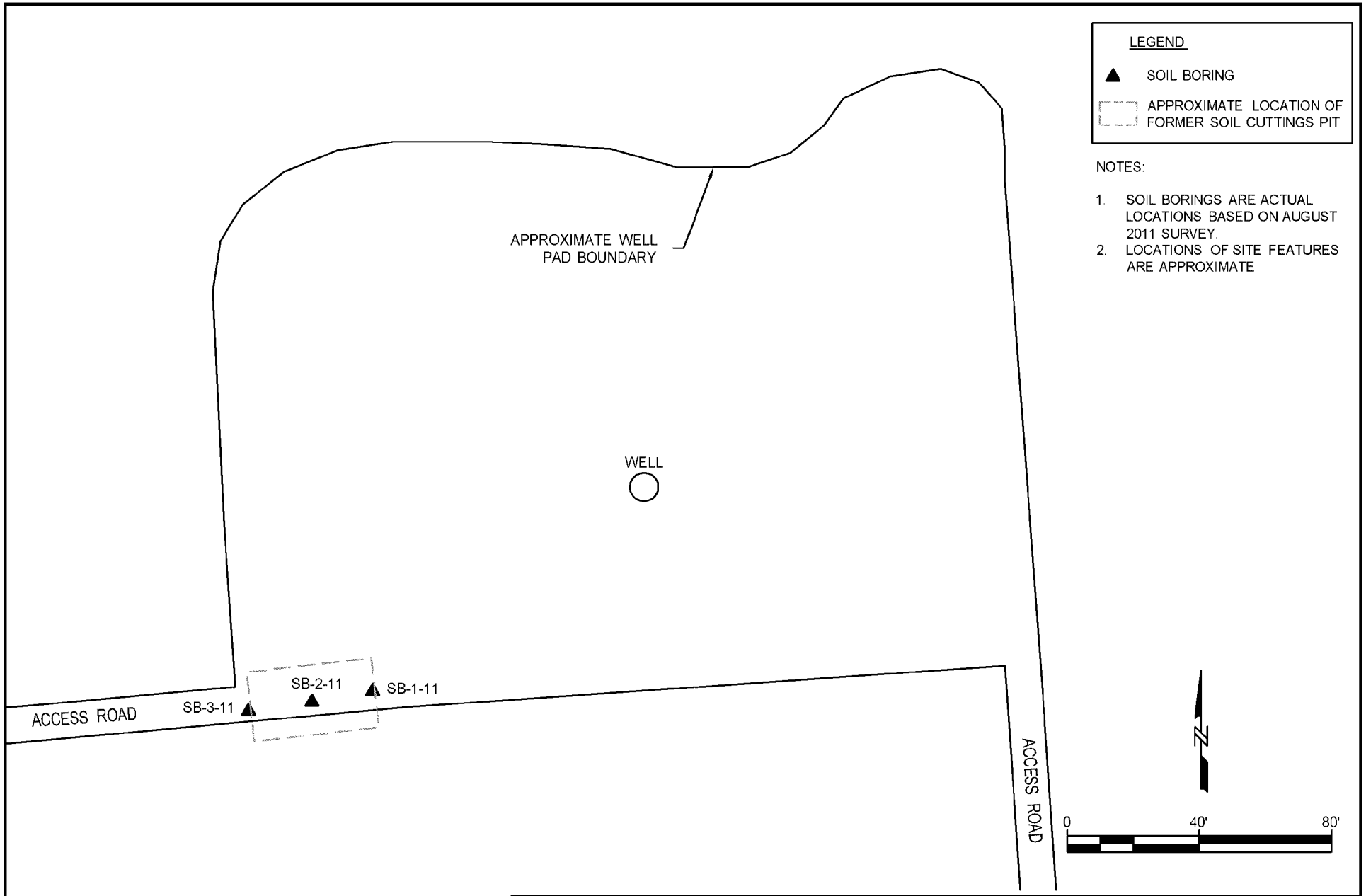
DATE: 1/4/12 | DRWN: EM/FTC | **FIGURE 1-1**

File: Z:\Encana Pavillion Remediation\Pit Investigation Reports\PF 31-9\FIG 1-1_Site Location.dwg Layout: ANSL_Avl-CP User: marshalle Plotted: Jan 04, 2012 - 11:04am

EPAPAV0045572

File: Z:\Encana Pavillion Remediation\Pit InvestigationReports\PF 31-9\FIG 2-1_PF 31-9 SITE LAYOUT.dwg Layout: PF 31-9 User: marshalle Plotted: Feb 02, 2012 - 12:58pm Xref's:

EPAPAV0045573



AECOM

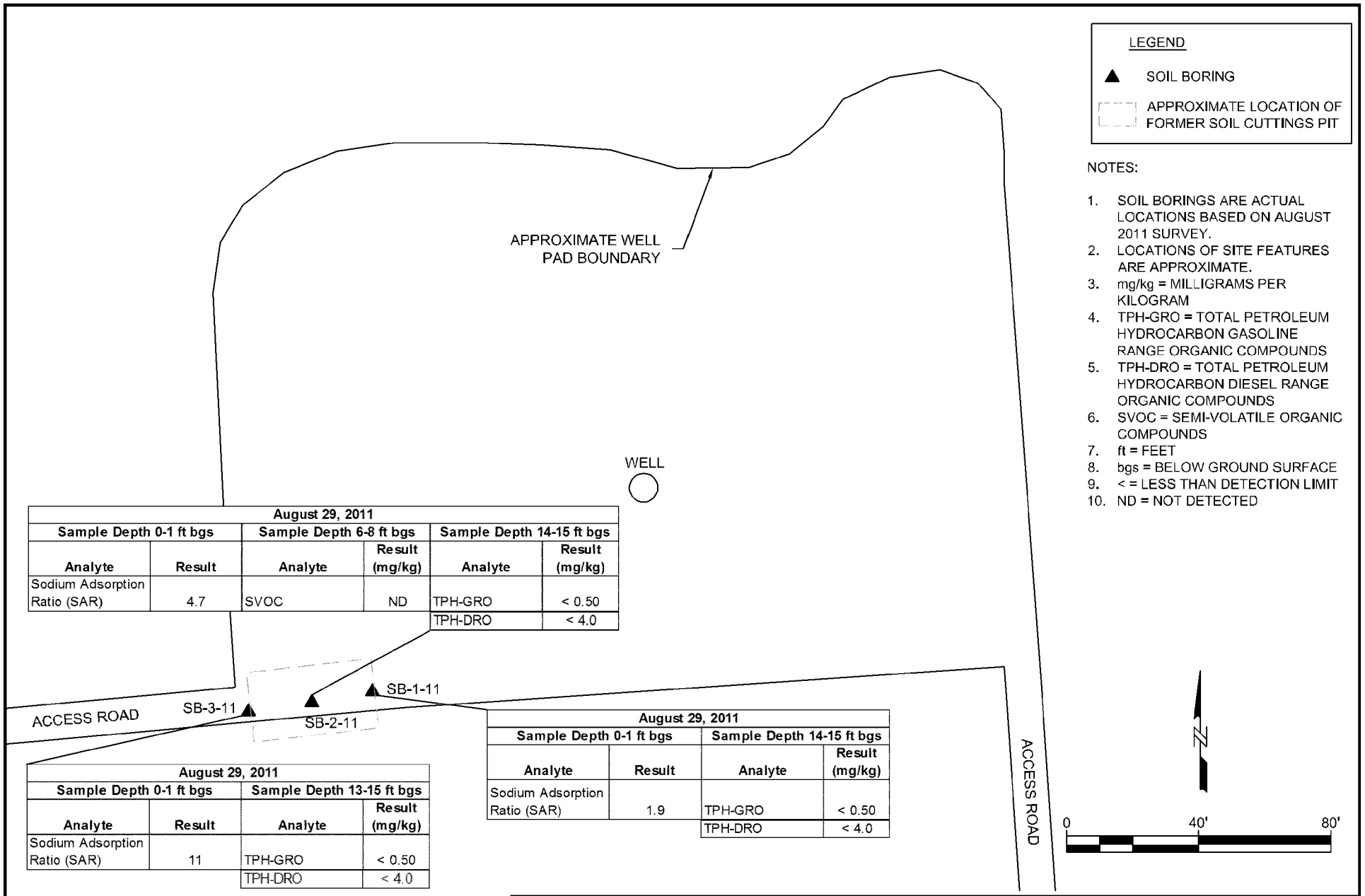
ENCANA OIL & GAS (USA) INC.
PAVILLION NATURAL GAS FIELD
FREMONT COUNTY, WYOMING

DATE: 01/05/2012 | DRWN: EM/jk

PAVILLION FEE 31-9
SITE LAYOUT

FIGURE 2-1

EPAPAV0045574



NOTES:

1. SOIL BORINGS ARE ACTUAL LOCATIONS BASED ON AUGUST 2011 SURVEY.
2. LOCATIONS OF SITE FEATURES ARE APPROXIMATE.
3. mg/kg = MILLIGRAMS PER KILOGRAM
4. TPH-GRO = TOTAL PETROLEUM HYDROCARBON GASOLINE RANGE ORGANIC COMPOUNDS
5. TPH-DRO = TOTAL PETROLEUM HYDROCARBON DIESEL RANGE ORGANIC COMPOUNDS
6. SVOC = SEMI-VOLATILE ORGANIC COMPOUNDS
7. ft = FEET
8. bgs = BELOW GROUND SURFACE
9. < = LESS THAN DETECTION LIMIT
10. ND = NOT DETECTED

August 29, 2011

Sample Depth 0-1 ft bgs		Sample Depth 6-8 ft bgs		Sample Depth 14-15 ft bgs	
Analyte	Result	Analyte	Result (mg/kg)	Analyte	Result (mg/kg)
Sodium Adsorption Ratio (SAR)	4.7	SVOC	ND	TPH-GRO	< 0.50
				TPH-DRO	< 4.0

August 29, 2011

Sample Depth 0-1 ft bgs		Sample Depth 13-15 ft bgs	
Analyte	Result	Analyte	Result (mg/kg)
Sodium Adsorption Ratio (SAR)	11	TPH-GRO	< 0.50
		TPH-DRO	< 4.0

August 29, 2011

Sample Depth 0-1 ft bgs		Sample Depth 14-15 ft bgs	
Analyte	Result	Analyte	Result (mg/kg)
Sodium Adsorption Ratio (SAR)	1.9	TPH-GRO	< 0.50
		TPH-DRO	< 4.0

AECOM

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

PAVILLION FEE 31-9
SOIL ANALYTICAL RESULTS

DATE: 01/05/2012 | DRWN: EM/jk

FIGURE 3-1

Appendix A

Soil Boring Logs

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AECOM	*Client:* Encana Oil and Gas (USA) Inc.	***BORING ID:*** SB-1-11(PF-31-9)
	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:* 8/29/11 15:55	*Depth of Boring:* 15 ft
	Ground Elevation: TBD *Date/Time Finished:* 8/29/11	*Water Level:* NA

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	SM	0-2 ft: Little to no recovery	SB-1-11(TP-31-9)(0-) - 16:20, SAR	0-1
2						Silty sand, dry, little clay, light tan, poorly sorted with few large clasts, wood debris present, no odor, no staining		
3				2.7				
4								
5	DP		80	3.8		Continued as above		
6						Increasing sand with depth, turning to brown, dry, no staining/odor, moderate to well sorting with depth		
7				3.8				
8								
9	DP		50	NA		No recovery 8-10 ft		
10						Continued sand to 11 ft		
11				4.8	CL	11-12 ft: Dark brown, moist, silty clay, moderate plasticity, stiff, no odor, no staining	SB-1-11(TP-31-9)(14-15) - 16:15, TPH	
12								
13	DP		30	NA		Continued as above, no odor, no staining		
14								14-15
15				4.6		Halite or gypsum crystals in fractures in clay		
16						Total Depth = 15 ft		
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: 11/23/11

AECOM	*Client:* Encana Oil and Gas (USA) Inc.			**BORING ID:** SB-2-11(PF-31-9)
	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:* 8/29/11 16:20		*Depth of Boring:* 15 ft
	Ground Elevation: TBD	*Date/Time Finished* : 8/29/11 16:45		*Water Level:* NA

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		80	6.6	SM	Light tan to brown, interbedded silty sands and silty clay. poorly sorted. dry, no odor, no staining. no large clasts	SB-2-11(TP-31-9)(01) - 16:45, SAR	0-1
2								
3				3.6				
4								
5	DP		50	NA		Continued as above	SB-2-11(TP-31-9)(6-8) - 17:10, SVOC	6-8
6								
7				6.0				
8								
9	DP		60	NA				
10						Sands continued to 11 ft		
11				4.3				
12					CL	Brown, stiff, moist, clay, no odor, no staining. some silt content, tan silt lenses in clay < 1 mm thick		
13	DP		25	NA		Stiff brown clay continued	SB-2-11(TP-31-9)(14-15) - 16:40, TPH	14-15
14								
15				3.1		Moist at 15 ft		
16						Total depth = 15 ft		
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
DUP-1-11(TP-31-9)(0-1), SAR, collected at 0-1 ft

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

Checked by: Jeremy Hurshman Date: 11/23/11

AECOM	*Client:* Encana Oil and Gas (USA) Inc.	***BORING ID:*** SB-3-11(PF-31-9)
	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:* 8/29/11 16:45	*Depth of Boring:* 15 ft
	Ground Elevation: TBD *Date/Time Finished:* 8/29/11 17:30	*Water Level:* NA

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	2.8	SM	Dry, light tan interbedded silts and fine sands, small clay lenses mixed in, no odor, no staining	SB-3-11(TP-31-9)(0-1) - 17:07, SAR	0-1
2								
3				2.8				
4								
5	DP		50	NA		Continued fine sands as above		
6								
7				2.5				
8								
9	DP		60	NA		continued sand to 10 ft		
10								
11				3.5	CL	Silty clay and clay, stiff, dark brown, few sand lenses mixed, no odor, no staining. dry	SB-3-11(TP-31-9)(13-15) - 17:05, TPH	13-15
12								
13	DP		50	NA				
14								
15				3.1		Continued clay as above, moist, lenses of halite or gypsum interbedded		
16						Total Depth = 15 ft		
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: 11/23/11

Appendix B

Laboratory Analytical Report

DRAFT

EPAPAV0045579

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Mt. Juliet, TN 37122
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Tax I.D. 62-0814289

Est. 1970

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

Report Summary

Monday September 26, 2011

Report Number: L533934
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, PA - 68-02979

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.

EPAPAV0045580

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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 26, 2011

ESC Sample # : L533934-11

Site ID :

Project # :

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

Sample ID : SB1-11TP-31-9 0-1

Collected By : Jeremy Hurshman
Collection Date : 08/29/11 16:20

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Sodium Adsorption Ratio	1.9			Calc.	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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REPORT OF ANALYSIS

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

September 26, 2011

ESC Sample # : L533934-12

Site ID :

Project # :

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

Sample ID : SB1-11TP-31-9 14-15

Collected By : Jeremy Hurshman
Collection Date : 08/29/11 16:15

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	55.2		% Rec.	8015	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 26, 2011

ESC Sample # : L533934-13

Site ID :

Project # :

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

Sample ID : SB2-11TP-31-9 0-1

Collected By : Jeremy Hurshman
Collection Date : 08/29/11 16:45

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Sodium Adsorption Ratio	4.7			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
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September 26, 2011

ESC Sample # : L533934-14

Site ID :

Project # :

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

Sample ID : SB2-11TP-31-9 14-15

Collected By : Jeremy Hurshman
Collection Date : 08/29/11 16:40

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)	98.5		% Rec.	GRO	09/06/11	5
DRO Wyoming C10-C32						
TPH (GC/FID) High Fraction	BDL	4.0	mg/kg	8015	09/05/11	1
Surrogate recovery(%)						
o-Terphenyl	70.1		% Rec.	8015	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 26, 2011

ESC Sample # : L533934-15

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

Site ID :

Sample ID : SB2-11TP-31-9 6-8

Project # :

Collected By : Jeremy Hurshman
Collection Date : 08/29/11 17:10

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Base/Neutral Extractables						
Acenaphthene	BDL	0.033	mg/kg	8270C	09/04/11	1
Acenaphthylene	BDL	0.033	mg/kg	8270C	09/04/11	1
Anthracene	BDL	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	BDL	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
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	BDL	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	BDL	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						

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 26, 2011

ESC Sample # : L533934-15

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

Site ID :

Sample ID : SB2-11TP-31-9 6-8

Project # :

Collected By : Jeremy Hurshman
Collection Date : 08/29/11 17:10

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
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	76.8		% Rec.	8270C	09/04/11	1
Phenol-d5	94.7		% Rec.	8270C	09/04/11	1
Nitrobenzene-d5	76.6		% Rec.	8270C	09/04/11	1
2-Fluorobiphenyl	93.3		% Rec.	8270C	09/04/11	1
2,4,6-Tribromophenol	110.		% Rec.	8270C	09/04/11	1
p-Terphenyl-d14	97.4		% Rec.	8270C	09/04/11	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 26, 2011

ESC Sample # : L533934-16

Site ID :

Project # :

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

Sample ID : SB3-11TP-31-9 0-1

Collected By : Jeremy Hurshman
Collection Date : 08/29/11 17:07

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Sodium Adsorption Ratio	11.			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
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1601 Prospect Parkway
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September 26, 2011

ESC Sample # : L533934-17

Site ID :

Project # :

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

Sample ID : SB3-11TP-31-9 13-15

Collected By : Jeremy Hurshman
Collection Date : 08/29/11 17:05

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)	99.2		% Rec.	GRO	09/06/11	5
DRO Wyoming C10-C32						
TPH (GC/FID) High Fraction	BDL	4.0	mg/kg	8015	09/05/11	1
Surrogate recovery(%)						
o-Terphenyl	66.3		% Rec.	8015	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
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September 26, 2011

ESC Sample # : L533934-18

Site ID :

Project # :

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

Sample ID : TRIP BLANK

Collected By : Jeremy Hurshman
Collection Date : 08/29/11 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	103.		% Rec.	8260B	09/01/11	1
Dibromofluoromethane	97.3		% Rec.	8260B	09/01/11	1
a,a,a-Trifluorotoluene	105.		% Rec.	8260B	09/01/11	1
4-Bromofluorobenzene	97.9		% Rec.	8260B	09/01/11	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 26, 2011

ESC Sample # : L533934-28

Site ID :

Project # :

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

Sample ID : DUP1-11TP-31-9 0-1

Collected By : Jeremy Hurshman
Collection Date : 08/29/11 00:00

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Sodium Adsorption Ratio	5.6			Calc.	09/05/11	1

BDL - Below Detection Limit
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Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L533934-01	WG553588	SAMP	Isophorone	R1845992	J4
L533934-02	WG553588	SAMP	Isophorone	R1845992	J4
L533934-03	WG553588	SAMP	Isophorone	R1845992	J4
	WG553588	SAMP	2-Fluorophenol	R1845992	J7
	WG553588	SAMP	Phenol-d5	R1845992	J7
	WG553588	SAMP	Nitrobenzene-d5	R1845992	J7
	WG554163	SAMP	Toluene-d8	R1849954	J1
	WG554163	SAMP	4-Bromofluorobenzene	R1849954	J1
L533934-04	WG553588	SAMP	Isophorone	R1845992	J4
	WG553908	SAMP	4-Bromofluorobenzene	R1848792	J1
L533934-15	WG553588	SAMP	Isophorone	R1845992	J4
L533934-24	WG553587	SAMP	TPH (GC/FID) High Fraction	R1844814	J5
L533934-25	WG553588	SAMP	Isophorone	R1845992	J4
	WG553588	SAMP	Nitrobenzene-d5	R1845992	J1
L533934-26	WG553588	SAMP	Isophorone	R1845992	J4
	WG553588	SAMP	2-Fluorophenol	R1845992	J7
	WG553588	SAMP	Phenol-d5	R1845992	J7
	WG553588	SAMP	Nitrobenzene-d5	R1845992	J7
	WG553588	SAMP	2-Fluorobiphenyl	R1845992	J7
	WG553588	SAMP	2,4,6-Tribromophenol	R1845992	J7
	WG553588	SAMP	p-Terphenyl-d14	R1845992	J7
	WG553867	SAMP	o-Terphenyl	R1847632	J7
L533934-27	WG553867	SAMP	o-Terphenyl	R1847632	J7

EPAPAV0045591

Attachment B
Explanation of QC Qualifier Codes

Qualifier	Meaning
J1	Surrogate recovery limits have been exceeded; values are outside upper control limits
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
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.

EPAPAV0045592

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

Fort Collins, CO 80525

Quality Assurance Report
Level II

L533934

September 26, 2011

Laboratory Blank

Analyte	Result	Units	% Rec	Limit	Batch	Date Analyzed
Benzene	< .001	mg/l			WG553360	09/01/11 22:59
Ethylbenzene	< .001	mg/l			WG553360	09/01/11 22:59
Toluene	< .005	mg/l			WG553360	09/01/11 22:59
Total Xylenes	< .003	mg/l			WG553360	09/01/11 22:59
4-Bromofluorobenzene		% Rec.	97.13	75-128	WG553360	09/01/11 22:59
Dibromofluoromethane		% Rec.	95.26	79-125	WG553360	09/01/11 22:59
Toluene-d8		% Rec.	101.9	87-114	WG553360	09/01/11 22:59
a,a,a-Trifluorotoluene		% Rec.	104.8	84-114	WG553360	09/01/11 22:59
TPH (GC/FID) Low Fraction	< .1	mg/kg			WG553414	09/02/11 06:33
a,a,a-Trifluorotoluene(FID)		% Rec.	99.53	59-128	WG553414	09/02/11 06:33
Benzene	< .001	mg/kg			WG553359	09/02/11 16:43
Ethylbenzene	< .001	mg/kg			WG553359	09/02/11 16:43
Toluene	< .005	mg/kg			WG553359	09/02/11 16:43
Total Xylenes	< .003	mg/kg			WG553359	09/02/11 16:43
4-Bromofluorobenzene		% Rec.	113.2	59-140	WG553359	09/02/11 16:43
Dibromofluoromethane		% Rec.	106.3	63-139	WG553359	09/02/11 16:43
Toluene-d8		% Rec.	103.9	84-116	WG553359	09/02/11 16:43
a,a,a-Trifluorotoluene		% Rec.	105.5	80-118	WG553359	09/02/11 16:43
TPH (GC/FID) High Fraction	< 4	ppm			WG553399	09/03/11 10:40
o-Terphenyl		% Rec.	91.44	50-150	WG553399	09/03/11 10:40
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			WG553587	09/05/11 11:48
o-Terphenyl		% Rec.	95.48	50-150	WG553587	09/05/11 11:48
1,2,4-Trichlorobenzene	< .333	mg/kg			WG553395	09/03/11 09:34
2,4,6-Trichlorophenol	< .333	mg/kg			WG553395	09/03/11 09:34
2,4-Dichlorophenol	< .333	mg/kg			WG553395	09/03/11 09:34
2,4-Dimethylphenol	< .333	mg/kg			WG553395	09/03/11 09:34
2,4-Dinitrophenol	< .333	mg/kg			WG553395	09/03/11 09:34
2,4-Dinitrotoluene	< .333	mg/kg			WG553395	09/03/11 09:34
2,6-Dinitrotoluene	< .333	mg/kg			WG553395	09/03/11 09:34
2-Chloronaphthalene	< .033	mg/kg			WG553395	09/03/11 09:34
2-Chlorophenol	< .333	mg/kg			WG553395	09/03/11 09:34
2-Nitrophenol	< .333	mg/kg			WG553395	09/03/11 09:34
3,3-Dichlorobenzidine	< .333	mg/kg			WG553395	09/03/11 09:34
4,6-Dinitro-2-methylphenol	< .333	mg/kg			WG553395	09/03/11 09:34
4-Bromophenyl-phenylether	< .333	mg/kg			WG553395	09/03/11 09:34
4-Chloro-3-methylphenol	< .333	mg/kg			WG553395	09/03/11 09:34
4-Chlorophenyl-phenylether	< .333	mg/kg			WG553395	09/03/11 09:34
4-Nitrophenol	< .333	mg/kg			WG553395	09/03/11 09:34
Acenaphthene	< .033	mg/kg			WG553395	09/03/11 09:34
Acenaphthylene	< .033	mg/kg			WG553395	09/03/11 09:34
Anthracene	< .033	mg/kg			WG553395	09/03/11 09:34
Benzidine	< .333	mg/kg			WG553395	09/03/11 09:34
Benzo(a)anthracene	< .033	mg/kg			WG553395	09/03/11 09:34
Benzo(a)pyrene	< .033	mg/kg			WG553395	09/03/11 09:34
Benzo(b)fluoranthene	< .033	mg/kg			WG553395	09/03/11 09:34

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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

L533934

September 26, 2011

Laboratory Blank

Analyte	Result	Units	% Rec	Limit	Batch	Date Analyzed
Benzo(g,h,i)perylene	< .033	mg/kg			WG553395	09/03/11 09:34
Benzo(k)fluoranthene	< .033	mg/kg			WG553395	09/03/11 09:34
Benzylbutyl phthalate	< .333	mg/kg			WG553395	09/03/11 09:34
Bis(2-chlorethoxy)methane	< .333	mg/kg			WG553395	09/03/11 09:34
Bis(2-chloroethyl)ether	< .333	mg/kg			WG553395	09/03/11 09:34
Bis(2-chloroisopropyl)ether	< .333	mg/kg			WG553395	09/03/11 09:34
Bis(2-ethylhexyl)phthalate	< .333	mg/kg			WG553395	09/03/11 09:34
Chrysene	< .033	mg/kg			WG553395	09/03/11 09:34
Di-n-butyl phthalate	< .333	mg/kg			WG553395	09/03/11 09:34
Di-n-octyl phthalate	< .333	mg/kg			WG553395	09/03/11 09:34
Dibenz(a,h)anthracene	< .033	mg/kg			WG553395	09/03/11 09:34
Diethyl phthalate	< .333	mg/kg			WG553395	09/03/11 09:34
Dimethyl phthalate	< .333	mg/kg			WG553395	09/03/11 09:34
Fluoranthene	< .033	mg/kg			WG553395	09/03/11 09:34
Fluorene	< .033	mg/kg			WG553395	09/03/11 09:34
Hexachloro-1,3-butadiene	< .333	mg/kg			WG553395	09/03/11 09:34
Hexachlorobenzene	< .333	mg/kg			WG553395	09/03/11 09:34
Hexachlorocyclopentadiene	< .333	mg/kg			WG553395	09/03/11 09:34
Hexachloroethane	< .333	mg/kg			WG553395	09/03/11 09:34
Indeno(1,2,3-cd)pyrene	< .033	mg/kg			WG553395	09/03/11 09:34
Isophorone	< .333	mg/kg			WG553395	09/03/11 09:34
n-Nitrosodi-n-propylamine	< .333	mg/kg			WG553395	09/03/11 09:34
n-Nitrosodimethylamine	< .333	mg/kg			WG553395	09/03/11 09:34
n-Nitrosodiphenylamine	< .333	mg/kg			WG553395	09/03/11 09:34
Naphthalene	< .033	mg/kg			WG553395	09/03/11 09:34
Nitrobenzene	< .333	mg/kg			WG553395	09/03/11 09:34
Pentachlorophenol	< .333	mg/kg			WG553395	09/03/11 09:34
Phenanthrene	< .033	mg/kg			WG553395	09/03/11 09:34
Phenol	< .333	mg/kg			WG553395	09/03/11 09:34
Pyrene	< .033	mg/kg			WG553395	09/03/11 09:34
2,4,6-Tribromophenol		mg/kg	78.97	16-136	WG553395	09/03/11 09:34
2-Fluorobiphenyl		mg/kg	80.09	37-119	WG553395	09/03/11 09:34
2-Fluorophenol		mg/kg	80.32	22-114	WG553395	09/03/11 09:34
Nitrobenzene-d5		mg/kg	68.88	20-114	WG553395	09/03/11 09:34
Phenol-d5		mg/kg	93.22	26-127	WG553395	09/03/11 09:34
p-Terphenyl-d14		mg/kg	80.99	15-174	WG553395	09/03/11 09:34
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

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Fort Collins, CO 80525

Quality Assurance Report
Level II

L533934

September 26, 2011

Laboratory Blank

Analyte	Result	Units	% Rec	Limit	Batch	Date Analyzed
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
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			WG553535	09/04/11 02:56
a,a,a-Trifluorotoluene(FID)		% Rec.	93.80	59-128	WG553535	09/04/11 02:56
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) High Fraction	< 4	ppm			WG553867	09/07/11 10:47
o-Terphenyl		% Rec.	79.97	50-150	WG553867	09/07/11 10:47
TPH (GC/FID) Low Fraction	< .1	mg/kg			WG553784	09/06/11 20:33

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Quality Assurance Report
Level II

L533934

September 26, 2011

Laboratory Blank

Analyte	Result	Units	% Rec	Limit	Batch	Date Analyzed
a,a,a-Trifluorotoluene(FID)		% Rec.	100.9	59-128		09/06/11 20:33
Benzene	< .001	mg/kg			WG553908	09/07/11 06:18
Ethylbenzene	< .001	mg/kg			WG553908	09/07/11 06:18
Toluene	< .005	mg/kg			WG553908	09/07/11 06:18
Total Xylenes	< .003	mg/kg			WG553908	09/07/11 06:18
4-Bromofluorobenzene		% Rec.	101.4	59-140	WG553908	09/07/11 06:18
Dibromofluoromethane		% Rec.	111.1	63-139	WG553908	09/07/11 06:18
Toluene-d8		% Rec.	100.8	84-116	WG553908	09/07/11 06:18
a,a,a-Trifluorotoluene		% Rec.	115.2	80-118	WG553908	09/07/11 06:18
Benzene	< .001	mg/kg			WG554163	09/08/11 11:54
Ethylbenzene	< .001	mg/kg			WG554163	09/08/11 11:54
Toluene	< .005	mg/kg			WG554163	09/08/11 11:54
Total Xylenes	< .003	mg/kg			WG554163	09/08/11 11:54
4-Bromofluorobenzene		% Rec.	95.70	59-140	WG554163	09/08/11 11:54
Dibromofluoromethane		% Rec.	104.4	63-139	WG554163	09/08/11 11:54
Toluene-d8		% Rec.	101.6	84-116	WG554163	09/08/11 11:54
a,a,a-Trifluorotoluene		% Rec.	112.0	80-118	WG554163	09/08/11 11:54

Laboratory Control Sample

Analyte	Units	Known Val	Result	% Rec	Limit	Batch
Benzene	mg/l	.025	0.0225	89.9	67-126	WG553360
Ethylbenzene	mg/l	.025	0.0250	100.	76-129	WG553360
Toluene	mg/l	.025	0.0218	87.0	72-122	WG553360
Total Xylenes	mg/l	.075	0.0734	97.9	75-128	WG553360
4-Bromofluorobenzene				99.89	75-128	WG553360
Dibromofluoromethane				93.94	79-125	WG553360
Toluene-d8				98.78	87-114	WG553360
a,a,a-Trifluorotoluene				105.6	84-114	WG553360
TPH (GC/FID) Low Fraction	mg/kg	5.5	5.82	106.	67-135	WG553414
a,a,a-Trifluorotoluene(FID)				112.3	59-128	WG553414
Benzene	mg/kg	.025	0.0250	99.9	65-128	WG553359
Ethylbenzene	mg/kg	.025	0.0255	102.	74-128	WG553359
Toluene	mg/kg	.025	0.0235	93.9	70-120	WG553359
Total Xylenes	mg/kg	.075	0.0755	101.	74-127	WG553359
4-Bromofluorobenzene				106.9	59-140	WG553359
Dibromofluoromethane				105.8	63-139	WG553359
Toluene-d8				103.8	84-116	WG553359
a,a,a-Trifluorotoluene				105.2	80-118	WG553359
TPH (GC/FID) Low Fraction	mg/kg	5.5	6.74	122.	67-135	WG553474
a,a,a-Trifluorotoluene(FID)				101.0	59-128	WG553474
1,2,4-Trichlorobenzene	mg/kg	.333	0.213	64.0	48-87	WG553395
2,4,6-Trichlorophenol	mg/kg	.333	0.234	70.4	50-98	WG553395
2,4-Dichlorophenol	mg/kg	.333	0.241	72.3	56-96	WG553395
2,4-Dimethylphenol	mg/kg	.333	0.254	76.3	52-101	WG553395
2,4-Dinitrophenol	mg/kg	.333	0.221	66.4	10-109	WG553395
2,4-Dinitrotoluene	mg/kg	.333	0.218	65.5	54-103	WG553395
2,6-Dinitrotoluene	mg/kg	.333	0.226	67.8	53-99	WG553395
2-Chloronaphthalene	mg/kg	.333	0.222	66.7	55-96	WG553395

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EPAPAV0045596

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Quality Assurance Report
Level II

L533934

September 26, 2011

Analyte	Units	Laboratory Control Sample Known Val	Result	% Rec	Limit	Batch
2-Chlorophenol	mg/kg	.333	0.229	68.7	52-88	WG553395
2-Nitrophenol	mg/kg	.333	0.245	73.5	55-106	WG553395
3,3-Dichlorobenzidine	mg/kg	.333	0.183	54.8	36-84	WG553395
4,6-Dinitro-2-methylphenol	mg/kg	.333	0.216	64.7	24-98	WG553395
4-Bromophenyl-phenylether	mg/kg	.333	0.221	66.4	58-111	WG553395
4-Chloro-3-methylphenol	mg/kg	.333	0.250	75.1	58-98	WG553395
4-Chlorophenyl-phenylether	mg/kg	.333	0.220	66.1	59-103	WG553395
4-Nitrophenol	mg/kg	.333	0.215	64.5	34-101	WG553395
Acenaphthene	mg/kg	.333	0.222	66.7	55-96	WG553395
Acenaphthylene	mg/kg	.333	0.239	71.7	61-107	WG553395
Anthracene	mg/kg	.333	0.235	70.6	58-105	WG553395
Benzidine	mg/kg	.333	0.0486	14.6	10-21	WG553395
Benzo(a)anthracene	mg/kg	.333	0.232	69.6	56-103	WG553395
Benzo(a)pyrene	mg/kg	.333	0.236	71.0	57-103	WG553395
Benzo(b)fluoranthene	mg/kg	.333	0.243	72.9	52-106	WG553395
Benzo(g,h,i)perylene	mg/kg	.333	0.259	77.7	47-112	WG553395
Benzo(k)fluoranthene	mg/kg	.333	0.242	72.6	53-104	WG553395
Benzylbutyl phthalate	mg/kg	.333	0.253	75.9	61-118	WG553395
Bis(2-chlorethoxy)methane	mg/kg	.333	0.239	71.7	58-104	WG553395
Bis(2-chloroethyl)ether	mg/kg	.333	0.234	70.1	51-103	WG553395
Bis(2-chloroisopropyl)ether	mg/kg	.333	0.241	72.5	56-95	WG553395
Bis(2-ethylhexyl)phthalate	mg/kg	.333	0.249	74.9	56-120	WG553395
Chrysene	mg/kg	.333	0.222	66.5	55-102	WG553395
Di-n-butyl phthalate	mg/kg	.333	0.230	69.2	59-114	WG553395
Di-n-octyl phthalate	mg/kg	.333	0.252	75.8	51-119	WG553395
Dibenz(a,h)anthracene	mg/kg	.333	0.255	76.5	49-111	WG553395
Diethyl phthalate	mg/kg	.333	0.225	67.7	61-105	WG553395
Dimethyl phthalate	mg/kg	.333	0.221	66.2	60-106	WG553395
Fluoranthene	mg/kg	.333	0.229	68.9	59-108	WG553395
Fluorene	mg/kg	.333	0.217	65.1	59-100	WG553395
Hexachloro-1,3-butadiene	mg/kg	.333	0.237	71.1	53-106	WG553395
Hexachlorobenzene	mg/kg	.333	0.218	65.3	50-108	WG553395
Hexachlorocyclopentadiene	mg/kg	.333	0.164	49.3	36-117	WG553395
Hexachloroethane	mg/kg	.333	0.230	69.2	45-83	WG553395
Indeno(1,2,3-cd)pyrene	mg/kg	.333	0.252	75.8	50-110	WG553395
Isophorone	mg/kg	.333	0.208	62.5	51-99	WG553395
n-Nitrosodi-n-propylamine	mg/kg	.333	0.250	75.0	52-103	WG553395
n-Nitrosodimethylamine	mg/kg	.333	0.221	66.4	31-107	WG553395
n-Nitrosodiphenylamine	mg/kg	.333	0.241	72.3	57-121	WG553395
Naphthalene	mg/kg	.333	0.234	70.4	55-91	WG553395
Nitrobenzene	mg/kg	.333	0.246	73.8	47-92	WG553395
Pentachlorophenol	mg/kg	.333	0.203	61.0	10-89	WG553395
Phenanthrene	mg/kg	.333	0.235	70.5	55-103	WG553395
Phenol	mg/kg	.333	0.239	71.8	49-99	WG553395
Pyrene	mg/kg	.333	0.231	69.3	54-104	WG553395
2,4,6-Tribromophenol				82.23	16-136	WG553395
2-Fluorobiphenyl				82.72	37-119	WG553395
2-Fluorophenol				88.63	22-114	WG553395
Nitrobenzene-d5				85.92	20-114	WG553395
Phenol-d5				97.86	26-127	WG553395
p-Terphenyl-d14				83.58	15-174	WG553395
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

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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

L533934

September 26, 2011

Analyte	Units	Laboratory Control Sample Known Val	Result	% Rec	Limit	Batch
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
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	5.65	103.	67-135	WG553535
a,a,a-Trifluorotoluene(FID)				99.15	59-128	WG553535

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Quality Assurance Report
Level II

L533934

September 26, 2011

Analyte	Units	Laboratory Control Sample Known Val	Result	% Rec	Limit	Batch
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
Benzene	mg/kg	.025	0.0257	103.	65-128	WG553908
Ethylbenzene	mg/kg	.025	0.0283	113.	74-128	WG553908
Toluene	mg/kg	.025	0.0269	107.	70-120	WG553908
Total Xylenes	mg/kg	.075	0.0851	113.	74-127	WG553908
4-Bromofluorobenzene				102.4	59-140	WG553908
Dibromofluoromethane				104.8	63-139	WG553908
Toluene-d8				104.0	84-116	WG553908
a,a,a-Trifluorotoluene				110.8	80-118	WG553908
Benzene	mg/kg	.025	0.0216	86.3	65-128	WG554163
Ethylbenzene	mg/kg	.025	0.0230	92.2	74-128	WG554163
Toluene	mg/kg	.025	0.0217	86.7	70-120	WG554163
Total Xylenes	mg/kg	.075	0.0697	93.0	74-127	WG554163
4-Bromofluorobenzene				100.3	59-140	WG554163
Dibromofluoromethane				107.3	63-139	WG554163
Toluene-d8				101.8	84-116	WG554163
a,a,a-Trifluorotoluene				108.2	80-118	WG554163

Analyte	Units	Laboratory Control Sample Duplicate Result	Ref	%Rec	Limit	RPD	Limit	Batch
Benzene	mg/l	0.0219	0.0225	88.0	67-126	2.63	20	WG553360
Ethylbenzene	mg/l	0.0235	0.0250	94.0	76-129	6.18	20	WG553360
Toluene	mg/l	0.0215	0.0218	86.0	72-122	1.13	20	WG553360
Total Xylenes	mg/l	0.0718	0.0734	96.0	75-128	2.28	20	WG553360
4-Bromofluorobenzene				100.5	75-128			WG553360
Dibromofluoromethane				95.60	79-125			WG553360
Toluene-d8				102.2	87-114			WG553360
a,a,a-Trifluorotoluene				107.0	84-114			WG553360
TPH (GC/FID) Low Fraction	mg/kg	5.43	5.82	99.0	67-135	6.85	20	WG553414
a,a,a-Trifluorotoluene(FID)				110.0	59-128			WG553414
Benzene	mg/kg	0.0263	0.0250	105.	65-128	4.98	20	WG553359
Ethylbenzene	mg/kg	0.0268	0.0255	107.	74-128	5.18	20	WG553359
Toluene	mg/kg	0.0249	0.0235	99.0	70-120	5.71	20	WG553359
Total Xylenes	mg/kg	0.0794	0.0755	106.	74-127	5.14	20	WG553359
4-Bromofluorobenzene				107.8	59-140			WG553359
Dibromofluoromethane				106.2	63-139			WG553359
Toluene-d8				103.8	84-116			WG553359
a,a,a-Trifluorotoluene				105.9	80-118			WG553359

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Quality Assurance Report
Level II

L533934

September 26, 2011

Analyte	Units	Laboratory Result	Control Ref	Sample %Rec	Duplicate 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
1,2,4-Trichlorobenzene	mg/kg	0.191	0.213	57.0	48-87	10.8	20	WG553395
2,4,6-Trichlorophenol	mg/kg	0.220	0.234	66.0	50-98	6.25	20	WG553395
2,4-Dichlorophenol	mg/kg	0.224	0.241	67.0	56-96	7.15	20	WG553395
2,4-Dimethylphenol	mg/kg	0.226	0.254	68.0	52-101	11.9	20	WG553395
2,4-Dinitrophenol	mg/kg	0.220	0.221	66.0	10-109	0.427	39	WG553395
2,4-Dinitrotoluene	mg/kg	0.225	0.218	67.0	54-103	2.97	20	WG553395
2,6-Dinitrotoluene	mg/kg	0.219	0.226	66.0	53-99	2.94	20	WG553395
2-Chloronaphthalene	mg/kg	0.209	0.222	63.0	55-96	6.24	20	WG553395
2-Chlorophenol	mg/kg	0.214	0.229	64.0	52-88	6.61	20	WG553395
2-Nitrophenol	mg/kg	0.218	0.245	65.0	55-106	11.6	20	WG553395
3,3-Dichlorobenzidine	mg/kg	0.183	0.183	55.0	36-84	0.197	20	WG553395
4,6-Dinitro-2-methylphenol	mg/kg	0.223	0.216	67.0	24-98	3.50	32	WG553395
4-Bromophenyl-phenylether	mg/kg	0.232	0.221	70.0	58-111	4.93	20	WG553395
4-Chloro-3-methylphenol	mg/kg	0.236	0.250	71.0	58-98	5.81	20	WG553395
4-Chlorophenyl-phenylether	mg/kg	0.213	0.220	64.0	59-103	3.16	20	WG553395
4-Nitrophenol	mg/kg	0.217	0.215	65.0	34-101	1.26	26	WG553395
Acenaphthene	mg/kg	0.218	0.222	65.0	55-96	1.83	20	WG553395
Acenaphthylene	mg/kg	0.227	0.239	68.0	61-107	5.18	20	WG553395
Anthracene	mg/kg	0.219	0.235	66.0	58-105	7.09	20	WG553395
Benzidine	mg/kg	0.0493	0.0486	15.0	10-21	1.54	40	WG553395
Benzo(a)anthracene	mg/kg	0.222	0.232	67.0	56-103	4.15	20	WG553395
Benzo(a)pyrene	mg/kg	0.224	0.236	67.0	57-103	5.23	20	WG553395
Benzo(b)fluoranthene	mg/kg	0.215	0.243	65.0	52-106	12.0	20	WG553395
Benzo(g,h,i)perylene	mg/kg	0.230	0.259	69.0	47-112	11.8	20	WG553395
Benzo(k)fluoranthene	mg/kg	0.219	0.242	66.0	53-104	10.0	20	WG553395
Benzylbutyl phthalate	mg/kg	0.238	0.253	72.0	61-118	5.90	20	WG553395
Bis(2-chlorethoxy)methane	mg/kg	0.220	0.239	66.0	58-104	8.31	20	WG553395
Bis(2-chloroethyl)ether	mg/kg	0.225	0.234	67.0	51-103	3.92	20	WG553395
Bis(2-chloroisopropyl)ether	mg/kg	0.223	0.241	67.0	56-95	8.03	20	WG553395
Bis(2-ethylhexyl)phthalate	mg/kg	0.243	0.249	73.0	56-120	2.75	20	WG553395
Chrysene	mg/kg	0.218	0.222	66.0	55-102	1.52	20	WG553395
Di-n-butyl phthalate	mg/kg	0.235	0.230	70.0	59-114	1.88	20	WG553395
Di-n-octyl phthalate	mg/kg	0.244	0.252	73.0	51-119	3.20	22	WG553395
Dibenz(a,h)anthracene	mg/kg	0.238	0.255	72.0	49-111	6.73	20	WG553395
Diethyl phthalate	mg/kg	0.223	0.225	67.0	61-105	1.23	20	WG553395
Dimethyl phthalate	mg/kg	0.219	0.221	66.0	60-106	0.702	20	WG553395
Fluoranthene	mg/kg	0.227	0.229	68.0	59-108	0.926	20	WG553395
Fluorene	mg/kg	0.222	0.217	67.0	59-100	2.35	20	WG553395
Hexachloro-1,3-butadiene	mg/kg	0.211	0.237	63.0	53-106	11.7	20	WG553395
Hexachlorobenzene	mg/kg	0.211	0.218	63.0	50-108	3.11	20	WG553395
Hexachlorocyclopentadiene	mg/kg	0.168	0.164	50.0	36-117	2.54	20	WG553395
Hexachloroethane	mg/kg	0.206	0.230	62.0	45-83	11.3	20	WG553395
Indeno(1,2,3-cd)pyrene	mg/kg	0.233	0.252	70.0	50-110	7.86	20	WG553395
Isophorone	mg/kg	0.178	0.208	53.0	51-99	15.5	20	WG553395
n-Nitrosodi-n-propylamine	mg/kg	0.224	0.250	67.0	52-103	10.8	20	WG553395
n-Nitrosodimethylamine	mg/kg	0.197	0.221	59.0	31-107	11.7	23	WG553395
n-Nitrosodiphenylamine	mg/kg	0.235	0.241	70.0	57-121	2.52	20	WG553395
Naphthalene	mg/kg	0.212	0.234	64.0	55-91	9.94	20	WG553395
Nitrobenzene	mg/kg	0.214	0.246	64.0	47-92	13.9	20	WG553395
Pentachlorophenol	mg/kg	0.190	0.203	57.0	10-89	6.88	28	WG553395
Phenanthrene	mg/kg	0.221	0.235	66.0	55-103	5.89	20	WG553395
Phenol	mg/kg	0.224	0.239	67.0	49-99	6.45	20	WG553395
Pyrene	mg/kg	0.217	0.231	65.0	54-104	6.21	20	WG553395
2,4,6-Tribromophenol				84.93	16-136			WG553395

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EPAPAV0045600

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Quality Assurance Report
Level II

L533934

September 26, 2011

Analyte	Units	Laboratory Result	Control Ref	Sample %Rec	Duplicate Limit	RPD	Limit	Batch
2-Fluorobiphenyl				76.23	37-119			
2-Fluorophenol				76.28	22-114			
Nitrobenzene-d5				74.60	20-114			
Phenol-d5				89.97	26-127			
p-Terphenyl-d14				72.90	15-174			
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

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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

L533934

September 26, 2011

Analyte	Units	Laboratory Control Sample Duplicate Result	Ref	%Rec	Limit	RPD	Limit	Batch
2-Fluorobiphenyl				81.21	37-119			
2-Fluorophenol				63.93	22-114			
Nitrobenzene-d5				74.68	20-114			
Phenol-d5				77.01	26-127			
p-Terphenyl-d14				81.38	15-174			
TPH (GC/FID) Low Fraction	mg/kg	5.67	5.65	103.	67-135	0.480	20	WG553535
a,a,a-Trifluorotoluene(FID)				97.86	59-128			WG553535
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
Benzene	mg/kg	0.0240	0.0257	96.0	65-128	6.76	20	WG553908
Ethylbenzene	mg/kg	0.0261	0.0283	104.	74-128	8.14	20	WG553908
Toluene	mg/kg	0.0248	0.0269	99.0	70-120	7.97	20	WG553908
Total Xylenes	mg/kg	0.0805	0.0851	107.	74-127	5.45	20	WG553908
4-Bromofluorobenzene				102.4	59-140			WG553908
Dibromofluoromethane				107.0	63-139			WG553908
Toluene-d8				102.5	84-116			WG553908
a,a,a-Trifluorotoluene				111.4	80-118			WG553908
Benzene	mg/kg	0.0226	0.0216	90.0	65-128	4.85	20	WG554163
Ethylbenzene	mg/kg	0.0246	0.0230	98.0	74-128	6.70	20	WG554163
Toluene	mg/kg	0.0224	0.0217	90.0	70-120	3.41	20	WG554163
Total Xylenes	mg/kg	0.0751	0.0697	100.	74-127	7.40	20	WG554163
4-Bromofluorobenzene				101.9	59-140			WG554163
Dibromofluoromethane				106.5	63-139			WG554163
Toluene-d8				100.2	84-116			WG554163
a,a,a-Trifluorotoluene				111.4	80-118			WG554163

Analyte	Units	Matrix Spike MS Res	Ref Res	TV	% Rec	Limit	Ref Samp	Batch
Benzene	mg/l	0.0243	0	.025	97.4	16-158	L533963-01	WG553360
Ethylbenzene	mg/l	0.0258	0	.025	103.	29-150	L533963-01	WG553360
Toluene	mg/l	0.0230	0	.025	91.9	22-152	L533963-01	WG553360
Total Xylenes	mg/l	0.0780	0	.075	104.	27-151	L533963-01	WG553360
4-Bromofluorobenzene					100.9	75-128		WG553360
Dibromofluoromethane					97.99	79-125		WG553360
Toluene-d8					99.37	87-114		WG553360
a,a,a-Trifluorotoluene					103.6	84-114		WG553360
TPH (GC/FID) Low Fraction	mg/kg	21.7	0	5.5	78.8	55-109	L533934-05	WG553414
a,a,a-Trifluorotoluene(FID)					101.2	59-128		WG553414

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EPAPAV0045602

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Mr. Dustin Krajewski
1601 Prospect Parkway

Fort Collins, CO 80525

Quality Assurance Report
Level II

L533934

September 26, 2011

Analyte	Units	MS Res	Matrix Spike Ref Res	TV	% Rec	Limit	Ref Samp	Batch
Benzene	mg/kg	0.134	0	.025	107.	16-143	L533934-23	WG553359
Ethylbenzene	mg/kg	0.131	0	.025	105.	12-137	L533934-23	WG553359
Toluene	mg/kg	0.122	0	.025	97.8	12-136	L533934-23	WG553359
Total Xylenes	mg/kg	0.383	0	.075	102.	10-138	L533934-23	WG553359
4-Bromofluorobenzene					106.3	59-140		WG553359
Dibromofluoromethane					107.7	63-139		WG553359
Toluene-d8					104.0	84-116		WG553359
a,a,a-Trifluorotoluene					105.9	80-118		WG553359
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
1,2,4-Trichlorobenzene	mg/kg	0.249	0	.333	74.9	27-118	L533676-02	WG553395
2,4,6-Trichlorophenol	mg/kg	0.268	0	.333	80.5	18-140	L533676-02	WG553395
2,4-Dichlorophenol	mg/kg	0.257	0	.333	77.3	30-134	L533676-02	WG553395
2,4-Dimethylphenol	mg/kg	0.174	0	.333	52.3	13-147	L533676-02	WG553395
2,4-Dinitrophenol	mg/kg	0.267	0	.333	80.1	10-110	L533676-02	WG553395
2,4-Dinitrotoluene	mg/kg	0.273	0	.333	81.9	12-146	L533676-02	WG553395
2,6-Dinitrotoluene	mg/kg	0.278	0	.333	83.4	10-150	L533676-02	WG553395
2-Chloronaphthalene	mg/kg	0.270	0	.333	81.1	31-127	L533676-02	WG553395
2-Chlorophenol	mg/kg	0.252	0	.333	75.6	26-120	L533676-02	WG553395
2-Nitrophenol	mg/kg	0.285	0	.333	85.6	10-156	L533676-02	WG553395
3,3-Dichlorobenzidine	mg/kg	0.00370	0	.333	1.11*	10-127	L533676-02	WG553395
4,6-Dinitro-2-methylphenol	mg/kg	0.268	0	.333	80.4	10-124	L533676-02	WG553395
4-Bromophenyl-phenylether	mg/kg	0.264	0	.333	79.3	27-150	L533676-02	WG553395
4-Chloro-3-methylphenol	mg/kg	0.279	0	.333	83.8	24-140	L533676-02	WG553395
4-Chlorophenyl-phenylether	mg/kg	0.259	0	.333	77.8	27-142	L533676-02	WG553395
4-Nitrophenol	mg/kg	0.279	0	.333	83.6	10-166	L533676-02	WG553395
Acenaphthene	mg/kg	0.271	0	.333	81.5	30-132	L533676-02	WG553395
Acenaphthylene	mg/kg	0.287	0	.333	86.1	31-144	L533676-02	WG553395
Anthracene	mg/kg	0.270	0	.333	81.0	27-140	L533676-02	WG553395
Benzidine	mg/kg	0.0209	0	.333	6.28*	10-55	L533676-02	WG553395
Benzo(a)anthracene	mg/kg	0.272	0	.333	81.6	22-139	L533676-02	WG553395
Benzo(a)pyrene	mg/kg	0.282	0	.333	84.6	16-148	L533676-02	WG553395
Benzo(b)fluoranthene	mg/kg	0.280	0	.333	84.0	13-152	L533676-02	WG553395
Benzo(g,h,i)perylene	mg/kg	0.182	0	.333	54.6	10-137	L533676-02	WG553395
Benzo(k)fluoranthene	mg/kg	0.293	0	.333	87.9	15-152	L533676-02	WG553395
Benzylbutyl phthalate	mg/kg	0.315	0	.333	94.6	20-168	L533676-02	WG553395
Bis(2-chlorethoxy)methane	mg/kg	0.281	0	.333	84.3	32-141	L533676-02	WG553395
Bis(2-chloroethyl)ether	mg/kg	0.323	0	.333	97.1	25-139	L533676-02	WG553395
Bis(2-chloroisopropyl)ether	mg/kg	0.264	0	.333	79.3	32-128	L533676-02	WG553395
Bis(2-ethylhexyl)phthalate	mg/kg	0.317	0	.333	95.2	20-163	L533676-02	WG553395
Chrysene	mg/kg	0.261	0	.333	78.4	20-139	L533676-02	WG553395
Di-n-butyl phthalate	mg/kg	0.289	0	.333	86.7	24-149	L533676-02	WG553395
Di-n-octyl phthalate	mg/kg	0.331	0	.333	99.5	14-164	L533676-02	WG553395
Dibenz(a,h)anthracene	mg/kg	0.203	0	.333	60.8	10-137	L533676-02	WG553395
Diethyl phthalate	mg/kg	0.279	0	.333	83.9	28-142	L533676-02	WG553395
Dimethyl phthalate	mg/kg	0.267	0	.333	80.2	31-142	L533676-02	WG553395
Fluoranthene	mg/kg	0.282	0	.333	84.6	24-145	L533676-02	WG553395
Fluorene	mg/kg	0.274	0	.333	82.3	30-138	L533676-02	WG553395
Hexachloro-1,3-butadiene	mg/kg	0.271	0	.333	81.5	29-136	L533676-02	WG553395
Hexachlorobenzene	mg/kg	0.237	0	.333	71.1	26-136	L533676-02	WG553395
Hexachlorocyclopentadiene	mg/kg	0.125	0	.333	37.5	10-124	L533676-02	WG553395
Hexachloroethane	mg/kg	0.263	0	.333	79.0	21-107	L533676-02	WG553395
Indeno(1,2,3-cd)pyrene	mg/kg	0.203	0	.333	61.1	10-139	L533676-02	WG553395
Isophorone	mg/kg	0.234	0	.333	70.4	26-134	L533676-02	WG553395
n-Nitrosodi-n-propylamine	mg/kg	0.289	0	.333	86.8	24-141	L533676-02	WG553395

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Est. 1970

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Mr. Dustin Krajewski
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Fort Collins, CO 80525

Quality Assurance Report
Level II

L533934

September 26, 2011

Analyte	Units	Matrix Spike MS Res	Ref Res	TV	% Rec	Limit	Ref Samp	Batch
n-Nitrosodimethylamine	mg/kg	0.270	0	.333	81.2	18-126	L533676-02	WG553395
n-Nitrosodiphenylamine	mg/kg	0.272	0	.333	81.6	16-128	L533676-02	WG553395
Naphthalene	mg/kg	0.263	0	.333	78.9	31-124	L533676-02	WG553395
Nitrobenzene	mg/kg	0.286	0	.333	85.8	22-122	L533676-02	WG553395
Pentachlorophenol	mg/kg	0.247	0	.333	74.1	10-124	L533676-02	WG553395
Phenanthrene	mg/kg	0.279	0	.333	83.7	25-139	L533676-02	WG553395
Phenol	mg/kg	0.247	0	.333	74.0	22-129	L533676-02	WG553395
Pyrene	mg/kg	0.275	0	.333	82.6	23-145	L533676-02	WG553395
2,4,6-Tribromophenol					93.60	16-136		WG553395
2-Fluorobiphenyl					100.2	37-119		WG553395
2-Fluorophenol					88.07	22-114		WG553395
Nitrobenzene-d5					97.17	20-114		WG553395
Phenol-d5					102.4	26-127		WG553395
p-Terphenyl-d14					84.44	15-174		WG553395
TPH (GC/FID) Low Fraction	mg/kg	25.5	0	5.5	92.7	55-109	L533941-01	WG553535
a,a,a-Trifluorotoluene(FID)					97.50	59-128		WG553535
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
a,a,a-Trifluorotoluene(FID)					102.4	59-128		WG553784
Benzene	mg/kg	0.126	0	.025	101.	16-143	L533988-02	WG553908
Ethylbenzene	mg/kg	0.143	0	.025	114.	12-137	L533988-02	WG553908
Toluene	mg/kg	0.137	0	.025	110.	12-136	L533988-02	WG553908
Total Xylenes	mg/kg	0.435	0	.075	116.	10-138	L533988-02	WG553908
4-Bromofluorobenzene					104.5	59-140		WG553908
Dibromofluoromethane					106.0	63-139		WG553908
Toluene-d8					104.0	84-116		WG553908
a,a,a-Trifluorotoluene					112.7	80-118		WG553908
Benzene	mg/kg	0.118	0	.025	94.4	16-143	L534436-16	WG554163
Ethylbenzene	mg/kg	0.126	0	.025	101.	12-137	L534436-16	WG554163
Toluene	mg/kg	0.116	0	.025	93.1	12-136	L534436-16	WG554163
Total Xylenes	mg/kg	0.376	0	.075	100.	10-138	L534436-16	WG554163
4-Bromofluorobenzene					100.0	59-140		WG554163
Dibromofluoromethane					109.2	63-139		WG554163
Toluene-d8					102.1	84-116		WG554163
a,a,a-Trifluorotoluene					107.6	80-118		WG554163

Analyte	Units	Matrix Spike Duplicate MSD	Ref	%Rec	Limit	RPD	Limit	Ref Samp	Batch
Benzene	mg/l	0.0239	0.0243	95.5	16-158	1.95	21	L533963-01	WG553360
Ethylbenzene	mg/l	0.0270	0.0258	108.	29-150	4.66	24	L533963-01	WG553360
Toluene	mg/l	0.0235	0.0230	94.0	22-152	2.17	22	L533963-01	WG553360

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EPAPAV0045604

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Quality Assurance Report
Level II

L533934

September 26, 2011

Analyte	Units	Matrix Spike MSD	Ref	Duplicate %Rec	Limit	RPD	Limit	Ref Samp	Batch
Total Xylenes	mg/l	0.0789	0.0780	105.	27-151	1.16	23	L533963-01	WG553360
4-Bromofluorobenzene				103.4	75-128				WG553360
Dibromofluoromethane				96.76	79-125				WG553360
Toluene-d8				102.1	87-114				WG553360
a,a,a-Trifluorotoluene				105.3	84-114				WG553360
TPH (GC/FID) Low Fraction	mg/kg	18.3	21.7	66.4	55-109	17.2	20	L533934-05	WG553414
a,a,a-Trifluorotoluene(FID)				99.98	59-128				WG553414
Benzene	mg/kg	0.141	0.134	112.	16-143	5.14	31	L533934-23	WG553359
Ethylbenzene	mg/kg	0.138	0.131	110.	12-137	5.16	36	L533934-23	WG553359
Toluene	mg/kg	0.127	0.122	101.	12-136	3.68	32	L533934-23	WG553359
Total Xylenes	mg/kg	0.405	0.383	108.	10-138	5.41	36	L533934-23	WG553359
4-Bromofluorobenzene				107.8	59-140				WG553359
Dibromofluoromethane				107.4	63-139				WG553359
Toluene-d8				103.3	84-116				WG553359
a,a,a-Trifluorotoluene				104.3	80-118				WG553359
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
1,2,4-Trichlorobenzene	mg/kg	0.249	0.249	74.7	27-118	0.293	23	L533676-02	WG553395
2,4,6-Trichlorophenol	mg/kg	0.268	0.268	80.4	18-140	0.0825	26	L533676-02	WG553395
2,4-Dichlorophenol	mg/kg	0.278	0.257	83.6	30-134	7.84	23	L533676-02	WG553395
2,4-Dimethylphenol	mg/kg	0.168	0.174	50.4	13-147	3.69	27	L533676-02	WG553395
2,4-Dinitrophenol	mg/kg	0.256	0.267	77.0	10-110	4.00	40	L533676-02	WG553395
2,4-Dinitrotoluene	mg/kg	0.284	0.273	85.4	12-146	4.16	25	L533676-02	WG553395
2,6-Dinitrotoluene	mg/kg	0.274	0.278	82.3	10-150	1.34	23	L533676-02	WG553395
2-Chloronaphthalene	mg/kg	0.267	0.270	80.2	31-127	1.12	23	L533676-02	WG553395
2-Chlorophenol	mg/kg	0.270	0.252	81.1	26-120	7.05	21	L533676-02	WG553395
2-Nitrophenol	mg/kg	0.280	0.285	84.2	10-156	1.67	24	L533676-02	WG553395
3,3-Dichlorobenzidine	mg/kg	0.00353	0.00370	1.06*	10-127	4.57	40	L533676-02	WG553395
4,6-Dinitro-2-methylphenol	mg/kg	0.240	0.268	72.0	10-124	11.0	40	L533676-02	WG553395
4-Bromophenyl-phenylether	mg/kg	0.261	0.264	78.4	27-150	1.08	20	L533676-02	WG553395
4-Chloro-3-methylphenol	mg/kg	0.277	0.279	83.1	24-140	0.770	22	L533676-02	WG553395
4-Chlorophenyl-phenylether	mg/kg	0.251	0.259	75.4	27-142	3.13	21	L533676-02	WG553395
4-Nitrophenol	mg/kg	0.279	0.279	83.9	10-166	0.341	35	L533676-02	WG553395
Acenaphthene	mg/kg	0.285	0.271	85.7	30-132	5.02	21	L533676-02	WG553395
Acenaphthylene	mg/kg	0.285	0.287	85.7	31-144	0.479	24	L533676-02	WG553395
Anthracene	mg/kg	0.267	0.270	80.0	27-140	1.25	20	L533676-02	WG553395
Benzidine	mg/kg	0	0.0209	0*	10-55	200.*	36	L533676-02	WG553395
Benzo(a)anthracene	mg/kg	0.274	0.272	82.2	22-139	0.720	22	L533676-02	WG553395
Benzo(a)pyrene	mg/kg	0.298	0.282	89.5	16-148	5.60	21	L533676-02	WG553395
Benzo(b)fluoranthene	mg/kg	0.294	0.280	88.4	13-152	5.03	24	L533676-02	WG553395
Benzo(g,h,i)perylene	mg/kg	0.179	0.182	53.8	10-137	1.42	32	L533676-02	WG553395
Benzo(k)fluoranthene	mg/kg	0.306	0.293	91.8	15-152	4.28	22	L533676-02	WG553395
Benzylbutyl phthalate	mg/kg	0.313	0.315	93.9	20-168	0.710	23	L533676-02	WG553395
Bis(2-chlorethoxy)methane	mg/kg	0.290	0.281	87.0	32-141	3.16	20	L533676-02	WG553395
Bis(2-chloroethyl)ether	mg/kg	0.305	0.323	91.4	25-139	6.04	26	L533676-02	WG553395
Bis(2-chloroisopropyl)ether	mg/kg	0.282	0.264	84.7	32-128	6.57	22	L533676-02	WG553395
Bis(2-ethylhexyl)phthalate	mg/kg	0.316	0.317	94.9	20-163	0.338	24	L533676-02	WG553395
Chrysene	mg/kg	0.269	0.261	80.9	20-139	3.13	23	L533676-02	WG553395
Di-n-butyl phthalate	mg/kg	0.296	0.289	88.8	24-149	2.35	24	L533676-02	WG553395
Di-n-octyl phthalate	mg/kg	0.340	0.331	102.	14-164	2.47	24	L533676-02	WG553395
Dibenz(a,h)anthracene	mg/kg	0.199	0.203	59.6	10-137	1.94	29	L533676-02	WG553395

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

EPAPAV0045605

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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

L533934

September 26, 2011

Analyte	Units	MSD	Matrix Spike Duplicate Ref	%Rec	Limit	RPD	Limit	Ref Samp	Batch
Diethyl phthalate	mg/kg	0.280	0.279	84.1	28-142	0.237	23	L533676-02	WG553395
Dimethyl phthalate	mg/kg	0.272	0.267	81.7	31-142	1.83	22	L533676-02	WG553395
Fluoranthene	mg/kg	0.268	0.282	80.5	24-145	4.93	29	L533676-02	WG553395
Fluorene	mg/kg	0.259	0.274	77.9	30-138	5.52	22	L533676-02	WG553395
Hexachloro-1,3-butadiene	mg/kg	0.280	0.271	84.0	29-136	2.98	22	L533676-02	WG553395
Hexachlorobenzene	mg/kg	0.237	0.237	71.2	26-136	0.0746	20	L533676-02	WG553395
Hexachlorocyclopentadiene	mg/kg	0.116	0.125	34.8	10-124	7.43	33	L533676-02	WG553395
Hexachloroethane	mg/kg	0.280	0.263	84.2	21-107	6.36	27	L533676-02	WG553395
Indeno(1,2,3-cd)pyrene	mg/kg	0.200	0.203	60.1	10-139	1.59	32	L533676-02	WG553395
Isophorone	mg/kg	0.236	0.234	71.0	26-134	0.864	20	L533676-02	WG553395
n-Nitrosodi-n-propylamine	mg/kg	0.294	0.289	88.2	24-141	1.52	20	L533676-02	WG553395
n-Nitrosodimethylamine	mg/kg	0.291	0.270	87.4	18-126	7.47	27	L533676-02	WG553395
n-Nitrosodiphenylamine	mg/kg	0.264	0.272	79.4	16-128	2.72	25	L533676-02	WG553395
Naphthalene	mg/kg	0.266	0.263	80.0	31-124	1.36	25	L533676-02	WG553395
Nitrobenzene	mg/kg	0.283	0.286	85.0	22-122	0.963	20	L533676-02	WG553395
Pentachlorophenol	mg/kg	0.243	0.247	72.8	10-124	1.74	34	L533676-02	WG553395
Phenanthrene	mg/kg	0.274	0.279	82.4	25-139	1.55	25	L533676-02	WG553395
Phenol	mg/kg	0.258	0.247	77.6	22-129	4.64	25	L533676-02	WG553395
Pyrene	mg/kg	0.273	0.275	82.1	23-145	0.538	30	L533676-02	WG553395
2,4,6-Tribromophenol				93.48	16-136				WG553395
2-Fluorobiphenyl				93.40	37-119				WG553395
2-Fluorophenol				91.68	22-114				WG553395
Nitrobenzene-d5				98.83	20-114				WG553395
Phenol-d5				106.7	26-127				WG553395
p-Terphenyl-d14				84.21	15-174				WG553395
TPH (GC/FID) Low Fraction	mg/kg	21.8	25.5	79.4	55-109	15.4	20	L533941-01	WG553535
a,a,a-Trifluorotoluene(FID)				95.91	59-128				WG553535
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
Benzene	mg/kg	0.124	0.126	99.2	16-143	1.54	31	L533988-02	WG553908
Ethylbenzene	mg/kg	0.134	0.143	107.	12-137	6.09	36	L533988-02	WG553908
Toluene	mg/kg	0.127	0.137	102.	12-136	7.60	32	L533988-02	WG553908
Total Xylenes	mg/kg	0.402	0.435	107.	10-138	7.82	36	L533988-02	WG553908
4-Bromofluorobenzene				101.8	59-140				WG553908
Dibromofluoromethane				108.5	63-139				WG553908
Toluene-d8				102.3	84-116				WG553908
a,a,a-Trifluorotoluene				108.1	80-118				WG553908
Benzene	mg/kg	0.126	0.118	101.	16-143	6.70	31	L534436-16	WG554163
Ethylbenzene	mg/kg	0.133	0.126	106.	12-137	4.95	36	L534436-16	WG554163
Toluene	mg/kg	0.127	0.116	102.	12-136	8.90	32	L534436-16	WG554163
Total Xylenes	mg/kg	0.399	0.376	106.	10-138	5.95	36	L534436-16	WG554163

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

EPAPAV0045606

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

Fort Collins, CO 80525

Quality Assurance Report
Level II

L533934

September 26, 2011

Analyte	Units	MSD	Ref	Matrix Spike Duplicate %Rec	Limit	RPD	Limit	Ref Samp	Batch
4-Bromofluorobenzene				97.56	59-140				
Dibromofluoromethane				106.8	63-139				
Toluene-d8				101.7	84-116				
a,a,a-Trifluorotoluene				107.7	80-118				

Batch number /Run number / Sample number cross reference

WG553360: R1841175: L533934-18
WG553414: R1844012: L533934-05 07 08 09 10 19 20 21 22 23
WG553359: R1844112: L533934-02 06 19 23 24 25 26
WG553399: R1844514: L533934-05 07 08 10 19 20 21 22 23
WG553355: R1844533: L533934-11 13 16 28
WG553474: R1844752: L533934-01 02 03 12
WG553587: R1844814: L533934-01 02 03 04 12 14 17 24
WG553395: R1845212: L533934-06
WG553588: R1845992: L533934-01 02 03 04 15 25 26
WG553535: R1846273: L533934-25 26 27
WG553769: R1846572: L533934-01 21 27
WG553867: R1847632: L533934-09 25 26 27
WG553784: R1848293: L533934-04 14 17 24
WG553908: R1848792: L533934-04
WG554163: R1849954: L533934-03

* * 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.'

EPAPAV0045607

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Fort Collins, CO 80525

Quality Assurance Report
Level II

L533934

September 26, 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.

EPAPAV0045608

E174

Chain of Custody
Page 1 of 3

Company Name/Address	Alternate Billing	Analysis/Container/Preservativ
AECOM **1601 Prospect Parkway** **Fort Collins, CO 80525**	Report to: Dustin Krajewski E-mail to: dustin.krajewski @aecom.com	

Prepared by:

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 Pavilion W7

PHONE: (970)493-8878 FAX: (970)493-0213	Client Project No.	Lab Project #
Collected by: Jeremy Hurshman	Site/Facility ID#	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

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	SVOCs (8071)	BTEX (8260)	SAR					Remarks/contaminant	Sample # (lab only)
SB-3-11(TP-24-3)(7-8)	Grab	SS	7-8	8/29/11	12:15	3	X	X	X						~~[illegible]~~	L533934-01
SB-4-11(TP-24-3)(7-8)	↓	↓	7-8	↓	12:20	3	X	X	X						72 hr turn	-02
SB-5-11(TP-24-3)(7-8)	↓	↓	7-8	↓	12:25	3	X	X	X						on TP-22-12 and	-03
SB-6-11(TP-24-3)(6-8)	↓	↓	6-8	↓	12:30	3	X	X	X						TP-14-12 samples	-04
SB-1-11(TP-22-12)(10-12)	↓	↓	10-12	↓	13:40	1	X									-05
SB-1-11(TP-22-12)(7-8)	↓	↓	7-8	↓	15:05	2		X	X							-06
SB-4-11(TP-22-12)(10-12)	↓	↓	10-12	↓	1400	1	X									-07
SB-2-11(TP-22-12)(11-12)	↓	↓	11-12	↓	1415	1	X									-08
SB-3-11(TP-22-12)(12-13)	↓	↓	12-13	↓	1435	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)
[signature]	8/31/11	1630	fedex	4963 4591 4491		COCs! ok
Relinquisher by:(Signature	Date:	Time:	Received by: (Signature)	Temp: 3.4°	Bottles Received: 4/5 4/02	
Relinquisher by:(Signature	Date:	Time:	Received for lab by: (Signature) [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 W7

PHONE: (970)493-8878

FAX: (970)493-0213

Client Project No.

Lab Project #

Collected by: Jerry Hershner

Site/Facility ID#

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 2 of 3

Prepared by:

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Mt. Juliet TN 37122

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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	SVOCs (8071)	BTEX (8260)	SAR					Remarks/contaminant	Sample # (lab only)
SB-5-11(TP-22-12)(10-12)	Grab	SS	10-12	8/29/11	1500	1	X								72 hr turn	L533934-10
~~SB~~ SB-1-11(TP-31-9)(0-1)	↓	↓	0-1	↓	16:20	1				X					on TP-22-12 and	-11
SB-1-11(TP-31-9)(14-15)	↓	↓	14-15	↓	16:15	1	X								TP-14-12	-12
SB-2-11(TP-31-9)(0-1)	↓	↓	0-1	↓	16:45	1				X					samples	-13
SB-2-11(TP-31-9)(14-15)	↓	↓	14-14	↓	16:40	1	X									-14
SB-2-11(TP-31-9)(6-8)	↓	↓	6-8	↓	17:10	1		X								-15
SB-3-11(TP-31-9)(0-1)	↓	↓	0-1	↓	17:07	1				X						-16
SB-3-11(TP-31-9)(13-15)	↓	↓	13-15	↓	17:05	1	X									-17
Trip blank	↓	↓	—	↓	0800											-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 X UPS__Other__		Condition (lab use only)
[signature]	8/31/11	1630	fedex			OK
Relinquisher by:(Signature	Date:	Time:	Received by: (Signature)	Temp: 3.4°C	Bottles Received: 6/5-4oz	COCCSI
Relinquisher by:(Signature	Date:	Time:	Received for lab by: (Signature) [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: Jeremy Hurshman

Site/Facility ID#

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 3 of 3

Prepared by:

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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 - DRO+GRO	SVOCs (USEPA method 8071)	BTEX (USEPA 8260)	SAR					Remarks/contaminant	Sample # (lab only)
SB-2-11(TP-14-12)(7-8)	Grab	SS	7-8	8/29/11	0825	2	X		X						72 hr turn on	L533934-19
SB-3-11(TP-14-12)(7-8)	Grab	SS	7-8	8/29/11	0923	1	X								TP 22-12 and	-20
SB-3-11(TP-14-12)(9-11)	Grab	SS	9-11	8/29/11	0925	2	X		X						TP-14-12 samples	-21
SB-5-11(TP-14-12)(7.5-8)	Grab	SS	7.5-8	8/29/11	0900	1	X									-22
SB-4-11(TP-14-12)(10-12)	Grab	SS	10-12	8/29/11	0920	1	X									-23
SB-1-11(TP-24-3)(7-8)	Grab	SS	7-8	8/29/11	1155	2	X		X							-24
SB-1-11(TP-24-3)(8-10)	Grab	SS	8-10	8/29/11	1200	3	X	X	X							-25
SB-2-11(TP-24-3)(4-6)	Grab	SS	4-6	8/29/11	1210	3	X	X	X							-26
SB-2-11(TP-24-3)(6-8)	Grab	SS	6-8	8/29/11	12:12	2	X		X							-27
DUP-1-11(TP-31-9)(0-1)	Grab	~~SS~~ WT	0-1	8/29/11	—	1				X						-28

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	Fedex			OK
Relinquisher by:(Signature	Date:	Time:	Received by: (Signature)	Temp: 3.4°C	Bottles Received: 45402	COCCSI
Relinquisher by:(Signature	Date:	Time:	Received for lab by: (Signature) [signature]	Date: 9/1/11	Time: 0900	pH Checked: NCF:

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1601 Prospect Parkway
Fort Collins, CO 80525

Report Summary

Wednesday September 14, 2011

Report Number: L535435
Samples Received: 09/10/11
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

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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 14, 2011

ESC Sample # : L535435-01

Site ID :

Project # : 60221849

Date Received : September 10, 2011
Description : EnCana Pavillion

Sample ID : BG-1-11 TP-21-9

Collected By : Dawn Fairchild
Collection Date : 09/07/11 15:20

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Sodium Adsorption Ratio	5.1			Calc.	09/13/11	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 14, 2011

ESC Sample # : L535435-02

Site ID :

Project # : 60221849

Date Received : September 10, 2011
Description : EnCana Pavillion

Sample ID : BG-2-11 TP-21-9

Collected By : Dawn Fairchild
Collection Date : 09/07/11 15:20

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Sodium Adsorption Ratio	0.83			Calc.	09/13/11	1

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REPORT OF ANALYSIS

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

September 14, 2011

ESC Sample # : L535435-03

Site ID :

Project # : 60221849

Date Received : September 10, 2011
Description : EnCana Pavillion

Sample ID : BG-3-11 TP-21-9

Collected By : Dawn Fairchild
Collection Date : 09/07/11 15:20

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Sodium Adsorption Ratio	12.			Calc.	09/13/11	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 14, 2011

ESC Sample # : L535435-04

Site ID :

Project # : 60221849

Date Received : September 10, 2011
Description : EnCana Pavillion

Sample ID : BG-4-11 TP-21-9

Collected By : Dawn Fairchild
Collection Date : 09/07/11 15:20

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Sodium Adsorption Ratio	17.			Calc.	09/13/11	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 14, 2011

ESC Sample # : L535435-05

Site ID :

Project # : 60221849

Date Received : September 10, 2011
Description : EnCana Pavillion

Sample ID : BG-5-11 TP-21-9

Collected By : Dawn Fairchild
Collection Date : 09/07/11 15:20

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Sodium Adsorption Ratio	2.7			Calc.	09/13/11	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 14, 2011

ESC Sample # : L535435-06

Site ID :

Project # : 60221849

Date Received : September 10, 2011
Description : EnCana Pavillion

Sample ID : BG-1-11 TP-31-9

Collected By : Dawn Fairchild
Collection Date : 09/07/11 15:20

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Sodium Adsorption Ratio	3.1			Calc.	09/13/11	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 14, 2011

ESC Sample # : L535435-07

Site ID :

Project # : 60221849

Date Received : September 10, 2011
Description : EnCana Pavillion

Sample ID : BG-2-11 TP-31-9

Collected By : Dawn Fairchild
Collection Date : 09/07/11 15:20

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Sodium Adsorption Ratio	9.0			Calc.	09/13/11	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 14, 2011

ESC Sample # : L535435-08

Site ID :

Project # : 60221849

Date Received : September 10, 2011
Description : EnCana Pavillion

Sample ID : BG-3-11 TP-31-9

Collected By : Dawn Fairchild
Collection Date : 09/07/11 15:20

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Sodium Adsorption Ratio	2.0			Calc.	09/13/11	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
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Summary of Remarks For Samples Printed
09/14/11 at 11:40:27

TSR Signing Reports: 044
R5 - Desired TAT

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

Sample: L535435-01 Account: ENSRFCCO Received: 09/10/11 11:30 Due Date: 09/16/11 00:00 RPT Date: 09/14/11 11:40

Sample: L535435-02 Account: ENSRFCCO Received: 09/10/11 11:30 Due Date: 09/16/11 00:00 RPT Date: 09/14/11 11:40

Sample: L535435-03 Account: ENSRFCCO Received: 09/10/11 11:30 Due Date: 09/16/11 00:00 RPT Date: 09/14/11 11:40

Sample: L535435-04 Account: ENSRFCCO Received: 09/10/11 11:30 Due Date: 09/16/11 00:00 RPT Date: 09/14/11 11:40

Sample: L535435-05 Account: ENSRFCCO Received: 09/10/11 11:30 Due Date: 09/16/11 00:00 RPT Date: 09/14/11 11:40

Sample: L535435-06 Account: ENSRFCCO Received: 09/10/11 11:30 Due Date: 09/16/11 00:00 RPT Date: 09/14/11 11:40

Sample: L535435-07 Account: ENSRFCCO Received: 09/10/11 11:30 Due Date: 09/16/11 00:00 RPT Date: 09/14/11 11:40

Sample: L535435-08 Account: ENSRFCCO Received: 09/10/11 11:30 Due Date: 09/16/11 00:00 RPT Date: 09/14/11 11:40

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

Fort Collins, CO 80525

Quality Assurance Report
Level II

L535435

September 14, 2011

Batch number /Run number / Sample number cross reference

WG554628: R1857192: L535435-01 02 03 04 05 06 07 08

* * 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.'

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

Fort Collins, CO 80525

Quality Assurance Report
Level II

L535435

September 14, 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.

EPAPAV0045623

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 #: 60221849

ESC Key: ENSRFCCO-ENCANAPA

Collected by: Dawn Fauchild

Site/Facility ID#: Pavillion WY

P.O.#:

Collected by (signature): Dawn Fauchild

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

CoCode ENSRFCCO (lab use only)
Template/Prelogin
Shipped Via: E145

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs	SAR						Remarks/Contaminant	Sample # (lab only)
BG-1-11(TP-21-9)	Grab	SS	0-1	09.07.11	15:20	1	X							L535435-01
BG-2-11(TP-21-9)			0-1	09.07.11	15:30	1	X							-02
BG-3-11(TP-21-9)			0-1	09.07.11	15:35	1	X							-03
BG-4-11(TP-21-9)			0-1	09.07.11	15:40	1	X							-04
BG-5-11 (TP-21-9			0-1	09.07.11	15:45	1	X							-05
BG-1-11 (TP-31-9)			0-1	09.07.11	16:05	1	X							-06
BG-2-11 (TP-31-9)			0-1	09.07.11	16:10	1	X							-07
BG-3-11 (TP-31-9)			0-1	09.07.11	16:15	1	X							-06

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

Remarks: 2 coolers 1 cooler 8734 3433 0317 Flow _____ Other _____

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Samples returned via: ☐ UPS ☑ FedEx ☐ Courier ☐	Condition: (lab use only)
Dawn Fauchild	09.09.11	1700			OK
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: 3.1	Bottles Received: 8-4oz
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 9-10-11	Time: 1130
				pH Checked:	NCF:

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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

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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 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)
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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)
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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)
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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 # : L534392-10

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)
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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 # : L534392-11

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)
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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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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

EPAPAV0045632

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.

EPAPAV0045633

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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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.
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EPAPAV0045635

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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

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

EPAPAV0045636

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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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Est. 1970

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

Fort Collins, CO 80525

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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Fort Collins, CO 80525

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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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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EPAPAV0045641

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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
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

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

EPAPAV0045642

ESC LAB SCIENCES
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Mt. Juliet, TN 37122
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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

L534392

September 13, 2011

Analyte	Units	Matrix Spike Duplicate MSD	Ref	%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.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'

EPAPAV0045643

ESC
L·A·B S·C·I·E·N·C·E·S
YOUR LAB OF CHOICE

12065 Lebanon Rd.
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(615) 758-5858
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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

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.

EPAPAV0045644

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 #: 60221849

ESC Key: ENSRFCCO-ENCANAPA

Collected by: Jeremy Hutchison

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

Prepared by:

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		
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: