



28-Sep-2015

Brett Middleton
Encana Oil and Gas (USA) Inc.
143 Diamond Avenue
Parachute, CO 81635

Re: **P14 Spill**

Work Order: **15091414**

Dear Brett,

ALS Environmental received 3 samples on 24-Sep-2015 09:00 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 17.

If you have any questions regarding this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Les Arnold".

Electronically approved by: Les Arnold

Les Arnold
Senior Project Manager



Certificate No: MN 532786

Report of Laboratory Analysis

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: Encana Oil and Gas (USA) Inc.
Project: P14 Spill
Work Order: 15091414

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
15091414-01	20150921-P14Spill(S)	Soil		9/21/2015 14:55	9/24/2015 09:00	<input type="checkbox"/>
15091414-02	20150921-P14Spill(W)	Soil		9/21/2015 15:00	9/24/2015 09:00	<input type="checkbox"/>
15091414-03	20150921-P14 (BGS)	Soil		9/21/2015 15:05	9/24/2015 09:00	<input type="checkbox"/>

Client: Encana Oil and Gas (USA) Inc.
Project: P14 Spill
Work Order: 15091414

Case Narrative

Samples for the above noted Work Order were received on 09/28/2015. The attached "Sample Receipt Checklist" documents the status of custody seals, container integrity, preservation, and temperature compliance.

Samples were analyzed according to the analytical methodology previously transmitted in the "Work Order Acknowledgement". Methodologies are also documented in the "Analytical Result" section for each sample. Quality control results are listed in the "QC Report" section. Sample association for the reported quality control is located at the end of each batch summary. If applicable, results are appropriately qualified in the Analytical Result and QC Report sections. The "Qualifiers" section documents the various qualifiers, units, and acronyms utilized in reporting.

With the following exceptions, all sample analyses achieved analytical criteria.

Sample Receiving:

No deviations or anomalies were noted.

Volatile Organics:

No deviations or anomalies were noted.

Extractable Organics:

Batch 76535, Method 8015 for DRO; Sample 15091414-01A: The surrogate recovery was high due to matrix interference.

Batch 76535, Method 8015 for DRO; Sample 15091414-01A: The MS recovery was outside of the control limit; however, the result in the parent sample is greater than 4x the spike amount. No qualification is required for this analyte:

Batch 76535, Method 8015 for DRO; Sample 15091414-01A MS and MSD: The surrogate recovery was high due to matrix interference.

No other deviations or anomalies were noted.

Metals:

No deviations or anomalies were noted.

Wet Chemistry:

No deviations or anomalies were noted.

ALS Group USA, Corp

Date: 28-Sep-15

Client: Encana Oil and Gas (USA) Inc.
Project: P14 Spill
Sample ID: 20150921-P14Spill(S)
Collection Date: 9/21/2015 02:55 PM

Work Order: 15091414
Lab ID: 15091414-01
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID							
			Method: SW8015M		Prep: SW3550 / 9/24/15		Analyst: IT
DRO (C10-C28)	820		1.4	4.1	mg/Kg	1	9/25/2015 02:53
Surr: 4-Terphenyl-d14	617	S		39-133	%REC	1	9/25/2015 02:53
GASOLINE RANGE ORGANICS BY GC-FID							
			Method: SW8015D		Prep: SW5035 / 9/24/15		Analyst: IT
GRO (C6-C10)	710		1.2	2.5	mg/Kg	1	9/24/2015 17:58
Surr: Toluene-d8	99.9			50-150	%REC	1	9/24/2015 17:58
METALS ANALYSIS BY ICP							
			Method: SW846 6010C		Prep: SW3050B / 9/24/15		Analyst: JEC
Arsenic	4.1		0.091	0.37	mg/Kg	1	9/24/2015 18:14
SOLUBLE CATIONS FOR SAR							
			Method: SW846 6010C		Prep: USDA Method 20B / 9/28/15		Analyst: JEC
Calcium	76		0.22	5.0	mg/L	10	9/28/2015 11:48
Magnesium	6.8		0.22	2.0	mg/L	10	9/28/2015 11:48
Sodium	2,200		0.24	2.0	mg/L	10	9/28/2015 11:48
SODIUM ADSORPTION RATIO							
			Method: USDA H60 METHOD 2		Prep: USDA Method 20B / 9/28/15		Analyst: JEC
Sodium Adsorption Ratio	65		0.010	0.010	none	1	9/28/2015
VOLATILE ORGANIC COMPOUNDS							
			Method: SW8260B		Prep: SW5035 / 9/24/15		Analyst: AK
Benzene	U		0.012	0.030	mg/Kg	1	9/24/2015 19:17
Ethylbenzene	U		0.011	0.030	mg/Kg	1	9/24/2015 19:17
m,p-Xylene	U		0.023	0.060	mg/Kg	1	9/24/2015 19:17
o-Xylene	U		0.013	0.030	mg/Kg	1	9/24/2015 19:17
Toluene	U		0.011	0.030	mg/Kg	1	9/24/2015 19:17
Xylenes, Total	U		0.035	0.090	mg/Kg	1	9/24/2015 19:17
Surr: 1,2-Dichloroethane-d4	103			70-130	%REC	1	9/24/2015 19:17
Surr: 4-Bromofluorobenzene	98.3			70-130	%REC	1	9/24/2015 19:17
Surr: Dibromofluoromethane	99.8			70-130	%REC	1	9/24/2015 19:17
Surr: Toluene-d8	98.9			70-130	%REC	1	9/24/2015 19:17
ELECTRICAL CONDUCTIVITY (SAR)							
			Method: USDA H60 METHOD 2		Prep: USDA Method 20B / 9/28/15		Analyst: JB
Electrical Conductivity @ Saturation	13		0.0055	0.050	mmhos/cm @25°	10	9/28/2015 11:40
MOISTURE							
			Method: E160.3M				
Moisture	17		0.025	0.050	% of sample	1	9/24/2015 17:46

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 28-Sep-15

Client: Encana Oil and Gas (USA) Inc.
Project: P14 Spill
Sample ID: 20150921-P14Spill(W)
Collection Date: 9/21/2015 03:00 PM

Work Order: 15091414
Lab ID: 15091414-02
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID							
			Method: SW8015M		Prep: SW3550 / 9/24/15		Analyst: IT
DRO (C10-C28)	180		1.3	4.1	mg/Kg	1	9/25/2015 03:23
Surr: 4-Terphenyl-d14	105			39-133	%REC	1	9/25/2015 03:23
GASOLINE RANGE ORGANICS BY GC-FID							
			Method: SW8015D		Prep: SW5035 / 9/24/15		Analyst: IT
GRO (C6-C10)	96		1.2	2.5	mg/Kg	1	9/24/2015 18:23
Surr: Toluene-d8	103			50-150	%REC	1	9/24/2015 18:23
METALS ANALYSIS BY ICP							
			Method: SW846 6010C		Prep: SW3050B / 9/24/15		Analyst: JEC
Arsenic	4.1		0.098	0.40	mg/Kg	1	9/24/2015 18:20
SOLUBLE CATIONS FOR SAR							
			Method: SW846 6010C		Prep: USDA Method 20B / 9/28/15		Analyst: JEC
Calcium	50		0.22	5.0	mg/L	10	9/28/2015 11:53
Magnesium	6.2		0.22	2.0	mg/L	10	9/28/2015 11:53
Sodium	1,700		0.24	2.0	mg/L	10	9/28/2015 11:53
SODIUM ADSORPTION RATIO							
			Method: USDA H60 METHOD 2		Prep: USDA Method 20B / 9/28/15		Analyst: JEC
Sodium Adsorption Ratio	59		0.010	0.010	none	1	9/28/2015
VOLATILE ORGANIC COMPOUNDS							
			Method: SW8260B		Prep: SW5035 / 9/24/15		Analyst: AK
Benzene	0.078		0.012	0.030	mg/Kg	1	9/24/2015 19:42
Ethylbenzene	0.30		0.011	0.030	mg/Kg	1	9/24/2015 19:42
m,p-Xylene	26		2.3	6.0	mg/Kg	100	9/25/2015 10:24
o-Xylene	8.3		1.3	3.0	mg/Kg	100	9/25/2015 10:24
Toluene	5.0		0.011	0.030	mg/Kg	1	9/24/2015 19:42
Xylenes, Total	34		3.5	9.0	mg/Kg	100	9/25/2015 10:24
Surr: 1,2-Dichloroethane-d4	105			70-130	%REC	1	9/24/2015 19:42
Surr: 1,2-Dichloroethane-d4	106			70-130	%REC	100	9/25/2015 10:24
Surr: 4-Bromofluorobenzene	94.0			70-130	%REC	1	9/24/2015 19:42
Surr: 4-Bromofluorobenzene	98.1			70-130	%REC	100	9/25/2015 10:24
Surr: Dibromofluoromethane	99.8			70-130	%REC	1	9/24/2015 19:42
Surr: Dibromofluoromethane	102			70-130	%REC	100	9/25/2015 10:24
Surr: Toluene-d8	130			70-130	%REC	1	9/24/2015 19:42
Surr: Toluene-d8	98.6			70-130	%REC	100	9/25/2015 10:24
ELECTRICAL CONDUCTIVITY (SAR)							
			Method: USDA H60 METHOD 2		Prep: USDA Method 20B / 9/28/15		Analyst: JB
Electrical Conductivity @ Saturation	10		0.0055	0.050	mmhos/cm @25°	10	9/28/2015 11:40
MOISTURE							
			Method: E160.3M				
Moisture	20		0.025	0.050	% of sample	1	9/24/2015 17:46

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 28-Sep-15

Client: Encana Oil and Gas (USA) Inc.
Project: P14 Spill
Sample ID: 20150921-P14 (BGS)
Collection Date: 9/21/2015 03:05 PM

Work Order: 15091414
Lab ID: 15091414-03
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
METALS ANALYSIS BY ICP							
Arsenic	4.7		0.088	0.36	mg/Kg	1	9/24/2015 18:26
SOLUBLE CATIONS FOR SAR							
Calcium	160		0.22	5.0	mg/L	10	9/28/2015 11:59
Magnesium	21		0.22	2.0	mg/L	10	9/28/2015 11:59
Sodium	16		0.24	2.0	mg/L	10	9/28/2015 11:59
SODIUM ADSORPTION RATIO							
Sodium Adsorption Ratio	0.30		0.010	0.010	none	1	9/28/2015
ELECTRICAL CONDUCTIVITY (SAR)							
Electrical Conductivity @ Saturation	1.1		0.0055	0.050	mmhos/cm @25°	10	9/28/2015 11:40
MOISTURE							
Moisture	6.9		0.025	0.050	% of sample	1	9/24/2015 17:46

Note: See Qualifiers page for a list of qualifiers and their definitions.

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and PQL, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
% of sample	Percent of Sample
mg/Kg	Milligrams per Kilogram
mg/L	Milligrams per Liter
mmhos/cm @25°C	Millimhos-Centimeter at 25 Degrees Celcius
none	

ALS Group USA, Corp

Date: 28-Sep-15

Client: Encana Oil and Gas (USA) Inc.
Work Order: 15091414
Project: P14 Spill

QC BATCH REPORT

Batch ID: **76535** Instrument ID **GC8** Method: **SW8015M**

MBLK		Sample ID: DBLKS1-76535-76535				Units: mg/Kg		Analysis Date: 9/25/2015 12:54 PM		
Client ID:		Run ID: GC8_150924A				SeqNo: 3475138		Prep Date: 9/24/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28) U 5.0
 Surr: 4-Terphenyl-d14 1.382 0 2 0 69.1 39-133 0

LCS		Sample ID: DLCSS1-76535-76535				Units: mg/Kg		Analysis Date: 9/25/2015 01:24 AM		
Client ID:		Run ID: GC8_150924A				SeqNo: 3475133		Prep Date: 9/24/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28) 164.2 5.0 200 0 82.1 61-109 0
 Surr: 4-Terphenyl-d14 1.079 0 2 0 53.9 39-133 0

MS		Sample ID: 15091414-01A MS				Units: mg/Kg		Analysis Date: 9/25/2015 01:53 AM		
Client ID: 20150921-P14Spill(S)		Run ID: GC8_150924A				SeqNo: 3475134		Prep Date: 9/24/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28) 1132 4.1 165.8 820.4 188 48-110 0 SO
 Surr: 4-Terphenyl-d14 8.892 0 1.658 0 536 39-133 0 S

MSD		Sample ID: 15091414-01A MSD				Units: mg/Kg		Analysis Date: 9/25/2015 02:23 AM		
Client ID: 20150921-P14Spill(S)		Run ID: GC8_150924A				SeqNo: 3475135		Prep Date: 9/24/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28) 936.1 4.1 165.4 820.4 69.9 48-110 1132 18.9 30 O
 Surr: 4-Terphenyl-d14 10.12 0 1.654 0 612 39-133 8.892 12.9 30 S

The following samples were analyzed in this batch:

15091414-01A	15091414-02A
--------------	--------------

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Encana Oil and Gas (USA) Inc.
Work Order: 15091414
Project: P14 Spill

QC BATCH REPORT

Batch ID: **76525** Instrument ID **GC9** Method: **SW8015D**

MBLK		Sample ID: MBLK-76525-76525				Units: µg/Kg		Analysis Date: 9/24/2015 04:43 PM		
Client ID:		Run ID: GC9_150924B				SeqNo: 3475219		Prep Date: 9/24/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	U	2,500								
Surr: Toluene-d8	4798	0	5000	0	96	50-150	0			

LCS		Sample ID: LCS-76525-76525				Units: µg/Kg		Analysis Date: 9/24/2015 04:18 PM		
Client ID:		Run ID: GC9_150924B				SeqNo: 3475217		Prep Date: 9/24/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	490900	2,500	500000	0	98.2	70-130	0			
Surr: Toluene-d8	5151	0	5000	0	103	50-150	0			

MS		Sample ID: 15091414-02A MS				Units: µg/Kg		Analysis Date: 9/24/2015 06:48 PM		
Client ID: 20150921-P14Spill(W)		Run ID: GC9_150924B				SeqNo: 3475227		Prep Date: 9/24/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	734400	2,500	500000	96210	128	70-130	0			
Surr: Toluene-d8	5219	0	5000	0	104	50-150	0			

MSD		Sample ID: 15091414-02A MSD				Units: µg/Kg		Analysis Date: 9/24/2015 07:13 PM		
Client ID: 20150921-P14Spill(W)		Run ID: GC9_150924B				SeqNo: 3475284		Prep Date: 9/24/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	714200	2,500	500000	96210	124	70-130	734400	2.8	30	
Surr: Toluene-d8	5228	0	5000	0	105	50-150	5219	0.182	30	

The following samples were analyzed in this batch:

15091414-01A	15091414-02A
--------------	--------------

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Encana Oil and Gas (USA) Inc.

Work Order: 15091414

Project: P14 Spill

QC BATCH REPORT

Batch ID: **76503**

Instrument ID **ICP2**

Method: **SW846 6010C**

MBLK		Sample ID: MBLK-76503-76503				Units: mg/Kg		Analysis Date: 9/24/2015 06:03 PM		
Client ID:		Run ID: ICP2_150924A				SeqNo: 3474587		Prep Date: 9/24/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Arsenic U 0.25

MBLK		Sample ID: MBLK-76503-76503				Units: mg/L		Analysis Date: 9/25/2015 02:49 PM		
Client ID:		Run ID: ICP2_150925B				SeqNo: 3478095		Prep Date: 9/24/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Arsenic U 0.25

LCS		Sample ID: LCS-76503-76503				Units: mg/Kg		Analysis Date: 9/24/2015 06:09 PM		
Client ID:		Run ID: ICP2_150924A				SeqNo: 3474588		Prep Date: 9/24/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Arsenic 4.921 0.25 5 0 98.4 80-120 0

LCS		Sample ID: LCS-76503-76503				Units: mg/L		Analysis Date: 9/25/2015 02:55 PM		
Client ID:		Run ID: ICP2_150925B				SeqNo: 3478096		Prep Date: 9/24/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Arsenic 4.634 0.25 5 0 92.7 80-120 0

MS		Sample ID: 15091268-01AMS				Units: mg/Kg		Analysis Date: 9/24/2015 06:37 PM		
Client ID:		Run ID: ICP2_150924A				SeqNo: 3474593		Prep Date: 9/24/2015		DF: 10
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Arsenic 64.56 3.8 7.576 57.06 99 75-125 0 O

MSD		Sample ID: 15091268-01AMSD				Units: mg/Kg		Analysis Date: 9/24/2015 06:42 PM		
Client ID:		Run ID: ICP2_150924A				SeqNo: 3474594		Prep Date: 9/24/2015		DF: 10
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Arsenic 65.87 3.8 7.564 57.06 116 75-125 64.56 2.01 20 O

The following samples were analyzed in this batch:

15091414-01A	15091414-02A	15091414-03A
--------------	--------------	--------------

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Encana Oil and Gas (USA) Inc.
Work Order: 15091414
Project: P14 Spill

QC BATCH REPORT

Batch ID: **76530** Instrument ID **ICP2** Method: **SW846 6010C**

DUP		Sample ID: 15091205-01ADUP				Units: mg/L		Analysis Date: 9/28/2015 11:36 AM		
Client ID:		Run ID: ICP2_150928A				SeqNo: 3479394		Prep Date: 9/28/2015		DF: 10
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	236.9	5.0	0	0	0	0-0	230.3	2.85		
Magnesium	60.29	2.0	0	0	0	0-0	58.89	2.34		
Sodium	37.33	2.0	0	0	0	0-0	36.45	2.37		

DUP		Sample ID: 15091205-01ADUP				Units: none		Analysis Date: 9/28/2015		
Client ID:		Run ID: SAR_150928A				SeqNo: 3479486		Prep Date: 9/28/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sodium Adsorption Ratio	0.5605	0.010	0	0	0		0.5548	1.02	50	

The following samples were analyzed in this batch:

15091414-01B	15091414-02B	15091414-03A
--------------	--------------	--------------

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Encana Oil and Gas (USA) Inc.
 Work Order: 15091414
 Project: P14 Spill

QC BATCH REPORT

Batch ID: **76496** Instrument ID **VMS9** Method: **SW8260B**

Sample ID: MBLK-76496-76496				Units: µg/Kg			Analysis Date: 9/24/2015 10:59 PM			
Client ID:		Run ID: VMS9_150924B			SeqNo: 3475426		Prep Date: 9/24/2015		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	U	30								
Ethylbenzene	U	30								
m,p-Xylene	U	60								
o-Xylene	U	30								
Toluene	U	30								
Xylenes, Total	U	90								
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>961</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>96.1</i>	<i>70-130</i>	<i>0</i>			
<i>Surr: 4-Bromofluorobenzene</i>	<i>943.5</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>94.4</i>	<i>70-130</i>	<i>0</i>			
<i>Surr: Dibromofluoromethane</i>	<i>983</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>98.3</i>	<i>70-130</i>	<i>0</i>			
<i>Surr: Toluene-d8</i>	<i>986</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>98.6</i>	<i>70-130</i>	<i>0</i>			

LCS				Sample ID: LCS-76496-76496			Units: µg/Kg		Analysis Date: 9/24/2015 09:17 PM		
Client ID:		Run ID: VMS9_150924B			SeqNo: 3475423		Prep Date: 9/24/2015		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	986.5	30	1000	0	98.6	75-125	0				
Ethylbenzene	951.5	30	1000	0	95.2	75-125	0				
m,p-Xylene	1901	60	2000	0	95	80-125	0				
o-Xylene	912.5	30	1000	0	91.2	75-125	0				
Toluene	1011	30	1000	0	101	70-125	0				
Xylenes, Total	2814	90	3000	0	93.8	75-125	0				
Surr: 1,2-Dichloroethane-d4	936.5	0	1000	0	93.6	70-130	0				
Surr: 4-Bromofluorobenzene	1004	0	1000	0	100	70-130	0				
Surr: Dibromofluoromethane	970	0	1000	0	97	70-130	0				
Surr: Toluene-d8	1006	0	1000	0	101	70-130	0				

The following samples were analyzed in this batch:

15091414-01A	15091414-02A
--------------	--------------

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Encana Oil and Gas (USA) Inc.
Work Order: 15091414
Project: P14 Spill

QC BATCH REPORT

Batch ID: **76530** Instrument ID **WETCHEM** Method: **USDA H60 Metho**

DUP		Sample ID: 15091205-01A DUP				Units: mmhos/cm @25°		Analysis Date: 9/28/2015 11:40 AM		
Client ID:		Run ID: WETCHEM_150928D				SeqNo: 3479273		Prep Date: 9/28/2015		DF: 10
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Electrical Conductivity @ Saturation	1.866	0.050	0	0	0		1.872	0.321	50	

The following samples were analyzed in this batch:

15091414-01B	15091414-02B	15091414-03A
--------------	--------------	--------------

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Encana Oil and Gas (USA) Inc.
Work Order: 15091414
Project: P14 Spill

QC BATCH REPORT

Batch ID: **R172377** Instrument ID **MOIST** Method: **E160.3M**

MBLK		Sample ID: WBLKS-R172377				Units: % of sample		Analysis Date: 9/24/2015 05:46 PM		
Client ID:		Run ID: MOIST_150924B		SeqNo: 3475397		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture U 0.050

LCS		Sample ID: LCS-R172377				Units: % of sample		Analysis Date: 9/24/2015 05:46 PM		
Client ID:		Run ID: MOIST_150924B		SeqNo: 3475396		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 100 0.050 100 0 100 99.5-100.5 0

DUP		Sample ID: 15091130-02A DUP				Units: % of sample		Analysis Date: 9/24/2015 05:46 PM		
Client ID:		Run ID: MOIST_150924B		SeqNo: 3475377		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 18.68 0.050 0 0 0 18.76 0.427 20

DUP		Sample ID: 15091414-01A DUP				Units: % of sample		Analysis Date: 9/24/2015 05:46 PM		
Client ID: 20150921-P14Spill(S)		Run ID: MOIST_150924B		SeqNo: 3475393		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 16.58 0.050 0 0 0 17.07 2.91 20

The following samples were analyzed in this batch:

15091414-01A	15091414-02A	15091414-03A
--------------	--------------	--------------

Note: See Qualifiers Page for a list of Qualifiers and their explanation.



Environmental

Cincinnati, OH
+1 513 733 5336

Everett, WA
+1 425 356 2600

Fort Collins, CO
+1 970 490 1511

Holland, MI
+1 616 399 6070

Chain of Custody Form

Page 1 of 1

COC ID: 24927

Houston, TX
+1 281 530 5636

Middletown, PA
+1 717 944 5541

Spring City, PA
+1 610 948 4903

Salt Lake City, UT
+1 801 266 7700

South Charleston, WV
+1 304 356 3168

York, PA
+1 717 505 5280

ALS Project Manager:

ALS Work Order #: 15091414

Customer Information		Project Information		Parameter/Method Request for Analysis												
Purchase Order		Project Name	PI4 SPILL	A	TPH GRO/DRO											
Work Order		Project Number	PI4	B	BTEX											
Company Name	ENCANA	Bill To Company	ENCANA OIL & GAS	C	EC, SAR, ARSENIC											
Send Report To		Invoice Attn	Brian Middleton	D												
Address	PARACHUTE	Address		E												
City/State/Zip		City/State/Zip		F												
Phone		Phone		G												
Fax		Fax		H												
e-Mail Address		e-Mail Address		I												
				J												

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	20150921 - PI4 SPILL (S)	9/21/15	1455	S	-	2	X	X	X								
2	20150921 - PI4 SPILL (W)	↓	1500	S	-	2	X	X	X								
3	20150921 - PI4 SPILL (BGS)	↓	1505	S	-	1			X								
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign		Shipment Method		Required Turnaround Time: (Check Box)				Results Due Date:			
				<input type="checkbox"/> STD 10 Wk Days <input checked="" type="checkbox"/> 2 Wk Days <input checked="" type="checkbox"/> 24 Hour				CDB 9/25/15			
Requisitioned by:	Date: 9/21/15	Time: 1800	Received by:	Notes:							
Requisitioned by:	Date: 9-22-15	Time: 1800	Received by (Laboratory):	Cooler ID	Cooler Temp	QC Package: (Check One Box Below)					
Logged by (Laboratory):	Date: 9-23-15	Time: 1430	Checked by (Laboratory):		44°C	<input type="checkbox"/> Level II Std QC <input type="checkbox"/> TRRP Checklist <input type="checkbox"/> Level III Std QC/Raw Data <input type="checkbox"/> TRRP Level IV <input type="checkbox"/> Level IV SW846/CLP <input type="checkbox"/> Other					
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₄ 6-NaHSO ₄ 7-Other 8-4°C 9-5035											

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
 2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
 3. The Chain of Custody is a legal document. All information must be completed accurately.

Copyright 2012 by ALS Environmental.

ORIGIN ID: RLA (616) 298-1033
 NICK MARTINEZ
 ALS ENVIRONMENTAL PARACHUTE
 PARACHUTE SERVICE CENTER
 127 EAST 1ST ST
 PARACHUTE, CO 81635
 UNITED STATES US

SHIP DATE: 23SEP15
 ACTWGT: 42.00 LB
 CAD: 22648401 NET3870
 DIMS: 24x15x15 IN
 BILL SENDER

TO **SAMPLE RECEIVING**
ALS ENVIRONMENTAL HOLLAND LAB
3352 128TH AVE

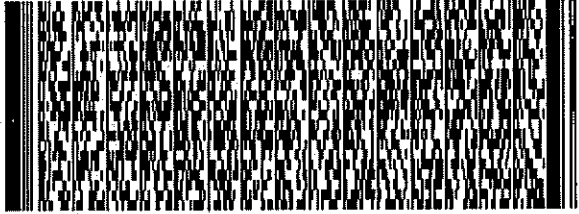
HOLLAND MI 49424

(616) 399-8070

REF: 092315-1

INV:
 PO: PARACHUTE

DEPT:



FedEx
 Express



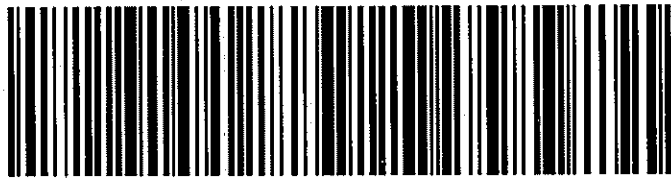
REL#
 3785346

TRK#
 0201 **7745 8209 9033**

THU - 24 SEP 10:30A
PRIORITY OVERNIGHT

XX HLMA

49424
GRR
 MI-US

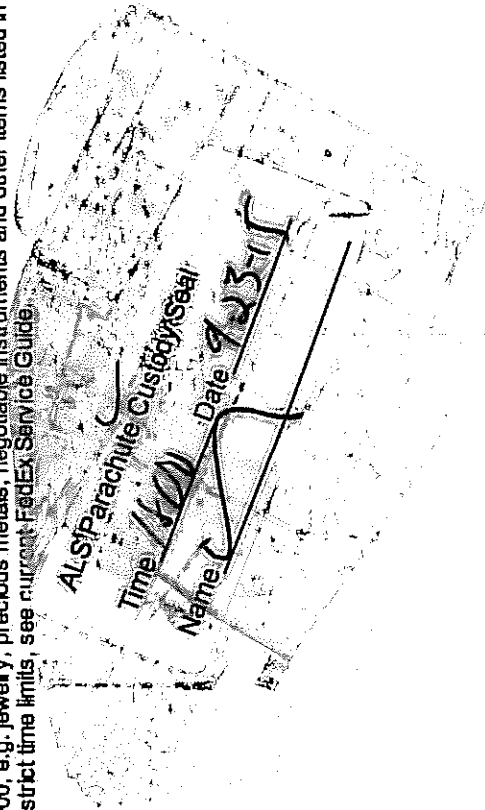


539.12/C88693100

After printing this label:

1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number. Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com. FedEx will not be responsible for any claim in excess of \$100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of \$100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is \$1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our ServiceGuide. Written claims must be filed within strict time limits, see current FedEx Service Guide.



Sample Receipt Checklist

Client Name: ENCANA2

Date/Time Received: 24-Sep-15 09:00

Work Order: 15091414

Received by: LA

Checklist completed by Lee Drndol 24-Sep-15
eSignature Date

Reviewed by: Lee Drndol 24-Sep-15
eSignature Date

Matrices: SOIL

Carrier name: FedEx

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Present <input type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample(s) received on ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<u>4.4/4.4</u>		
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	<u>09/24/15 15:45</u>		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted by:			

Login Notes:

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction: