Laboratory Results Summary Table

05/28/2015

Analytes (BDL = Below Detection Limit; ND = Non Detect)

				Organic Compounds in Soil (mg/kg [ppm])																						Inorganics in Soil			Metals in Soil (mg/kg [ppm])										
Allowable Concentration -->				500			0.17	85	100	175	1000	1000	0.22	0.22	2.2	0.022	22	0.022	1000	1000	0.22	23	1000		(<12)	(6-9)	0.39	15000	70	120000	23	3100	400	23	1600	390	390	23000
Location	**Sample Date:**	**Sample Matrix**	**Matrix Notes**	TPH (total volatile and extractable petroleum hydrocarbons)	TPH-GRO (C6-C10) Low Fraction	TPH-DRO (C10-C36) High Fraction	Benzene	Toluene	Ethylbenzene	Xylenes - total	Acenaphthene	Anthracene	Benzo(A)anthracene	Benzo(B)fluoranthene	Benzo(K)fluoranthene	Benzo(A)pyrene	Chrysene	Dibenzo(A,H)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3,C,D)pyrene	Napthalene	Pyrene	EC (<4 mmhos/cm or **2x background**)	SAR (calculation)	pH	Arsenic	Barium - EPA Total Barium	Cadmium	Chromium (III)	Chromium (VI)	Copper	Lead (inorganic)	Mercury	Nickel (soluble salts)	Selenium	Silver	Zinc
O1E	10/16/09	Cuttings		114.7	20.6	94.1	0.0025	0.0132	0.0017	0.0203	ND	ND	ND	ND	ND	ND	0.0056	ND	ND	0.0547	ND	0.066	0.0069	0.539	6.64	**9.5**	**4.5**		0.25	15.2	0.99	21.4	13.6	0.041	11.3	0.2	0.12	56.3

Encana Oil and Gas (USA) Inc.
Environmental Compliance Group
Parachute Field Office
143 Diamond Avenue
Parachute, CO 81635

Technical Report for

ENCANA

EnCana Oil & Gas (USA) Inc.

OIE Cuttings Remediation

Accutest Job Number: T39940

Sampling Date: 10/16/09

Report to:

EnCana
2717 Co. Rd. 215
Parachute, CO 81635
brett.middleton@encana.com; christopher.hines@encana.com

ATTN: Chris Hines

Total number of pages in report: **62**

ACCUTEST LABORATORIES 50 YEARS 1956-2006

ACCREDITED IN ACCORDANCE WITH nelac

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Paul K Canevaro

Paul Canevaro
Laboratory Director

Client Service contact: Sylvia Garza 713-271-4700

Certifications: TX (T104704220-06-TX) AR (88-0756) FL (E87628) KS (E-10366) LA (85695/04004) OK (9103) UT(7132714700)

Sections: 1 2 3 4 5 6 7 8 9 10

Table of Contents

Sample Summary

ENCANA

Job No: T39940

EnCana Oil & Gas (USA) Inc.
Project No: OIE Cuttings Remediation

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
T39940-1	10/16/09	15:00		10/17/09	SO	Soil	O1E CUTTINGS REM-101609
T39940-1A	10/16/09	15:00		10/17/09	SO	Soil	O1E CUTTINGS REM-101609
T39940-1B	10/16/09	15:00		10/17/09	SO	Soil	O1E CUTTINGS REM-101609
T39940-1C	10/16/09	15:00		10/17/09	SO	Soil	O1E CUTTINGS REM-101609

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: ENCANA **Job No** T39940

Site: EnCana Oil & Gas (USA) Inc. **Report Date** 10/30/2009 4:23:36 PM

1 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were collected on 10/16/2009 and were received at Accutest on 10/17/2009 properly preserved, at 2.6 Deg. C and intact. These Samples received an Accutest job number of T39940. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Volatiles by GCMS By Method SW846 8260B

Matrix SO **Batch ID:** VM869

- All samples were analyzed within the recommended method holding time.
- Sample(s) T39944-5MS, T39944-5MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- Matrix Spike Duplicate Recovery(s) for Benzene are outside control limits. Probable cause due to matrix interference.

Extractables by GCMS By Method SW846 8270C BY SIM

Matrix SO **Batch ID:** OP13272

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) T39942-1MS, T39942-1MSD were used as the QC samples indicated.
- Matrix Spike Recovery(s) for 2-Methylnaphthalene, Naphthalene are outside control limits. Probable cause due to matrix interference.
- Sample(s) T39940-1 have surrogates outside control limits. Probable cause due to matrix interference.

Volatiles by GC By Method SW846 8015

Matrix SO **Batch ID:** GEE2477

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) T40468-1MS, T40468-1MSD were used as the QC samples indicated.

Extractables by GC By Method SW846 8015 M

Matrix SO **Batch ID:** OP13274

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.

Metals By Method SW846 6010B

Matrix AQ **Batch ID:** MP10526

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) T39878-4AMSD, T39878-4ADUP, T39878-4ASDL, T39878-4AMS were used as the QC samples for metals.
- RPD(s) for Duplicate for Boron are outside control limits for sample MP10526-D1. High RPD due to possible matrix interference.
- RPD(s) for Serial Dilution for Boron are outside control limits for sample MP10526-SD1.

Matrix AQ **Batch ID:** MP10527

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) T39878-3CDUP were used as the QC samples for metals.

Matrix SO **Batch ID:** MP10525

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) T39942-1BDUP, T39942-1BMSD, T39942-1BSDL were used as the QC samples for metals.
- Matrix Spike Recovery(s) for Barium are outside control limits. Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.
- RPD(s) for Serial Dilution for Barium are outside control limits for sample MP10525-SD1. Probable cause due to sample homogeneity.

Matrix SO **Batch ID:** MP10531

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) T39940-1DUP, T39940-1MS, T39940-1MSD, T39940-1SDL were used as the QC samples for metals.
- Matrix Spike Recovery(s) for Silver are outside control limits. Probable cause due to matrix interference.
- Matrix Spike Duplicate Recovery(s) for Silver are outside control limits. Probable cause due to matrix interference.
- RPD(s) for Serial Dilution for Cadmium, Silver, Chromium, Lead, Nickel, Zinc are outside control limits for sample MP10531-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

Metals By Method SW846 7471A

Matrix SO **Batch ID:** MP10557

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) T39940-1MS, T39940-1MSD, T39940-1DUP were used as the QC samples for metals.
- RPD(s) for Duplicate for Mercury are outside control limits for sample MP10557-D1. High RPD due to possible sample nonhomogeneity.

Wet Chemistry By Method EPA 120.1

Matrix	AQ	Batch ID:	GN18431

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) T39876-1DUP were used as the QC samples for Specific Conductivity.

Wet Chemistry By Method LADNR29B

Matrix	SO	Batch ID:	MP10527

- T39940-1C for Sodium Adsorption Ratio: Calculated as: (Na meq/L) / sqrt [(Ca meq/L)+(Mg meq/L)/2]

Wet Chemistry By Method SM 2540 G

Matrix	SO	Batch ID:	GN18404

- Sample(s) T39911-14DUP were used as the QC samples for Solids, Percent.

Wet Chemistry By Method SW846 3060/7196A

Matrix	SO	Batch ID:	GN18402

- All method blanks for this batch meet method specific criteria.
- Sample(s) T39876-1DUP, T39876-1MS were used as the QC samples for Chromium, Hexavalent.

Wet Chemistry By Method SW846 6010/7196A M

Matrix	SO	Batch ID:	R19490

- T39940-1 for Chromium, Trivalent: Calculated as: (Chromium) - (Chromium, Hexavalent)

Wet Chemistry By Method SW846 9045C

Matrix	SO	Batch ID:	GN18523

- Sample(s) T39940-1DUP were used as the QC samples for pH.

Accutest Laboratories Gulf Coast (ALGC) certifies that this report meets the project requirements for analytical data produced for the samples as received at ALGC and as stated on the COC. ALGC certifies that the data meets the Data QualityObjectives for precision, accuracy and completeness as specified in the ALGC Quality Manual except as noted above. This report is to be used in its entirety. ALGC is not responsible for any assumptions of data quality if partial data packages are used

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	O1E CUTTINGS REM-101609		
Lab Sample ID:	T39940-1	**Date Sampled:**	10/16/09
Matrix:	SO - Soil	**Date Received:**	10/17/09
Method:	SW846 8260B	**Percent Solids:**	84.3
Project:	EnCana Oil & Gas (USA) Inc.		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	M0021576.D	1	10/22/09	JL	n/a	n/a	VM869
Run #2							

	Initial Weight	Final Volume
Run #1	5.12 g	5.0 ml
Run #2		

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	2.5	5.8	0.81	ug/kg	J
108-88-3	Toluene	13.2	5.8	1.1	ug/kg	
100-41-4	Ethylbenzene	1.7	5.8	1.0	ug/kg	J
1330-20-7	Xylene (total)	20.3	17	2.4	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	76%		70-121%
2037-26-5	Toluene-D8	104%		76-132%
460-00-4	4-Bromofluorobenzene	119%		73-165%
17060-07-0	1,2-Dichloroethane-D4	72%		57-122%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	O1E CUTTINGS REM-101609		
Lab Sample ID:	T39940-1	**Date Sampled:**	10/16/09
Matrix:	SO - Soil	**Date Received:**	10/17/09
Method:	SW846 8270C BY SIM SW846 3550B	**Percent Solids:**	84.3
Project:	EnCana Oil & Gas (USA) Inc.		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	P06741.D	1	10/22/09	GJ	10/19/09	OP13272	EP327
Run #2	P06740.D	10	10/22/09	GJ	10/19/09	OP13272	EP327

	Initial Weight	Final Volume
Run #1	30.4 g	1.0 ml
Run #2	30.4 g	1.0 ml

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	7.8	1.3	ug/kg	
208-96-8	Acenaphthylene	ND	7.8	2.7	ug/kg	
120-12-7	Anthracene	ND	7.8	1.5	ug/kg	
56-55-3	Benzo(a)anthracene	ND	7.8	1.2	ug/kg	
50-32-8	Benzo(a)pyrene	ND	7.8	4.2	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	7.8	4.1	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	7.8	7.8	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	7.8	5.1	ug/kg	
218-01-9	Chrysene	5.6	7.8	1.9	ug/kg	J
53-70-3	Dibenzo(a,h)anthracene	ND	7.8	7.5	ug/kg	
206-44-0	Fluoranthene	ND	7.8	1.7	ug/kg	
86-73-7	Fluorene	54.7	7.8	2.8	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	7.8	5.8	ug/kg	
90-12-0	1-Methylnaphthalene	69.3	7.8	1.4	ug/kg	
91-57-6	2-Methylnaphthalene	137	7.8	1.3	ug/kg	
91-20-3	Naphthalene	66.4	7.8	1.2	ug/kg	
85-01-8	Phenanthrene	40.4	7.8	1.1	ug/kg	
129-00-0	Pyrene	6.9	7.8	2.7	ug/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	97%	112%	10-127%
321-60-8	2-Fluorobiphenyl	146% [a]	106%	11-133%
1718-51-0	Terphenyl-d14	112%	141%	15-187%

(a) Outside control limits due to matrix interference. Confirmed by reanalysis.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	O1E CUTTINGS REM-101609		
Lab Sample ID:	T39940-1	**Date Sampled:**	10/16/09
Matrix:	SO - Soil	**Date Received:**	10/17/09
Method:	SW846 8015	**Percent Solids:**	84.3
Project:	EnCana Oil & Gas (USA) Inc.		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	EE048920.D	1	10/28/09	FI	n/a	n/a	GEE2477
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.46 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	20.6	6.4	0.38	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	111%		46-127%
98-08-8	aaa-Trifluorotoluene	105%		44-120%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	O1E CUTTINGS REM-101609		
Lab Sample ID:	T39940-1	**Date Sampled:**	10/16/09
Matrix:	SO - Soil	**Date Received:**	10/17/09
Method:	SW846 8015 M SW846 3550B	**Percent Solids:**	84.3
Project:	EnCana Oil & Gas (USA) Inc.		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	CC215981.D	1	10/24/09	SS	10/19/09	OP13274	GCC986
Run #2							

	Initial Weight	Final Volume
Run #1	30.1 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	94.1	9.8	3.2	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	89%		33-115%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: O1E CUTTINGS REM-101609
Lab Sample ID: T39940-1
Matrix: SO - Soil
Project: EnCana Oil & Gas (USA) Inc.

Date Sampled: 10/16/09
Date Received: 10/17/09
Percent Solids: 84.3

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	4.5	0.68	0.14	mg/kg	1	10/27/09	10/28/09	NS	SW846 6010B [1]	SW846 3050B [3]
Cadmium	0.25 B	0.34	0.068	mg/kg	1	10/27/09	10/28/09	NS	SW846 6010B [1]	SW846 3050B [3]
Chromium	16.2	0.68	0.047	mg/kg	1	10/27/09	10/28/09	NS	SW846 6010B [1]	SW846 3050B [3]
Copper	21.4	1.7	0.088	mg/kg	1	10/27/09	10/28/09	NS	SW846 6010B [1]	SW846 3050B [3]
Lead	13.6	0.68	0.27	mg/kg	1	10/27/09	10/28/09	NS	SW846 6010B [1]	SW846 3050B [3]
Mercury	0.041	0.017	0.00068	mg/kg	1	10/30/09	10/30/09	TW	SW846 7471A [2]	SW846 7471A [4]
Nickel	11.3	2.7	0.088	mg/kg	1	10/27/09	10/28/09	NS	SW846 6010B [1]	SW846 3050B [3]
Selenium	0.20 B	0.68	0.16	mg/kg	1	10/27/09	10/28/09	NS	SW846 6010B [1]	SW846 3050B [3]
Silver	0.12 B	0.68	0.054	mg/kg	1	10/27/09	10/28/09	NS	SW846 6010B [1]	SW846 3050B [3]
Zinc	56.3	1.4	0.27	mg/kg	1	10/27/09	10/28/09	NS	SW846 6010B [1]	SW846 3050B [3]

(1) Instrument QC Batch: MA4359
(2) Instrument QC Batch: MA4364
(3) Prep QC Batch: MP10531
(4) Prep QC Batch: MP10557

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	O1E CUTTINGS REM-101609		
Lab Sample ID:	T39940-1	**Date Sampled:**	10/16/09
Matrix:	SO - Soil	**Date Received:**	10/17/09
		Percent Solids:	84.3
Project:	EnCana Oil & Gas (USA) Inc.		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chromium, Hexavalent	0.99 B	2.0	mg/kg	1	10/22/09 11:00	KD	SW846 3060/7196A
Chromium, Trivalent [a]	15.2	2.7	mg/kg	1	10/28/09 04:02	NS	SW846 6010/7196A M
Solids, Percent	84.3		%	1	10/21/09	AA	SM 2540 G
Specific Conductivity	539	1.0	umhos/cm	1	10/22/09 13:00	KD	EPA 120.1
pH	9.5		su	1	10/30/09 10:00	KD	SW846 9045C

(a) Calculated as: (Chromium) - (Chromium, Hexavalent)

RL = Reporting Limit

Report of Analysis

Client Sample ID:	O1E CUTTINGS REM-101609		
Lab Sample ID:	T39940-1A	**Date Sampled:**	10/16/09
Matrix:	SO - Soil	**Date Received:**	10/17/09
		Percent Solids:	84.3
Project:	EnCana Oil & Gas (USA) Inc.		

Hot Water Soluble Boron Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Boron	0.730	0.20	0.0041	mg/l	1	10/26/09	10/28/09	NS	SW846 6010B [1]	LADNR 29B [2]

(1) Instrument QC Batch: MA4359
(2) Prep QC Batch: MP10526

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	O1E CUTTINGS REM-101609		
Lab Sample ID:	T39940-1B	**Date Sampled:**	10/16/09
Matrix:	SO - Soil	**Date Received:**	10/17/09
		Percent Solids:	84.3
Project:	EnCana Oil & Gas (USA) Inc.		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Barium	26300	290	0.87	mg/kg	25	10/27/09	10/28/09	NS	SW846 6010B [1]	LADNR 29B [2]

(1) Instrument QC Batch: MA4360
(2) Prep QC Batch: MP10525

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	O1E CUTTINGS REM-101609		
Lab Sample ID:	T39940-1C	**Date Sampled:**	10/16/09
Matrix:	SO - Soil	**Date Received:**	10/17/09
		Percent Solids:	84.3
Project:	EnCana Oil & Gas (USA) Inc.		

SAR Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Calcium	1200	25	0.18	mg/l	5	10/26/09	10/27/09	NS	SW846 6010B [1]	LADNR 29B [2]
Magnesium	17.5 B	25	0.039	mg/l	5	10/26/09	10/27/09	NS	SW846 6010B [1]	LADNR 29B [2]
Sodium	847	25	0.67	mg/l	5	10/26/09	10/27/09	NS	SW846 6010B [1]	LADNR 29B [2]

(1) Instrument QC Batch: MA4359
(2) Prep QC Batch: MP10527

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	O1E CUTTINGS REM-101609		
Lab Sample ID:	T39940-1C	**Date Sampled:**	10/16/09
Matrix:	SO - Soil	**Date Received:**	10/17/09
		Percent Solids:	84.3
Project:	EnCana Oil & Gas (USA) Inc.		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sodium Adsorption Ratio [a]	6.64		ratio	1	10/27/09 22:02	NS	LADNR29B

(a) Calculated as: (Na meq/L) / sqrt [(Ca meq/L)+ (Mg meq/L)/2]

RL = Reporting Limit

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

CHAIN OF CUSTODY

ACCUTEST Laboratories

10165 Harwin, Suite 150 - Houston, TX 77036 - 713-271-4700 fax: 713-271-4770

FED-EX Tracking #	Bottle Order Control #
Accutest Quote #	Accutest Job # T39940

Client / Reporting Information

Company Name: EnCana Oil & Gas (USA) Inc.

Project Contact: Chris Hines — E-Mail: christopher.hines@encana.com

Address: 2717 County Road 215, Suite 100

City: Parachute, CO 81635 — State — Zip

Phone No.: 970.285.2653 — Fax No.

Samplers's Name: Chris Hines

Project Information

Project Name / No.: O1E CUTTINGS REMEDIATION

Bill to — Invoice Attn.

Address

City — State — Zip

Phone No. — Fax No.

Client Purchase Order #

Requested Analyses

Please see attached list: X

Matrix Codes

DW - Drinking Water
GW - Ground Water
WW - Wastewater
SO - Soil
SL - Sludge
OI - Oil
LIQ - Other Liquid
SOL - Other Solid

Accutest Sample #	Field ID / Point of Collection	Collection Date	Collection Time	Matrix	# of bottles	Number of preserved bottles: HCl	H2SO4	HNO3	H2SO4	EnCore	NaHSO	MEOH	NONE	LAB USE ONLY
	O1Ecuttings rem-101609	10/16/2009	1500	S	2									

Turnaround Time (Business days)

- 14 Day STANDARD — Approved By:/ Date:
- 5 Day RUSH
- 4 Day RUSH
- 3 Day EMERGENCY
- 2 Day EMERGENCY
- 1 Day EMERGENCY
- Other

Real time analytical data available via Lablink

Data Deliverable Information

- Commercial "A"
- Commercial "B"
- Reduced Tier 1
- Full Data Package
- State Forms
- EDD Format
- Other

Commercial "A" = Results Only

Commercial "B" = Results & Standard QC

Comments / Remarks

Client Needs Units In:

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1		10/16/07 1730	1 FEDEX	2 Fed Ex	10/17/09 1130	2
3	Relinquished by:	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
5	Relinquished by:	Date Time:	Received By: 5	Custody Seal #	Preserved where applicable ☐	On Ice ☒ Cooler Temp. 2.6

T39940: Chain of Custody

Page 1 of 3

SAMPLE INSPECTION FORM

Accutest Job Number: T39940 Client: En Cen Oil & Gas Date/Time Received: 10/17/09 1120

# of Coolers Received: 1 Thermometer #: IR-1 Temperature Adjustment Factor: +0.4

Cooler Temps: #1: 2.6 #2: _____ #3: _____ #4: _____ #5: _____ #6: _____ #7: _____ #8: _____

Method of Delivery: (FEDEX) UPS Accutest Courier Greyhound Delivery Other

Airbill Numbers: _____

COOLER INFORMATION

- [ ] Custody seal missing or not intact
- [ ] Temperature criteria not met
- [ ] Wet ice received in cooler

CHAIN OF CUSTODY

- [ ] Chain of Custody not received
- [ ] Sample D/T unclear or missing
- [ ] Analyses unclear or missing
- [ ] COC not properly executed

SAMPLE INFORMATION

- [ ] Sample containers received broken
- [ ] VOC vials have headspace
- [ ] Sample labels missing or illegible
- [ ] ID on COC does not match label(s)
- [ ] D/T on COC does not match label(s)
- [ ] Sample/Bottles rcvd but no analysis on COC
- [ ] Sample listed on COC, but not received
- [ ] Bottles missing for requested analysis
- [ ] Insufficient volume for analysis
- [ ] Sample received improperly preserved

TRIP BLANK INFORMATION

- [ ] Trip Blank on COC but not received
- [ ] Trip Blank received but not on COC
- [ ] Trip Blank not intact
- [ ] Received Water Trip Blank
- [ ] Received Soil TB

Number of Encores? _____
Number of 5035 kits? _____
Number of lab-filtered metals? _____

Summary of Discrepancies:

TECHNICIAN SIGNATURE/DATE: [signature] 10/20

INFORMATION AND SAMPLE LABELING VERIFIED BY: _____

CORRECTIVE ACTIONS

Client Representative Notified: _____ **Date:** _____

By Accutest Representative: _____ **Via:** Phone Email

Client Instructions:

i:\mwalker\form\samplemanagement

SAMPLE RECEIPT LOG

JOB #: T39940 DATE/TIME RECEIVED: 10/17/09 11:30

CLIENT: En Cana Oil & Gas INITIALS: FF

COOLER#	SAMPLE ID	FIELD ID	DATE	MATRIX	VOL	BOTTLE #	LOCATION	PRESERV	PH
1	1	01E- Cut Rem	10/16/09 1500	S	LCG	1	2cc	(1) 2 3 4 5 6 7 8	<2 >12
"	"	"	"	"	"	2	VR	(1) 2 3 4 5 6 7 8	<2 >12
								1 2 3 4 5 6 7 8	<2 >12
								1 2 3 4 5 6 7 8	<2 >12
								1 2 3 4 5 6 7 8	<2 >12
								1 2 3 4 5 6 7 8	<2 >12
								1 2 3 4 5 6 7 8	<2 >12
				10/17/09				1 2 3 4 5 6 7 8	<2 >12
			FF					1 2 3 4 5 6 7 8	<2 >12
								1 2 3 4 5 6 7 8	<2 >12
								1 2 3 4 5 6 7 8	<2 >12
								1 2 3 4 5 6 7 8	<2 >12
								1 2 3 4 5 6 7 8	<2 >12
								1 2 3 4 5 6 7 8	<2 >12
								1 2 3 4 5 6 7 8	<2 >12
								1 2 3 4 5 6 7 8	<2 >12
								1 2 3 4 5 6 7 8	<2 >12
								1 2 3 4 5 6 7 8	<2 >12
								1 2 3 4 5 6 7 8	<2 >12
								1 2 3 4 5 6 7 8	<2 >12
								1 2 3 4 ϋ 0 7 0	<2 >12
								1 2 3 4 5 6 7 8	<2 >12

PRESERVATIVES: 1: None 2: HCL 3: HNO3 4: H2SO4 5: NAOH 6: DI 7: MeOH 8: Other
LOCATION: 1: Walk-In #1 (Waters) 2: Walk-In #2 (Soils) VR: Volatile Fridge M: Metals SUB: Subcontract EF: Encore Freezer

Rev 8/13/01 ewp

GC/MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: T39940
Account: ENCACOP ENCANA
Project: EnCana Oil & Gas (USA) Inc.

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VM869-MB	M0021566.D	1	10/21/09	JL	n/a	n/a	VM869

The QC reported here applies to the following samples: **Method:** SW846 8260B

T39940-1

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	5.0	0.70	ug/kg	
100-41-4	Ethylbenzene	ND	5.0	0.90	ug/kg	
108-88-3	Toluene	ND	5.0	0.95	ug/kg	
1330-20-7	Xylene (total)	ND	15	2.1	ug/kg	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	92%	70-121%
2037-26-5	Toluene-D8	101%	76-132%
460-00-4	4-Bromofluorobenzene	99%	73-165%
17060-07-0	1,2-Dichloroethane-D4	86%	57-122%

Blank Spike Summary

Job Number: T39940
Account: ENCACOP ENCANA
Project: EnCana Oil & Gas (USA) Inc.

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VM869-BS	M0021564.D	1	10/21/09	JL	n/a	n/a	VM869

The QC reported here applies to the following samples: **Method:** SW846 8260B

T39940-1

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
71-43-2	Benzene	50	42.1	84	70-114
100-41-4	Ethylbenzene	50	45.8	92	60-119
108-88-3	Toluene	50	44.5	89	68-115
1330-20-7	Xylene (total)	150	140	93	61-115

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	87%	70-121%
2037-26-5	Toluene-D8	99%	76-132%
460-00-4	4-Bromofluorobenzene	101%	73-165%
17060-07-0	1,2-Dichloroethane-D4	84%	57-122%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: T39940
Account: ENCACOP ENCANA
Project: EnCana Oil & Gas (USA) Inc.

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
T39944-5MS	M0021572.D	1	10/22/09	JL	n/a	n/a	VM869
T39944-5MSD	M0021573.D	1	10/22/09	JL	n/a	n/a	VM869
T39944-5	M0021571.D	1	10/22/09	JL	n/a	n/a	VM869

The QC reported here applies to the following samples: **Method:** SW846 8260B

T39940-1

CAS No.	Compound	T39944-5 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND		56.1	41.0	73	37.2	67*	10	70-114/38
100-41-4	Ethylbenzene	ND		56.1	39.2	70	35.3	64	10	60-119/40
108-88-3	Toluene	ND		56.1	45.2	81	40.8	74	10	68-115/38
1330-20-7	Xylene (total)	ND		168	124	74	112	68	10	61-115/39

CAS No.	Surrogate Recoveries	MS	MSD	T39944-5	Limits
1868-53-7	Dibromofluoromethane	92%	90%	91%	70-121%
2037-26-5	Toluene-D8	107%	107%	106%	76-132%
460-00-4	4-Bromofluorobenzene	117%	116%	119%	73-165%
17060-07-0	1,2-Dichloroethane-D4	90%	87%	87%	57-122%

GC/MS Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: T39940
Account: ENCACOP ENCANA
Project: EnCana Oil & Gas (USA) Inc.

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP13272-MB	P06673.D	1	10/20/09	GJ	10/19/09	OP13272	EP325

The QC reported here applies to the following samples: **Method:** SW846 8270C BY SIM

T39940-1

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	6.7	1.1	ug/kg	
208-96-8	Acenaphthylene	ND	6.7	2.3	ug/kg	
120-12-7	Anthracene	ND	6.7	1.3	ug/kg	
56-55-3	Benzo(a)anthracene	ND	6.7	1.1	ug/kg	
50-32-8	Benzo(a)pyrene	ND	6.7	3.6	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	6.7	3.5	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	6.7	6.7	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	6.7	4.3	ug/kg	
218-01-9	Chrysene	ND	6.7	1.6	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	6.7	6.4	ug/kg	
206-44-0	Fluoranthene	ND	6.7	1.5	ug/kg	
86-73-7	Fluorene	ND	6.7	2.4	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	6.7	5.0	ug/kg	
90-12-0	1-Methylnaphthalene	ND	6.7	1.2	ug/kg	
91-57-6	2-Methylnaphthalene	ND	6.7	1.2	ug/kg	
91-20-3	Naphthalene	ND	6.7	1.0	ug/kg	
85-01-8	Phenanthrene	ND	6.7	0.93	ug/kg	
129-00-0	Pyrene	ND	6.7	2.3	ug/kg	

CAS No.	Surrogate Recoveries		Limits
4165-60-0	Nitrobenzene-d5	104%	10-127%
321-60-8	2-Fluorobiphenyl	80%	11-133%
1718-51-0	Terphenyl-d14	116%	15-187%

Blank Spike Summary

Job Number: T39940
Account: ENCACOP ENCANA
Project: EnCana Oil & Gas (USA) Inc.

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP13272-BS	P06674.D	1	10/20/09	GJ	10/19/09	OP13272	EP325

The QC reported here applies to the following samples: **Method:** SW846 8270C BY SIM

T39940-1

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
83-32-9	Acenaphthene	167	124	74	18-118
208-96-8	Acenaphthylene	167	125	75	35-125
120-12-7	Anthracene	167	132	79	24-116
56-55-3	Benzo(a)anthracene	167	162	97	32-132
50-32-8	Benzo(a)pyrene	167	149	89	36-130
205-99-2	Benzo(b)fluoranthene	167	174	104	35-134
191-24-2	Benzo(g,h,i)perylene	167	174	104	18-149
207-08-9	Benzo(k)fluoranthene	167	171	103	30-131
218-01-9	Chrysene	167	160	96	37-124
53-70-3	Dibenzo(a,h)anthracene	167	185	111	23-150
206-44-0	Fluoranthene	167	164	98	28-118
86-73-7	Fluorene	167	130	78	32-106
193-39-5	Indeno(1,2,3-cd)pyrene	167	181	109	18-150
90-12-0	1-Methylnaphthalene	167	120	72	10-128
91-57-6	2-Methylnaphthalene	167	99.1	59	28-113
91-20-3	Naphthalene	167	111	67	31-106
85-01-8	Phenanthrene	167	128	77	37-112
129-00-0	Pyrene	167	167	100	24-132

CAS No.	Surrogate Recoveries	BSP	Limits
4165-60-0	Nitrobenzene-d5	75%	10-127%
321-60-8	2-Fluorobiphenyl	77%	11-133%
1718-51-0	Terphenyl-d14	116%	15-187%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: T39940
Account: ENCACOP ENCANA
Project: EnCana Oil & Gas (USA) Inc.

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP13272-MS	P06676.D	1	10/20/09	GJ	10/19/09	OP13272	EP325
OP13272-MSD	P06677.D	1	10/20/09	GJ	10/19/09	OP13272	EP325
T39942-1	P06675.D	1	10/20/09	GJ	10/19/09	OP13272	EP325

The QC reported here applies to the following samples: **Method:** SW846 8270C BY SIM

T39940-1

CAS No.	Compound	T39942-1 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	ND		188	76.0	40	57.9	31	27	10-153/80
208-96-8	Acenaphthylene	ND		188	66.8	36	50.9	27	27	10-144/71
120-12-7	Anthracene	ND		188	182	97	151	81	19	10-176/57
56-55-3	Benzo(a)anthracene	ND		188	200	106	172	92	15	10-174/73
50-32-8	Benzo(a)pyrene	ND		188	187	100	149	80	23	10-182/74
205-99-2	Benzo(b)fluoranthene	ND		188	253	135	219	117	14	10-188/86
191-24-2	Benzo(g,h,i)perylene	ND		188	120	64	111	60	8	10-150/62
207-08-9	Benzo(k)fluoranthene	ND		188	195	104	165	88	17	10-170/94
218-01-9	Chrysene	5.5	J	188	183	95	156	81	16	10-165/73
53-70-3	Dibenzo(a,h)anthracene	ND		188	140	75	127	68	10	10-192/74
206-44-0	Fluoranthene	ND		188	218	116	185	99	16	10-141/73
86-73-7	Fluorene	ND		188	56.0	30	45.4	24	21	10-164/72
193-39-5	Indeno(1,2,3-cd)pyrene	ND		188	134	71	118	63	13	10-150/73
90-12-0	1-Methylnaphthalene	4.6	J	188	252	132	189	99	29	10-154/82
91-57-6	2-Methylnaphthalene	18.6		188	378	191*	279	140	30	10-171/75
91-20-3	Naphthalene	6.5	J	188	325	170*	246	128	28	10-138/82
85-01-8	Phenanthrene	4.5	J	188	185	96	159	83	15	10-191/77
129-00-0	Pyrene	ND		188	250	133	194	104	25	10-150/66

CAS No.	Surrogate Recoveries	MS	MSD	T39942-1	Limits
4165-60-0	Nitrobenzene-d5	93%	85%	118%	10-127%
321-60-8	2-Fluorobiphenyl	32%	25%	61%	11-133%
1718-51-0	Terphenyl-d14	155%	131%	142%	15-187%

GC Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: T39940
Account: ENCACOP ENCANA
Project: EnCana Oil & Gas (USA) Inc.

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GEE2477-MB	EE048909.D	1	10/28/09	FI	n/a	n/a	GEE2477

The QC reported here applies to the following samples: **Method:** SW846 8015

T39940-1

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	5.0	0.30	mg/kg	

CAS No.	Surrogate Recoveries		Limits
460-00-4	4-Bromofluorobenzene	102%	46-127%
98-08-8	aaa-Trifluorotoluene	105%	44-120%

Blank Spike Summary

Job Number: T39940
Account: ENCACOP ENCANA
Project: EnCana Oil & Gas (USA) Inc.

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GEE2477-BS	EE048904.D	1	10/28/09	FI	n/a	n/a	GEE2477

The QC reported here applies to the following samples: **Method:** SW846 8015

T39940-1

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-GRO (C6-C10)	0.4	0.399	100	78-115

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	104%	46-127%
98-08-8	aaa-Trifluorotoluene	111%	44-120%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: T39940
Account: ENCACOP ENCANA
Project: EnCana Oil & Gas (USA) Inc.

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
T40468-1MS	EE048922.D	1	10/28/09	FI	n/a	n/a	GEE2477
T40468-1MSD	EE048923.D	1	10/28/09	FI	n/a	n/a	GEE2477
T40468-1	EE048921.D	1	10/28/09	FI	n/a	n/a	GEE2477

The QC reported here applies to the following samples: **Method:** SW846 8015

T39940-1

CAS No.	Compound	T40468-1 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	1.48	J	19.8	18.7	87	18.9	88	1	78-115/14

CAS No.	Surrogate Recoveries	MS	MSD	T40468-1	Limits
460-00-4	4-Bromofluorobenzene	106%	102%		46-127%
98-08-8	aaa-Trifluorotoluene	107%	107%		44-120%

GC Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: T39940
Account: ENCACOP ENCANA
Project: EnCana Oil & Gas (USA) Inc.

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP13274-MB	CC215893.D	1	10/21/09	SS	10/19/09	OP13274	GCC983

The QC reported here applies to the following samples: **Method:** SW846 8015 M

T39940-1

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	ND	8.3	2.7	mg/kg	

CAS No.	Surrogate Recoveries		Limits
84-15-1	o-Terphenyl	81%	33-115%

Blank Spike/Blank Spike Duplicate Summary

Job Number: T39940
Account: ENCACOP ENCANA
Project: EnCana Oil & Gas (USA) Inc.

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP13274-BS	CC215894.D	1	10/21/09	SS	10/21/09	OP13274	GCC983
OP13274-BSD	CC215895.D	1	10/21/09	SS	10/21/09	OP13274	GCC983

The QC reported here applies to the following samples: **Method:** SW846 8015 M

T39940-1

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	BSD mg/kg	BSD %	RPD	Limits Rec/RPD
	TPH (C10-C28)	32.9	25.4	77	24.9	76	2	45-107/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
84-15-1	o-Terphenyl	88%	87%	33-115%

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: T39940
Account: ENCACOP - ENCANA
Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10525
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date: 10/27/09

Metal	RL	IDL	MDL	MB raw	final
Aluminum	10	.82	2.2		
Antimony	0.50	.11	.14		
Arsenic	0.50	.089	.1		
Barium	10	.007	.03	0.12	<10
Beryllium	0.25	.0055	.01		
Boron	5.0	.054	.11		
Cadmium	0.25	.013	.05		
Calcium	250	.27	.86		
Chromium	0.50	.055	.035		
Cobalt	2.5	.025	.09		
Copper	1.3	.029	.065		
Iron	5.0	.65	1.1		
Lead	0.50	.079	.2		
Magnesium	250	.34	.58		
Manganese	0.75	.01	.035		
Molybdenum	0.50	.048	.075		
Nickel	2.0	.048	.065		
Potassium	250	2.7	16		
Selenium	0.50	.16	.12		
Silver	0.50	.043	.04		
Sodium	250	6.5	13		
Strontium	1.0	.0085	.025		
Thallium	0.50	.16	.25		
Tin	1.0	.09	.12		
Titanium	1.0	.015	.045		
Vanadium	2.5	.03	.06		
Zinc	1.0	.025	.2		

Associated samples MP10525: T39940-1B

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: T39940
Account: ENCACOP - ENCANA
Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10525
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date:			10/27/09					10/27/09	
Metal	T39942-1B Original	DUP	RPD	QC Limits	T39942-1B Original	MS	Spikelot MPTW4	% Rec	QC Limits
Aluminum									
Antimony									
Arsenic									
Barium	395	393	0.5	0-20	395	367	21	-133.1(a	80-120
Beryllium									
Boron									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead									
Magnesium									
Manganese									
Molybdenum									
Nickel									
Potassium									
Selenium									
Silver									
Sodium									
Strontium									
Thallium									
Tin									
Titanium									
Vanadium									
Zinc									

Associated samples MP10525: T39940-1B

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: T39940
Account: ENCACOP - ENCANA
Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10525 Methods: SW846 6010B
Matrix Type: SOLID Units: mg/kg

Prep Date: 10/27/09

Metal	T39942-1B Original	MSD	Spikelot MPTW4	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic						
Barium	395	408	22.1	58.9 (a)	10.6	20
Beryllium						
Boron						
Cadmium						
Calcium						
Chromium						
Cobalt						
Copper						
Iron						
Lead						
Magnesium						
Manganese						
Molybdenum						
Nickel						
Potassium						
Selenium						
Silver						
Sodium						
Strontium						
Thallium						
Tin						
Titanium						
Vanadium						
Zinc						

Associated samples MP10525: T39940-1B

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: T39940
Account: ENCACOP - ENCANA
Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10525
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date: 10/27/09

Metal	BSP Result	Spikelot MPTW4	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium	19.1	20	95.5	80-120
Beryllium				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Potassium				
Selenium				
Silver				
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc				

Associated samples MP10525: T39940-1B

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: T39940
Account: ENCACOP - ENCANA
Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10525
Matrix Type: SOLID

Methods: SW846 6010B
Units: ug/l

Prep Date: 10/27/09

Metal	T39942-1B Original	SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium	6950	8330	19.8*(a)	0-10
Beryllium				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Potassium				
Selenium				
Silver				
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc				

Associated samples MP10525: T39940-1B

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Serial dilution indicates possible matrix interference.

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: T39940
Account: ENCACOP - ENCANA
Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10526
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 10/26/09

Metal	RL	IDL	MDL	MB raw	final
Aluminum	200	16	17		
Antimony	5.0	2.3	3		
Arsenic	5.0	1.8	2		
Barium	200	.14	2.7		
Beryllium	5.0	.11	.2		
Boron	100	1.1	2.1	-8.5	<100
Cadmium	4.0	.25	.3		
Calcium	5000	5.4	35		
Chromium	10	1.1	1.9		
Cobalt	50	.5	.8		
Copper	25	.58	5.9		
Iron	100	13	13		
Lead	3.0	1.6	1.7		
Magnesium	5000	6.7	7.8		
Manganese	15	.2	7.6		
Molybdenum	10	.96	1.3		
Nickel	40	.95	3.2		
Potassium	5000	53	53		
Selenium	5.0	3.2	3.2		
Silver	10	.85	.8		
Sodium	5000	130	130		
Strontium	20	.17	.4		
Thallium	10	3.2	2.6		
Tin	20	1.8	2.9		
Titanium	20	.3	.3		
Vanadium	50	.6	.6		
Zinc	20	.49	4.1		

Associated samples MP10526: T39940-1A

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: T39940
Account: ENCACOP - ENCANA
Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10526
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date:			10/26/09					10/26/09	
Metal	T39878-4A Original	DUP	RPD	QC Limits	T39878-4A Original	MS	Spikelot MPTW4	% Rec	QC Limits
Aluminum									
Antimony									
Arsenic									
Barium									
Beryllium									
Boron	461	260	55.8*(a)	0-20	461	1130	100	89.5 (b)	80-120
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead									
Magnesium									
Manganese									
Molybdenum									
Nickel									
Potassium									
Selenium									
Silver									
Sodium									
Strontium									
Thallium									
Tin									
Titanium									
Vanadium									
Zinc									

Associated samples MP10526: T39940-1A

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) High RPD due to possible matrix interference.
(b) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: T39940
Account: ENCACOP - ENCANA
Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10526 Methods: SW846 6010B
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 10/26/09

Metal	T39878-4A Original	MSD	Spikelot MPTW4	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic						
Barium						
Beryllium						
Boron	461	1090	100	85.9 (a)	3.6	20
Cadmium						
Calcium						
Chromium						
Cobalt						
Copper						
Iron						
Lead						
Magnesium						
Manganese						
Molybdenum						
Nickel						
Potassium						
Selenium						
Silver						
Sodium						
Strontium						
Thallium						
Tin						
Titanium						
Vanadium						
Zinc						

Associated samples MP10526: T39940-1A

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: T39940
Account: ENCACOP - ENCANA
Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10526
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 10/26/09

Metal	BSP Result	Spikelot MPTW4	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Boron	1050	100	105.5	80-120
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Potassium				
Selenium				
Silver				
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc				

Associated samples MP10526: T39940-1A

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: T39940
Account: ENCACOP - ENCANA
Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10526
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 10/26/09

Metal	T39878-4A Original	SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Boron	231	192	16.8*(a)	0-10
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Potassium				
Selenium				
Silver				
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc				

Associated samples MP10526: T39940-1A

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Serial dilution indicates possible matrix interference.

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: T39940
Account: ENCACOP - ENCANA
Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10527
Matrix Type: AQUEOUS

Methods: LADNR29B, SW846 6010B
Units: ug/l

Prep Date: 10/26/09

Metal	RL	IDL	MDL	MB raw	final
Aluminum	200	16	17		
Antimony	5.0	2.3	3		
Arsenic	5.0	1.8	2		
Barium	200	.14	2.7		
Beryllium	5.0	.11	.2		
Boron	100	1.1	2.1		
Cadmium	4.0	.25	.3		
Calcium	5000	5.4	35	64.4	<5000
Chromium	10	1.1	1.9		
Cobalt	50	.5	.8		
Copper	25	.58	5.9		
Iron	100	13	13		
Lead	3.0	1.6	1.7		
Magnesium	5000	6.7	7.8	28.2	<5000
Manganese	15	.2	7.6		
Molybdenum	10	.96	1.3		
Nickel	40	.95	3.2		
Potassium	5000	53	53		
Selenium	5.0	3.2	3.2		
Silver	10	.85	.8		
Sodium	5000	130	130	350	<5000
Strontium	20	.17	.4		
Thallium	10	3.2	2.6		
Tin	20	1.8	2.9		
Titanium	20	.3	.3		
Vanadium	50	.6	.6		
Zinc	20	.49	4.1		

Associated samples MP10527: T39940-1C

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: T39940
Account: ENCACOP - ENCANA
Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10527
Matrix Type: AQUEOUS

Methods: LADNR29B, SW846 6010B
Units: ug/l

Prep Date: 10/28/09

Metal	T39878-3C Original	DUP	RPD	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Boron				
Cadmium				
Calcium	68700	58100	16.7	0-20
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Magnesium	4600	3860	17.5	0-20
Manganese				
Molybdenum				
Nickel				
Potassium				
Selenium				
Silver				
Sodium	2240000	2120000	6.8	0-20
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc				

Associated samples MP10527: T39940-1C

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: T39940
Account: ENCACOP - ENCANA
Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10531
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date: 10/27/09

Metal	RL	IDL	MDL	MB raw	final
Aluminum	10	.82	2.2		
Antimony	0.50	.11	.14		
Arsenic	0.50	.089	.1	-0.035	<0.50
Barium	10	.007	.03		
Beryllium	0.25	.0055	.01		
Boron	5.0	.054	.11		
Cadmium	0.25	.013	.05	-0.0050	<0.25
Calcium	250	.27	.86		
Chromium	0.50	.055	.035	0.0030	<0.50
Cobalt	2.5	.025	.09		
Copper	1.3	.029	.065	-0.0010	<1.3
Iron	5.0	.65	1.1		
Lead	0.50	.079	.2	0.052	<0.50
Magnesium	250	.34	.58		
Manganese	0.75	.01	.035		
Molybdenum	0.50	.048	.075		
Nickel	2.0	.048	.065	-0.0050	<2.0
Potassium	250	2.7	16		
Selenium	0.50	.16	.12	0.017	<0.50
Silver	0.50	.043	.04	0.0010	<0.50
Sodium	250	6.5	13		
Strontium	1.0	.0085	.025		
Thallium	0.50	.16	.25		
Tin	1.0	.09	.12		
Titanium	1.0	.015	.045		
Vanadium	2.5	.03	.06		
Zinc	1.0	.025	.2	-0.00050	<1.0

Associated samples MP10531: T39940-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: T39940
Account: ENCACOP - ENCANA
Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10531
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date:			10/27/09					10/27/09	
Metal	T39940-1 Original	DUP	RPD	QC Limits	T39940-1 Original	MS	Spikelot MPTW4	% Rec	QC Limits
Aluminum									
Antimony	anr								
Arsenic	4.5	4.5	0.0	0-20	4.5	27.3	25.2	90.3	80-120
Barium	anr								
Beryllium	anr								
Boron									
Cadmium	0.25	0.24	4.1	0-20	0.25	21.9	25.2	85.8	80-120
Calcium									
Chromium	16.2	15.9	1.9	0-20	16.2	39.3	25.2	91.5	80-120
Cobalt									
Copper	21.4	22.4	4.6	0-20	21.4	47.0	25.2	101.4	80-120
Iron									
Lead	13.6	14.5	6.4	0-20	13.6	36.2	25.2	89.5	80-120
Magnesium									
Manganese									
Molybdenum									
Nickel	11.3	11.7	3.5	0-20	11.3	34.6	25.2	92.3	80-120
Potassium									
Selenium	0.0	0.0	NC	0-20	0.0	21.9	25.2	86.8	80-120
Silver	0.12	0.12	0.0	0-20	0.12	13.3	25.2	52.2N	80-120
Sodium									
Strontium									
Thallium	anr								
Tin									
Titanium									
Vanadium									
Zinc	56.3	57.6	2.3	0-20	56.3	85.3	25.2	114.9	80-120

Associated samples MP10531: T39940-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: T39940
Account: ENCACOP - ENCANA
Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10531 Methods: SW846 6010B
Matrix Type: SOLID Units: mg/kg

Prep Date: 10/27/09

Metal	T39940-1 Original	MSD	Spikelot MPTW4	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony	anr					
Arsenic	4.5	27.3	25.3	90.0	0.0	20
Barium	anr					
Beryllium	anr					
Boron						
Cadmium	0.25	22.1	25.3	86.2	0.9	20
Calcium						
Chromium	16.2	39.1	25.3	90.3	0.5	20
Cobalt						
Copper	21.4	48.9	25.3	108.5	4.0	20
Iron						
Lead	13.6	37.2	25.3	93.1	2.7	20
Magnesium						
Manganese						
Molybdenum						
Nickel	11.3	34.3	25.3	90.7	0.9	20
Potassium						
Selenium	0.0	22.0	25.3	86.8	0.5	20
Silver	0.12	13.5	25.3	52.8N	1.5	20
Sodium						
Strontium						
Thallium	anr					
Tin						
Titanium						
Vanadium						
Zinc	56.3	83.1	25.3	105.7	2.6	20

Associated samples MP10531: T39940-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: T39940
Account: ENCACOP - ENCANA
Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10531
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date: 10/27/09

Metal	LCS Result	Spikelot MPLCD054	% Rec	QC Limits
Aluminum				
Antimony	anr			
Arsenic	148	158	93.7	82-118
Barium	anr			
Beryllium	anr			
Boron				
Cadmium	167	187	89.3	82-118
Calcium				
Chromium	83.6	89.5	93.4	79-121
Cobalt				
Copper	130	129	100.8	84-117
Iron				
Lead	175	172	101.7	79-120
Magnesium				
Manganese				
Molybdenum				
Nickel	91.2	99	92.1	81-119
Potassium				
Selenium	134	148	90.5	78-121
Silver	62.2	66	94.2	66-134
Sodium				
Strontium				
Thallium	anr			
Tin				
Titanium				
Vanadium				
Zinc	351	394	89.1	80-119

Associated samples MP10531: T39940-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: T39940
Account: ENCACOP - ENCANA
Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10531
Matrix Type: SOLID

Methods: SW846 6010B
Units: ug/l

Prep Date: 10/27/09

Metal	T39940-1 Original	SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony	anr			
Arsenic	67.2	73.2	8.9	0-10
Barium	anr			
Beryllium	anr			
Boron				
Cadmium	3.68	2.67	27.4 (a)	0-10
Calcium				
Chromium	240	283	17.9*(b)	0-10
Cobalt				
Copper	316	345	9.1	0-10
Iron				
Lead	201	239	18.9*(b)	0-10
Magnesium				
Manganese				
Molybdenum				
Nickel	167	198	18.9*(b)	0-10
Potassium				
Selenium	0.00	0.00	NC	0-10
Silver	1.76	0.00	100.0(a)	0-10
Sodium				
Strontium				
Thallium	anr			
Tin				
Titanium				
Vanadium				
Zinc	834	995	19.3*(b)	0-10

Associated samples MP10531: T39940-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).
(b) Serial dilution indicates possible matrix interference.

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: T39940
Account: ENCACOP - ENCANA
Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10557
Matrix Type: SOLID

Methods: SW846 7471A
Units: mg/kg

Prep Date: 10/30/09

Metal	RL	IDL	MDL	MB raw	final
Mercury	0.017	.0041	.00066	-0.0024	<0.017

Associated samples MP10557: T39940-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: T39940
Account: ENCACOP - ENCANA
Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10557 Methods: SW846 7471A
Matrix Type: SOLID Units: mg/kg

Prep Date: 10/30/09 10/30/09

Metal	T39940-1 Original	DUP	RPD	QC Limits	T39940-1 Original	MS	Spikelot HGTXWS1	% Rec	QC Limits
Mercury	0.041	0.065	45.3*(a)	0-20	0.041	0.35	0.259	119.3	75-125

Associated samples MP10557: T39940-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) High RPD due to possible sample nonhomogeneity.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: T39940
Account: ENCACOP - ENCANA
Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10557 Methods: SW846 7471A
Matrix Type: SOLID Units: mg/kg

Prep Date: 10/30/09

Metal	T39940-1 Original	MSD	Spikelot HGTXWS1	% Rec	MSD RPD	QC Limit
Mercury	0.041	0.36	0.266	119.9	2.8	

Associated samples MP10557: T39940-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: T39940
Account: ENCACOP - ENCANA
Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10557
Matrix Type: SOLID

Methods: SW846 7471A
Units: mg/kg

Prep Date: 10/30/09

Metal	LCS Result	Spikelot HGLCD054	% Rec	QC Limits
Mercury	8.8	7.34	119.9	72-128

Associated samples MP10557: T39940-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: T39940
Account: ENCACOP - ENCANA
Project: EnCana Oil & Gas (USA) Inc.

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Chromium, Hexavalent	GN18402	2.0	<2.0	mg/kg	40	40.3	100.8	80-120%
Specific Conductivity	GN18431	1.0	<1.0	umhos/cm				

Associated Samples:
Batch GN18402: T39940-1
Batch GN18431: T39940-1
(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: T39940
Account: ENCACOP - ENCANA
Project: EnCana Oil & Gas (USA) Inc.

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Chromium, Hexavalent	GN18402	T39876-1	mg/kg	<2.0	<2.0	2.1	0-20%
Solids, Percent	GN18404	T39911-14	%	83.5	84.2	0.8	0-5%
Specific Conductivity	GN18431	T39876-1	umhos/cm	1890	1890	0.0	0-20%
pH	GN18523	T39940-1	su	9.5	9.5	0.2	0-20%

Associated Samples:
Batch GN18402: T39940-1
Batch GN18404: T39940-1
Batch GN18431: T39940-1
Batch GN18523: T39940-1
Batch MP10527: T39940-1C
(*) Outside of QC limits

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: T39940
Account: ENCACOP - ENCANA
Project: EnCana Oil & Gas (USA) Inc.

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Chromium, Hexavalent	GN18402	T39876-1	mg/kg	<2.0	40	39.5	97.5	75-125%

Associated Samples:
Batch GN18402: T39940-1
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits