

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

Allowable Concentration -->			Organic Compounds in Soil (mg/kg [ppm])																	Inorganics in Soil			Metals in Soil (mg/kg [ppm])															
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	0.17	85	100	175	1000	1000	0.22	0.22	2.2	0.022	22	0.022	1000	1000	0.22	23	1000	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
OH14	09/16/09	Cuttings		121.2	14.2	107	ND	0.0024	ND	ND	ND	0.139	1.43	2.12	0.56	0.663	1.99	0.33	1.48	ND	0.629	0.139	1.41	2.27	19.9	9.7	5.6		0.73	22	1.2	30.4	15.7	0.029	15	0.53	0.34	67.1
OH14	05/03/10	Cuttings									0.017	ND	0.0021	0.0057	ND	ND	0.0105	ND	0.01	0.0186	ND	0.048	0.0186		19.9	10.6	4.1											



12/04/09

Technical Report for

ENCANA

EnCana Oil & Gas (USA) Inc.

OH14 Cuttings

Accutest Job Number: T37854

Sampling Date: 09/16/09

Report to:

EnCana

christopher.hines@encana.com

ATTN: Chris Hines

Total number of pages in report: 60



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)

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Test results relate only to samples analyzed.

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Sample Summary

ENCANA

Job No: T37854

EnCana Oil & Gas (USA) Inc.
Project No: OH14 Cuttings

Sample Number	Collected		Received	Matrix		Client Sample ID
	Date	Time By		Code	Type	
T37854-1	09/16/09	13:30 DP	09/17/09	SO	Soil	OH14-CUTTINGS-091609
T37854-1A	09/16/09	13:30 DP	09/17/09	SO	Soil	OH14-CUTTINGS-091609
T37854-1B	09/16/09	13:30 DP	09/17/09	SO	Soil	OH14-CUTTINGS-091609
T37854-1C	09/16/09	13:30 DP	09/17/09	SO	Soil	OH14-CUTTINGS-091609

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



Sample Results

Report of Analysis

Report of Analysis

Client Sample ID: OH14-CUTTINGS-091609
Lab Sample ID: T37854-1
Matrix: SO - Soil
Method: SW846 8260B
Project: EnCana Oil & Gas (USA) Inc.

Date Sampled: 09/16/09
Date Received: 09/17/09
Percent Solids: 85.1

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	M0020804.D	1	09/19/09	AH	n/a	n/a	VM836
Run #2							

	Initial Weight	Final Volume
Run #1	5.04 g	5.0 ml
Run #2		

Purgeable Aromatics

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	85%		70-121%
2037-26-5	Toluene-D8	109%		76-132%
460-00-4	4-Bromofluorobenzene	129%		73-165%
17060-07-0	1,2-Dichloroethane-D4	92%		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:	OH14-CUTTINGS-091609	Date Sampled:	09/16/09
Lab Sample ID:	T37854-1	Date Received:	09/17/09
Matrix:	SO - Soil	Percent Solids:	85.1
Method:	SW846 8270C SW846 3550B		
Project:	EnCana Oil & Gas (USA) Inc.		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	J13367.D	1	09/24/09	SC	09/18/09	OP13030	EJ616
Run #2	H35091.D	20	09/24/09	SC	09/18/09	OP13030	EH1897

	Initial Weight	Final Volume
Run #1	30.3 g	1.0 ml
Run #2	30.3 g	1.0 ml

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	190	54	ug/kg	
208-96-8	Acenaphthylene	ND	190	46	ug/kg	
120-12-7	Anthracene	139	190	37	ug/kg	J
56-55-3	Benzo(a)anthracene	1430	190	74	ug/kg	
50-32-8	Benzo(a)pyrene	663	190	31	ug/kg	
205-99-2	Benzo(b)fluoranthene	2120	190	48	ug/kg	
191-24-2	Benzo(g,h,i)perylene	1030	190	46	ug/kg	
207-08-9	Benzo(k)fluoranthene	556	190	36	ug/kg	
218-01-9	Chrysene	1990	190	42	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	330	190	100	ug/kg	
206-44-0	Fluoranthene	1480	190	40	ug/kg	
86-73-7	Fluorene	ND	190	53	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	629	190	69	ug/kg	
90-12-0	1-Methylnaphthalene	162	190	45	ug/kg	J
91-57-6	2-Methylnaphthalene	379	190	61	ug/kg	
91-20-3	Naphthalene	139	190	39	ug/kg	J
85-01-8	Phenanthrene	1170	190	52	ug/kg	
129-00-0	Pyrene	1410	190	38	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	58%	0% ^b	26-124%
4165-62-2	Phenol-d5	67%	0% ^b	19-106%
118-79-6	2,4,6-Tribromophenol	77%	0% ^b	18-129%
4165-60-0	Nitrobenzene-d5	61%	0% ^b	18-104%
321-60-8	2-Fluorobiphenyl	69%	52%	21-114%
1718-51-0	Terphenyl-d14	180% ^c	40%	24-149%

(a) Internal standards are not within the advisory limits due to a matrix interference. Confirmed by reanalysis.

(b) Outside control limits due to dilution.

(c) Outside control limits due to matrix interference.

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:	OH14-CUTTINGS-091609		
Lab Sample ID:	T37854-1	Date Sampled:	09/16/09
Matrix:	SO - Soil	Date Received:	09/17/09
Method:	SW846 8015	Percent Solids:	85.1
Project:	EnCana Oil & Gas (USA) Inc.		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	EE047630.D	1	09/22/09	FI	n/a	n/a	GEE2420
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.09 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	14.2	6.6	0.40	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	111%		46-127%
98-08-8	aaa-Trifluorotoluene	119%		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:	OH14-CUTTINGS-091609			Date Sampled:	09/16/09		
Lab Sample ID:	T37854-1			Date Received:	09/17/09		
Matrix:	SO - Soil			Percent Solids:	85.1		
Method:	SW846 8015 M SW846 3550B						
Project:	EnCana Oil & Gas (USA) Inc.						

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	CC215140.D	10	09/22/09	SS	09/19/09	OP13044	GCC958
Run #2							

	Initial Weight	Final Volume
Run #1	30.3 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	107	97	32	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	0% ^a		33-115%		

(a) Outside control limits due to dilution.

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

Report of Analysis

Client Sample ID: OH14-CUTTINGS-091609

Lab Sample ID: T37854-1

Matrix: SO - Soil

Date Sampled: 09/16/09

Date Received: 09/17/09

Percent Solids: 85.1

Project: EnCana Oil & Gas (USA) Inc.

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	5.6	0.70	0.14	mg/kg	1	09/30/09	10/09/09 NS	SW846 6010B ²	SW846 3050B ³
Cadmium	0.73	0.35	0.070	mg/kg	1	09/30/09	10/09/09 NS	SW846 6010B ²	SW846 3050B ³
Chromium	23.2	0.70	0.049	mg/kg	1	09/30/09	10/09/09 NS	SW846 6010B ²	SW846 3050B ³
Copper	30.4	1.8	0.091	mg/kg	1	09/30/09	10/09/09 NS	SW846 6010B ²	SW846 3050B ³
Lead	15.7	0.70	0.28	mg/kg	1	09/30/09	10/09/09 NS	SW846 6010B ²	SW846 3050B ³
Mercury	0.029	0.019	0.00074	mg/kg	1	10/02/09	10/02/09 TW	SW846 7471A ¹	SW846 7471A ⁴
Nickel	15.0	2.8	0.091	mg/kg	1	09/30/09	10/09/09 NS	SW846 6010B ²	SW846 3050B ³
Selenium	0.53 B	0.70	0.17	mg/kg	1	09/30/09	10/09/09 NS	SW846 6010B ²	SW846 3050B ³
Silver	0.34 B	0.70	0.056	mg/kg	1	09/30/09	10/09/09 NS	SW846 6010B ²	SW846 3050B ³
Zinc	67.1	1.4	0.28	mg/kg	1	09/30/09	10/09/09 NS	SW846 6010B ²	SW846 3050B ³

(1) Instrument QC Batch: MA4319

(2) Instrument QC Batch: MA4328

(3) Prep QC Batch: MP10369

(4) Prep QC Batch: MP10381

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:	OH14-CUTTINGS-091609	Date Sampled:	09/16/09
Lab Sample ID:	T37854-1	Date Received:	09/17/09
Matrix:	SO - Soil	Percent Solids:	85.1
Project:	EnCana Oil & Gas (USA) Inc.		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chromium, Hexavalent	1.2 B	2.0	mg/kg	1	09/25/09 13:00	KD	SW846 3060/7196A
Chromium, Trivalent ^a	22.0	2.7	mg/kg	1	10/09/09 23:01	NS	SW846 6010/7196A M
Solids, Percent	85.1		%	1	09/18/09	MR	SM 2540B M
Specific Conductivity	2270	1.0	umhos/cm	1	09/25/09 08:30	KD	EPA 120.1
pH	9.7		su	1	09/26/09 15:40	EV	SW846 9045C

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

RL = Reporting Limit

Report of Analysis

Client Sample ID:	OH14-CUTTINGS-091609	Date Sampled:	09/16/09
Lab Sample ID:	T37854-1A	Date Received:	09/17/09
Matrix:	SO - Soil	Percent Solids:	85.1
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	1.23	0.20	0.0042	mg/l	1	09/23/09	09/25/09 NS	SW846 6010B ¹	SW846 3050B ²

(1) Instrument QC Batch: MA4302
(2) Prep QC Batch: MP10296

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:	OH14-CUTTINGS-091609	Date Sampled:	09/16/09
Lab Sample ID:	T37854-1B	Date Received:	09/17/09
Matrix:	SO - Soil	Percent Solids:	85.1
Project:	EnCana Oil & Gas (USA) Inc.		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Barium	6720	59	0.18	mg/kg	5	09/23/09	09/24/09 NS	SW846 6010B ¹	SW846 3050B ²

(1) Instrument QC Batch: MA4302
(2) Prep QC Batch: MP10297

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:	OH14-CUTTINGS-091609	Date Sampled:	09/16/09
Lab Sample ID:	T37854-1C	Date Received:	09/17/09
Matrix:	SO - Soil	Percent Solids:	85.1
Project:	EnCana Oil & Gas (USA) Inc.		

SAR Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Calcium	1360	25	0.18	mg/l	5	09/23/09	09/23/09 NS	SW846 6010B ¹	SW846 3050B ²
Magnesium	5.45 B	25	0.039	mg/l	5	09/23/09	09/23/09 NS	SW846 6010B ¹	SW846 3050B ²
Sodium	2680	130	3.4	mg/l	25	09/23/09	09/23/09 NS	SW846 6010B ¹	SW846 3050B ²

(1) Instrument QC Batch: MA4300
(2) Prep QC Batch: MP10295

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:	OH14-CUTTINGS-091609	Date Sampled:	09/16/09
Lab Sample ID:	T37854-1C	Date Received:	09/17/09
Matrix:	SO - Soil	Percent Solids:	85.1
Project:	EnCana Oil & Gas (USA) Inc.		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sodium Adsorption Ratio ^a	19.9		ratio	1	09/23/09 18:26	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

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

Client / Reporting Information				Project Information				Requested Analyses				Matrix Codes			
Company Name EnCana Oil & Gas (USA) Inc.				Project Name / No. OH14 Cuttings								DW - Drinking Water			
Project Contact Chris Hines E-Mail: christopher.hines@encana.com				Bill to Chris Hines								GW - Ground Water			
Address 2717 County Road 215, Suite 100				Invoice Attn. Chris Hines								WW - Wastewater			
City Parachute, CO 81635				Address								SO - Soil			
State CO				City Parachute, CO								SL - Sludge			
Zip 81635				State CO								OI - Oil			
Phone No. 970.285.2653				City Parachute, CO								LIQ - Other Liquid			
Fax No. 970.285.2653				State CO								SOL - Other Solid			
Samplers Name Dan Prokop				Client Purchase Order #											
Accutest Sample #				Field ID / Point of Collection				Collection				Number of preserved bottles			
				Date				Time				Matrix			
				09/16/2009				1330				SO			
												3			
												HO			
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												H2O2			

SAMPLE INSPECTION FORM

Accutest Job Number: T37854 Client: EnCan 0.11 Gas Date/Time Received: 09/17/09 0930
 # of Coolers Received: 1 Thermometer #: 12-1 Temperature Adjustment Factor: +0.4
 Cooler Temps: #1: 4.0 #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:

1. only received 2 containers on the COC but states 3 # of bottles.

TECHNICIAN SIGNATURE/DATE: [Signature]

INFORMATION AND SAMPLE LABELING VERIFIED BY: gc 9/17/09

CORRECTIVE ACTIONS

Client Representative Notified: _____

Date: _____

By Accutest Representative: _____

Via: Phone Email

Client Instructions:

\\mwalker\forms\sample\insan\en\enw\

T37854: Chain of Custody

Page 2 of 3



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: T37854
Account: ENCACOP ENCANA
Project: EnCana Oil & Gas (USA) Inc.

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VM836-MB	M0020793.D	1	09/19/09	AH	n/a	n/a	VM836

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

T37854-1

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	103% 76-132%
460-00-4	4-Bromofluorobenzene	108% 73-165%
17060-07-0	1,2-Dichloroethane-D4	104% 57-122%

Blank Spike Summary

Job Number: T37854
Account: ENCACOP ENCANA
Project: EnCana Oil & Gas (USA) Inc.

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VM836-BS	M0020791.D	1	09/19/09	AH	n/a	n/a	VM836

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

T37854-1

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
71-43-2	Benzene	50	51.3	103	70-114
100-41-4	Ethylbenzene	50	48.1	96	60-119
108-88-3	Toluene	50	50.5	101	68-115
1330-20-7	Xylene (total)	150	148	99	61-115

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	91%	70-121%
2037-26-5	Toluene-D8	102%	76-132%
460-00-4	4-Bromofluorobenzene	108%	73-165%
17060-07-0	1,2-Dichloroethane-D4	102%	57-122%

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: T37854
Account: ENCACOP ENCANA
Project: EnCana Oil & Gas (USA) Inc.

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
T37850-3MS	M0020796.D	1	09/19/09	AH	n/a	n/a	VM836
T37850-3MSD	M0020797.D	1	09/19/09	AH	n/a	n/a	VM836
T37850-3 ^a	M0020795.D	1	09/19/09	AH	n/a	n/a	VM836

The QC reported here applies to the following samples:

Method: SW846 8260B

T37854-1

CAS No.	Compound	T37850-3 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND		61	26.3	43*	27.8	45*	6	70-114/38
100-41-4	Ethylbenzene	ND		61	19.5	32*	21.1	34*	8	60-119/40
108-88-3	Toluene	ND		61	23.7	39*	25.0	40*	5	68-115/38
1330-20-7	Xylene (total)	ND		183	59.1	32*	64.0	34*	8	61-115/39

CAS No.	Surrogate Recoveries	MS	MSD	T37850-3	Limits
1868-53-7	Dibromofluoromethane	90%	89%	89%	70-121%
2037-26-5	Toluene-D8	110%	108%	105%	76-132%
460-00-4	4-Bromofluorobenzene	124%	122%	113%	73-165%
17060-07-0	1,2-Dichloroethane-D4	104%	104%	106%	57-122%

(a) Reported for QC purposes only. Sample was reanalyzed due to failing QC.



GC/MS Semi-volatiles

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QC Data Summaries

Includes the following where applicable:

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

Method Blank Summary

Page 1 of 1

Job Number: T37854
Account: ENCACOP ENCANA
Project: EnCana Oil & Gas (USA) Inc.

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP13030-MB	J13274.D	1	09/21/09	SC	09/18/09	OP13030	EJ613

The QC reported here applies to the following samples:

Method: SW846 8270C

T37854-1

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	170	46	ug/kg	
208-96-8	Acenaphthylene	ND	170	39	ug/kg	
120-12-7	Anthracene	ND	170	32	ug/kg	
56-55-3	Benzo(a)anthracene	ND	170	64	ug/kg	
50-32-8	Benzo(a)pyrene	ND	170	26	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	170	41	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	170	39	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	170	31	ug/kg	
218-01-9	Chrysene	ND	170	36	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	170	88	ug/kg	
206-44-0	Fluoranthene	ND	170	34	ug/kg	
86-73-7	Fluorene	ND	170	45	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	170	60	ug/kg	
90-12-0	1-Methylnaphthalene	ND	170	39	ug/kg	
91-57-6	2-Methylnaphthalene	ND	170	52	ug/kg	
91-20-3	Naphthalene	ND	170	33	ug/kg	
85-01-8	Phenanthrene	ND	170	45	ug/kg	
129-00-0	Pyrene	ND	170	32	ug/kg	

CAS No.	Surrogate Recoveries	Limits
367-12-4	2-Fluorophenol	59% 26-124%
4165-62-2	Phenol-d5	59% 19-106%
118-79-6	2,4,6-Tribromophenol	66% 18-129%
4165-60-0	Nitrobenzene-d5	57% 18-104%
321-60-8	2-Fluorobiphenyl	62% 21-114%
1718-51-0	Terphenyl-d14	84% 24-149%

Blank Spike Summary

Page 1 of 1

Job Number: T37854
Account: ENCACOP ENCANA
Project: EnCana Oil & Gas (USA) Inc.

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP13030-BS	J13276.D	1	09/21/09	SC	09/18/09	OP13030	EJ613

The QC reported here applies to the following samples:

Method: SW846 8270C

T37854-1

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
83-32-9	Acenaphthene	1670	1320	79	53-106
208-96-8	Acenaphthylene	1670	1400	84	61-121
120-12-7	Anthracene	1670	1400	84	66-105
56-55-3	Benzo(a)anthracene	1670	1400	84	62-113
50-32-8	Benzo(a)pyrene	1670	1270	76	61-118
205-99-2	Benzo(b)fluoranthene	1670	1510	91	67-110
191-24-2	Benzo(g,h,i)perylene	1670	1260	76	57-124
207-08-9	Benzo(k)fluoranthene	1670	1420	85	65-116
218-01-9	Chrysene	1670	1400	84	71-106
53-70-3	Dibenzo(a,h)anthracene	1670	1320	79	59-123
206-44-0	Fluoranthene	1670	1440	86	64-114
86-73-7	Fluorene	1670	1410	85	65-99
193-39-5	Indeno(1,2,3-cd)pyrene	1670	1320	79	51-133
90-12-0	1-Methylnaphthalene	1670	1330	80	56-94
91-57-6	2-Methylnaphthalene	1670	1440	86	48-101
91-20-3	Naphthalene	1670	1210	73	57-94
85-01-8	Phenanthrene	1670	1390	83	66-102
129-00-0	Pyrene	1670	1590	95	49-117

CAS No.	Surrogate Recoveries	BSP	Limits
367-12-4	2-Fluorophenol	71%	26-124%
4165-62-2	Phenol-d5	75%	19-106%
118-79-6	2,4,6-Tribromophenol	83%	18-129%
4165-60-0	Nitrobenzene-d5	69%	18-104%
321-60-8	2-Fluorobiphenyl	75%	21-114%
1718-51-0	Terphenyl-d14	95%	24-149%

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: T37854
Account: ENCACOP ENCANA
Project: EnCana Oil & Gas (USA) Inc.

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP13030-MS	J13358.D	1	09/23/09	SC	09/18/09	OP13030	EJ616
OP13030-MSD	J13359.D	1	09/23/09	SC	09/18/09	OP13030	EJ616
T37849-2 ^a	J13357.D	1	09/23/09	SC	09/18/09	OP13030	EJ616

The QC reported here applies to the following samples:

Method: SW846 8270C

T37854-1

CAS No.	Compound	T37849-2 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	240 U		2440	1640	67	1560	64	5	53-106/49
208-96-8	Acenaphthylene	240 U		2440	1670	68	1590	66	5	61-121/49
120-12-7	Anthracene	240 U		2440	1980	81	1890	78	5	66-105/40
56-55-3	Benzo(a)anthracene	121	J	2440	2080	80	1970	76	5	62-113/43
50-32-8	Benzo(a)pyrene	109	J	2440	1870	72	1740	67	7	61-118/44
205-99-2	Benzo(b)fluoranthene	184	J	2440	2530	96	2110	80	18	67-110/42
191-24-2	Benzo(g,h,i)perylene	240 U		2440	1940	79	2020	83	4	57-124/50
207-08-9	Benzo(k)fluoranthene	93.1	J	2440	2490	98	2180	86	13	65-116/37
218-01-9	Chrysene	153	J	2440	2170	83	2070	79	5	71-106/39
53-70-3	Dibenzo(a,h)anthracene	240 U		2440	1860	76	1920	79	3	59-123/37
206-44-0	Fluoranthene	213	J	2440	2190	81	2050	76	7	64-114/45
86-73-7	Fluorene	240 U		2440	1770	72	1680	69	5	65-99/42
193-39-5	Indeno(1,2,3-cd)pyrene	240 U		2440	1870	77	1910	79	2	51-133/55
90-12-0	1-Methylnaphthalene	240 U		2440	1390	57	1350	56	3	56-94/49
91-57-6	2-Methylnaphthalene	240 U		2440	1470	60	1410	58	4	48-101/48
91-20-3	Naphthalene	240 U		2440	1230	50*	1200	50*	2	57-94/49
85-01-8	Phenanthrene	240 U		2440	2070	85	1960	81	5	66-102/47
129-00-0	Pyrene	260		2440	3140	118*	3040	115	3	49-117/46

CAS No.	Surrogate Recoveries	MS	MSD	T37849-2	Limits
367-12-4	2-Fluorophenol	42%	42%	54%	26-124%
4165-62-2	Phenol-d5	51%	50%	63%	19-106%
118-79-6	2,4,6-Tribromophenol	70%	66%	81%	18-129%
4165-60-0	Nitrobenzene-d5	44%	43%	58%	18-104%
321-60-8	2-Fluorobiphenyl	46%	44%	58%	21-114%
1718-51-0	Terphenyl-d14	114%	111%	130%	24-149%

(a) Internal standards are not within the advisory limits due to a matrix interference. Confirmed by ms/msd.



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: T37854
Account: ENCACOP ENCANA
Project: EnCana Oil & Gas (USA) Inc.

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GEE2420-MB	EE047627.D	1	09/22/09	FI	n/a	n/a	GEE2420

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

T37854-1

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	116%	46-127%
98-08-8	aaa-Trifluorotoluene	119%	44-120%

Blank Spike Summary

Job Number: T37854
Account: ENCACOP ENCANA
Project: EnCana Oil & Gas (USA) Inc.

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GEE2420-BS	EE047623.D	1	09/21/09	FI	n/a	n/a	GEE2420

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

T37854-1

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-GRO (C6-C10)	0.4	0.443	111	78-115

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	115%	46-127%
98-08-8	aaa-Trifluorotoluene	118%	44-120%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: T37854
Account: ENCACOP ENCANA
Project: EnCana Oil & Gas (USA) Inc.

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
T37853-1MS	EE047632.D	1	09/22/09	FI	n/a	n/a	GEE2420
T37853-1MSD	EE047633.D	1	09/22/09	FI	n/a	n/a	GEE2420
T37853-1	EE047629.D	1	09/22/09	FI	n/a	n/a	GEE2420

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

T37854-1

CAS No.	Compound	T37853-1 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	9.84		24.8	37.1	110	36.9	109	1	78-115/14

CAS No.	Surrogate Recoveries	MS	MSD	T37853-1	Limits
460-00-4	4-Bromofluorobenzene	114%	116%	113%	46-127%
98-08-8	aaa-Trifluorotoluene	120%	119%	118%	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: T37854
Account: ENCACOP ENCANA
Project: EnCana Oil & Gas (USA) Inc.

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP13044-MB	CC215105.D 1		09/21/09	SS	09/19/09	OP13044	GCC957

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

T37854-1

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	43% 33-115%

Blank Spike Summary

Job Number: T37854
Account: ENCACOP ENCANA
Project: EnCana Oil & Gas (USA) Inc.

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP13044-BS	CC215110.D	1	09/21/09	SS	09/19/09	OP13044	GCC957

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

T37854-1

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH (C10-C28)	33.2	24.5	74	45-107

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	48%	33-115%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: T37854
Account: ENCACOP ENCANA
Project: EnCana Oil & Gas (USA) Inc.

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP13044-MS	CC215111.D	10	09/21/09	SS	09/19/09	OP13044	GCC957
OP13044-MSD	CC215112.D	10	09/21/09	SS	09/19/09	OP13044	GCC957
T37885-2	CC215113.D	10	09/21/09	SS	09/19/09	OP13044	GCC957

The QC reported here applies to the following samples:

Method: SW846 8015 M

T37854-1

CAS No.	Compound	T37885-2 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH (C10-C28)	416		45	339	-171* a	210	-449* a	47*	45-107/34

CAS No.	Surrogate Recoveries	MS	MSD	T37885-2	Limits
84-15-1	o-Terphenyl	0% * b	0% * b	0% * b	33-115%

- (a) Outside control limits due to high level in sample relative to spike amount.
(b) Outside control limits due to dilution.



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: T37854
Account: ENCACOP - ENCANA
Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10295
Matrix Type: AQUEOUS

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

Prep Date: 09/23/09

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	287	<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	86.9	<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	24.4	<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 MP10295: T37854-1C

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: T37854
 Account: ENCACOP - ENCANA
 Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10295
 Matrix Type: AQUEOUS

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

Prep Date: 09/23/09

Metal	T37834-2C Original DUP		RPD	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Boron				
Cadmium				
Calcium	797000	1010000	23.6*(a)	0-20
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Magnesium	90300	105000	15.1	0-20
Manganese				
Molybdenum				
Nickel				
Potassium				
Selenium				
Silver				
Sodium	225000	256000	12.9	0-20
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc				

Associated samples MP10295: T37854-1C

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
 (a) High RPD due to possible sample nonhomogeneity.

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: T37854
Account: ENCACOP - ENCANA
Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10296
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 09/23/09

Metal	RL	IDL	MDL	MB raw	final
Aluminum	400	33	34		
Antimony	10	4.5	6		
Arsenic	10	3.5	4		
Barium	400	.28	5.4		
Beryllium	10	.22	.4		
Boron	200	2.2	4.2	40.1	<200
Cadmium	8.0	.5	.6		
Calcium	10000	11	70		
Chromium	20	2.2	3.8		
Cobalt	100	1	1.6		
Copper	50	1.2	12		
Iron	200	26	26		
Lead	6.0	3.2	3.4		
Magnesium	10000	13	16		
Manganese	30	.4	15		
Molybdenum	20	1.9	2.6		
Nickel	80	1.9	6.4		
Potassium	10000	110	110		
Selenium	10	6.5	6.4		
Silver	20	1.7	1.6		
Sodium	10000	260	270		
Strontium	40	.34	.8		
Thallium	20	6.5	5.2		
Tin	40	3.6	5.8		
Titanium	40	.6	.6		
Vanadium	100	1.2	1.2		
Zinc	40	.98	8.2		

Associated samples MP10296: T37854-1A

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: T37854
Account: ENCACOP - ENCANA
Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10296
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date:

09/23/09

09/23/09

Metal	T37834-2A Original DUP		RPD	QC Limits	T37834-2A Original MS		Spikelot MPTW4	% Rec	QC Limits
Aluminum									
Antimony									
Arsenic									
Barium									
Beryllium									
Boron	610	726	17.4	0-20	610	2620	1000	100.7	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 MP10296: T37854-1A

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

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: T37854
Account: ENCACOP - ENCANA
Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10296
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 09/23/09

Metal	T37834-2A Original	MSD	Spikelot MPTW4	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic						
Barium						
Beryllium						
Boron	610	2610	1000	100.1	0.4	20
Cadmium						
Calcium						
Chromium						
Cobalt						
Copper						
Iron						
Lead						
Magnesium						
Manganese						
Molybdenum						
Nickel						
Potassium						
Selenium						
Silver						
Sodium						
Strontium						
Thallium						
Tin						
Titanium						
Vanadium						
Zinc						

Associated samples MP10296: T37854-1A

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

Login Number: T37854
Account: ENCACOP - ENCANA
Project: EnCana Oil & Gas (USA) Inc.

Prep Date: 09/23/09

Metal	BSP Result	Spikelot MPTW4	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Boron	2270	1000	113.7	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 MP10296: T37854-1A

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

SERIAL DILUTION RESULTS SUMMARY

Login Number: T37854
Account: ENCACOP - ENCANA
Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10296
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 09/23/09

Metal		T37834-2A		QC	
		Original	SDL 1:5	%DIF	Limits
Aluminum					
Antimony					
Arsenic					
Barium					
Beryllium					
Boron		305	298	2.2	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 MP10296: T37854-1A

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

8.2.4
8

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: T37854
Account: ENCACOP - ENCANA
Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10297
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date: 09/23/09

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	0.36	<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 MP10297: T37854-1B

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: T37854
Account: ENCACOP - ENCANA
Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10297
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date: 09/23/09

09/23/09

Metal	T37834-2B Original DUP		RPD	QC Limits	T37834-2B Original MS		Spikelot MPTW4	% Rec	QC Limits
Aluminum									
Antimony									
Arsenic									
Barium	289	319	9.9	0-20	289	389	2.11	4730.0(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 MP10297: T37854-1B

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: T37854
Account: ENCACOP - ENCANA
Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10297
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date: 09/23/09

Metal	T37834-2B Original MSD	Spikelot MPTW4	% Rec	MSD RPD	QC Limit
Aluminum					
Antimony					
Arsenic					
Barium	289	337	2.11	2270.4(a	14.3 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 MP10297: T37854-1B

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.

Login Number: T37854
Account: ENCACOP - ENCANA
Project: EnCana Oil & Gas (USA) Inc.

Prep Date: 09/23/09

Metal	BSP Result	Spikelot MPTW4	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium	17.9	2	89.3	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 MP10297: T37854-1B

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

SERIAL DILUTION RESULTS SUMMARY

Login Number: T37854
Account: ENCACOP - ENCANA
Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10297
Matrix Type: SOLID

Methods: SW846 6010B
Units: ug/l

Prep Date: 09/23/09

Metal	T37834-2B		QC	
	Original	SDL 1:5	%DIF	Limits
Aluminum				
Antimony				
Arsenic				
Barium	5460	6360	16.4*(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 MP10297: T37854-1B

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

8.3.4
8

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: T37854
Account: ENCACOP - ENCANA
Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10369
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date: 09/30/09

Metal	RL	IDL	MDL	MB raw	final
Aluminum	10	.82	2.2		
Antimony	0.50	.11	.14		
Arsenic	0.50	.089	.1	0.0055	<0.50
Barium	10	.007	.03		
Beryllium	0.25	.0055	.01		
Boron	5.0	.054	.11		
Cadmium	0.25	.013	.05	-0.0030	<0.25
Calcium	250	.27	.86		
Chromium	0.50	.055	.035	-0.018	<0.50
Cobalt	2.5	.025	.09		
Copper	1.3	.029	.065	0.026	<1.3
Iron	5.0	.65	1.1		
Lead	0.50	.079	.2	0.051	<0.50
Magnesium	250	.34	.58		
Manganese	0.75	.01	.035		
Molybdenum	0.50	.048	.075		
Nickel	2.0	.048	.065	-0.026	<2.0
Potassium	250	2.7	16		
Selenium	0.50	.16	.12	-0.0030	<0.50
Silver	0.50	.043	.04	-0.014	<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	0.0035	<1.0

Associated samples MP10369: T37854-1

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: T37854
Account: ENCACOP - ENCANA
Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10369
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date:

09/30/09

09/30/09

	T37884-1			QC	T37884-1		Spikelot		QC
Metal	Original	DUP	RPD	Limits	Original	MS	MPTW4	% Rec	Limits
Aluminum									
Antimony									
Arsenic	4.8	4.6	4.3	0-20	4.8	29.1	25.8	94.1	80-120
Barium	anr								
Beryllium									
Boron									
Cadmium	0.59	0.67	12.7	0-20	0.59	23.2	25.8	87.6	80-120
Calcium									
Chromium	15.8	16.6	4.9	0-20	15.8	40.0	25.8	93.7	80-120
Cobalt									
Copper	14.2	15.4	8.1	0-20	14.2	40.5	25.8	101.9	80-120
Iron									
Lead	9.4	9.1	3.2	0-20	9.4	33.1	25.8	91.8	80-120
Magnesium									
Manganese									
Molybdenum	anr								
Nickel	15.9	22.7	35.2*(a)	0-20	15.9	40.4	25.8	94.9	80-120
Potassium	anr								
Selenium	0.41	0.51	21.7 (b)	0-20	0.41	22.9	25.8	87.1	80-120
Silver	0.16	0.21	27.0 (b)	0-20	0.16	4.0	25.8	14.9N	80-120
Sodium									
Strontium									
Thallium									
Tin									
Titanium									
Vanadium									
Zinc	44.5	42.6	4.4	0-20	44.5	72.4	25.8	108.1	80-120

Associated samples MP10369: T37854-1

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.

(b) RPD acceptable due to low duplicate and sample concentrations.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: T37854
Account: ENCACOP - ENCANA
Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10369
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date: 09/30/09

Metal	T37884-1 Original	MSD	Spikelot MPTW4	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic	4.8	30.2	27	94.0	3.7	20
Barium	anr					
Beryllium						
Boron						
Cadmium	0.59	24.5	27	88.5	5.5	20
Calcium						
Chromium	15.8	41.4	27	94.8	3.4	20
Cobalt						
Copper	14.2	42.2	27	103.7	4.1	20
Iron						
Lead	9.4	34.2	27	91.8	3.3	20
Magnesium						
Manganese						
Molybdenum	anr					
Nickel	15.9	41.8	27	95.9	3.4	20
Potassium	anr					
Selenium	0.41	24.4	27	88.8	6.3	20
Silver	0.16	4.3	27	15.3N	7.2	20
Sodium						
Strontium						
Thallium						
Tin						
Titanium						
Vanadium						
Zinc	44.5	72.9	27	105.1	0.7	20

Associated samples MP10369: T37854-1

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: T37854
Account: ENCACOP - ENCANA
Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10369
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date: 09/30/09

Metal	LCS Result	Spikelot MPLCD054	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic	154	158	97.5	82-118
Barium	anr			
Beryllium				
Boron				
Cadmium	178	187	95.2	82-118
Calcium				
Chromium	88.8	89.5	99.2	79-121
Cobalt				
Copper	132	129	102.3	84-117
Iron				
Lead	162	172	94.2	79-120
Magnesium				
Manganese				
Molybdenum	anr			
Nickel	95.4	99	96.4	81-119
Potassium	anr			
Selenium	143	148	96.6	78-121
Silver	63.9	66	96.8	66-134
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc	376	394	95.4	80-119

Associated samples MP10369: T37854-1

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

SERIAL DILUTION RESULTS SUMMARY

Login Number: T37854
Account: ENCACOP - ENCANA
Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10369
Matrix Type: SOLID

Methods: SW846 6010B
Units: ug/l

Prep Date: 09/30/09

Metal	T37884-1 Original	SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic	75.8	83.8	10.6 (a)	0-10
Barium	anr			
Beryllium				
Boron				
Cadmium	9.45	8.81	6.8	0-10
Calcium				
Chromium	253	283	12.1*(b)	0-10
Cobalt				
Copper	226	242	7.0	0-10
Iron				
Lead	150	173	15.0*(b)	0-10
Magnesium				
Manganese				
Molybdenum	anr			
Nickel	253	290	14.4*(b)	0-10
Potassium	anr			
Selenium	6.57	0.00	100.0(a)	0-10
Silver	2.49	0.00	100.0(a)	0-10
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc	710	815	14.9*(b)	0-10

Associated samples MP10369: T37854-1

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: T37854
Account: ENCACOP - ENCANA
Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10381
Matrix Type: SOLID

Methods: SW846 7471A
Units: mg/kg

Prep Date: 10/02/09

Metal	RL	IDL	MDL	MB raw	final
Mercury	0.017	.0041	.00066	0.0028	<0.017

Associated samples MP10381: T37854-1

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

8.5.1

8

Login Number: T37854
Account: ENCACOP - ENCANA
Project: EnCana Oil & Gas (USA) Inc.

Methods: SW846 7471A
Units: mg/kg

10/02/09

10/02/09

Metal	Original	DUP	RPD	QC Limits	Original	MS	Spikelot	% Rec	QC Limits
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Mercury

Associated samples MP10381: T37854-1

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: T37854
 Account: ENCACOP - ENCANA
 Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10381
 Matrix Type: SOLID

Methods: SW846 7471A
 Units: mg/kg

Prep Date: 10/02/09

Metal	Original MSD	Spikelot HGTXWS1	% Rec	MSD RPD	QC Limit
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Mercury

Associated samples MP10381: T37854-1

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

8.5.2

8

Login Number: T37854
Account: ENCACOP - ENCANA
Project: EnCana Oil & Gas (USA) Inc.

Methods: SW846 7471A
Units: mg/kg

Metal	LCS Result	Spikelot HGLCD054 % Rec	QC Limits
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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: T37854
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	GN18084	2.0	<2.0	mg/kg	40	41.5	103.8	80-120%
Specific Conductivity	GN18090	1.0	<1.0	umhos/cm				

Associated Samples:
Batch GN18084: T37854-1
Batch GN18090: T37854-1
(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: T37854
Account: ENCACOP - ENCANA
Project: EnCana Oil & Gas (USA) Inc.

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Chromium, Hexavalent	GN18084	T37834-1	mg/kg	1.7 B	<2.0	11.2	0-20%
Solids, Percent	GN18046	T37731-1	%	77.4	75.8	2.1	0-20%
Specific Conductivity	GN18090	T37379-1	umhos/cm	714	714	0.0	0-20%
pH	GN18119	T38131-1	su	8.1	8.1	0.0	0-20%

Associated Samples:
Batch GN18046: T37854-1
Batch GN18084: T37854-1
Batch GN18090: T37854-1
Batch GN18119: T37854-1
(*) Outside of QC limits

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: T37854
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	GN18084	T37834-1	mg/kg	1.7 B	40	41.5	99.4	75-125%

Associated Samples:

Batch GN18084: T37854-1

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits



05/13/10

Technical Report for

ENCANA

OH14 Cuttings Sample

Accutest Job Number: T51995

Sampling Date: 05/03/10

Report to:

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

ATTN: Chris Hines

Total number of pages in report: **30**



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 (T104704220-09C-TX) AR (88-0756) FL (E87628) KS (E-10366) LA (85695/04004)
OK (9103) UT(7132714700)

This report shall not be reproduced, except in its entirety, without the written approval of Accutest Laboratories.
Test results relate only to samples analyzed.

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Sample Summary

ENCANA

Job No: T51995

OH14 Cuttings Sample

Sample Number	Collected		Matrix Code	Type	Client	
	Date	Time By	Received		Sample ID	
T51995-1	05/03/10	10:20 AS	05/04/10	SO	Soil	OH14-CUTTINGS-050310
T51995-1A	05/03/10	10:20 AS	05/04/10	SO	Soil	OH14-CUTTINGS-050310

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

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: ENCANA

Job No T51995

Site: OH14 Cuttings Sample

Report Date 5/13/2010 5:22:57 PM

1 Sample(s), were collected on 05/03/2010 and were received at Accutest on 05/04/2010 properly preserved, at 5 Deg. C and intact. These Samples received an Accutest job number of T51995. 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.

Extractables by GCMS By Method SW846 8270C BY SIM

Matrix SO	Batch ID: OP14728
------------------	--------------------------

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- Sample(s) T51811-1MS, T51811-1MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- Matrix Spike Recovery(s) for 1-Methylnaphthalene, 2-Methylnaphthalene, Fluorene, Pyrene are outside control limits. Probable cause due to matrix interference.
- Matrix Spike Duplicate Recovery(s) for Fluorene, Phenanthrene, Pyrene are outside control limits. Probable cause due to matrix interference.
- RPD(s) for MSD for Anthracene are outside control limits for sample OP14728-MSD. Probable cause due to sample homogeneity.
- T51995-1: Internal standards are not within the advisory limits due to a matrix interference. Confirmed by reanalysis.

Metals By Method SW846 6010B

Matrix AQ	Batch ID: MP11775
------------------	--------------------------

- 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) T51867-5ADUP, T51867-5ASDL were used as the QC samples for metals.
- RPD(s) for Serial Dilution for Sodium are outside control limits for sample MP11775-SD1. Probable cause due to sample homogeneity.

Matrix SO	Batch ID: MP11755
------------------	--------------------------

- 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) T51995-1DUP, T51995-1MS, T51995-1MSD, T51995-1SDL were used as the QC samples for metals.
- Matrix Spike Duplicate Recovery(s) for Arsenic are outside control limits. Probable cause due to matrix interference.
- RPD(s) for Serial Dilution for Arsenic are outside control limits for sample MP11755-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

Wet Chemistry By Method LADNR29B

Matrix SO	Batch ID: MP11775
------------------	--------------------------

- T51995-1A for Sodium Adsorption Ratio: Calculated as: (Na meq/L) / sqrt [(Ca meq/L)+(Mg meq/L)/2]

Thursday, May 13, 2010

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Wet Chemistry By Method SM 2540 G

Matrix	SO	Batch ID:	GN22571
---------------	----	------------------	---------

- Sample(s) T51995-1DUP were used as the QC samples for Solids, Percent.

Wet Chemistry By Method SW846 9045C

Matrix	SO	Batch ID:	GN22611
---------------	----	------------------	---------

- Sample(s) T51995-1DUP 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 Quality Objectives 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:	OH14-CUTTINGS-050310		
Lab Sample ID:	T51995-1	Date Sampled:	05/03/10
Matrix:	SO - Soil	Date Received:	05/04/10
Method:	SW846 8270C BY SIM SW846 3550B	Percent Solids:	82.3
Project:	OH14 Cuttings Sample		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	H38503.D	1	05/10/10	SC	05/06/10	OP14728	EH2057
Run #2	H38502.D	20	05/10/10	SC	05/06/10	OP14728	EH2057

	Initial Weight	Final Volume
Run #1	30.5 g	1.0 ml
Run #2	30.5 g	1.0 ml

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	0.0174	0.0080	0.0013	mg/kg	
208-96-8	Acenaphthylene	ND	0.0080	0.0028	mg/kg	
120-12-7	Anthracene	ND	0.0080	0.0015	mg/kg	
56-55-3	Benzo(a)anthracene	0.0021	0.0080	0.0013	mg/kg	J
50-32-8	Benzo(a)pyrene	ND	0.0080	0.0043	mg/kg	
205-99-2	Benzo(b)fluoranthene	0.0057	0.0080	0.0042	mg/kg	J
191-24-2	Benzo(g,h,i)perylene	ND	0.0080	0.0080	mg/kg	
207-08-9	Benzo(k)fluoranthene	ND	0.0080	0.0052	mg/kg	
218-01-9	Chrysene	0.0105	0.0080	0.0020	mg/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	0.0080	0.0077	mg/kg	
206-44-0	Fluoranthene	0.0100	0.0080	0.0017	mg/kg	
86-73-7	Fluorene	0.0186	0.0080	0.0028	mg/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.0080	0.0060	mg/kg	
90-12-0	1-Methylnaphthalene	0.0845	0.0080	0.0015	mg/kg	
91-57-6	2-Methylnaphthalene	0.153	0.0080	0.0014	mg/kg	
91-20-3	Naphthalene	0.0484	0.0080	0.0012	mg/kg	
85-01-8	Phenanthrene	0.0666	0.0080	0.0011	mg/kg	
129-00-0	Pyrene	0.0186	0.0080	0.0027	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	32%	28%	10-127%
321-60-8	2-Fluorobiphenyl	34%	61%	11-133%
1718-51-0	Terphenyl-d14	80%	38%	15-187%

(a) Internal standards are not within the advisory limits due to a 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:	OH14-CUTTINGS-050310		
Lab Sample ID:	T51995-1	Date Sampled:	05/03/10
Matrix:	SO - Soil	Date Received:	05/04/10
		Percent Solids:	82.3
Project:	OH14 Cuttings Sample		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	4.1	0.71	0.12	mg/kg	1	05/11/10	05/12/10 NS	SW846 6010B ¹	SW846 3050B ²

(1) Instrument QC Batch: MA4735
(2) Prep QC Batch: MP11755

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:	OH14-CUTTINGS-050310	Date Sampled:	05/03/10
Lab Sample ID:	T51995-1	Date Received:	05/04/10
Matrix:	SO - Soil	Percent Solids:	82.3
Project:	OH14 Cuttings Sample		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Solids, Percent	82.3		%	1	05/04/10	RR	SM 2540 G
pH	10.60		su	1	05/05/10 17:00	CN	SW846 9045C

RL = Reporting Limit

Report of Analysis

Client Sample ID:	OH14-CUTTINGS-050310	Date Sampled:	05/03/10
Lab Sample ID:	T51995-1A	Date Received:	05/04/10
Matrix:	SO - Soil	Percent Solids:	82.3
Project:	OH14 Cuttings Sample		

SAR Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Calcium	632	25	0.12	mg/l	5	05/07/10	05/13/10 NS	SW846 6010B ¹	LADNR 29B ²
Magnesium	0.932 B	25	0.040	mg/l	5	05/07/10	05/13/10 NS	SW846 6010B ¹	LADNR 29B ²
Sodium	1820	25	0.52	mg/l	5	05/07/10	05/13/10 NS	SW846 6010B ¹	LADNR 29B ²

(1) Instrument QC Batch: MA4738
(2) Prep QC Batch: MP11775

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:	OH14-CUTTINGS-050310		
Lab Sample ID:	T51995-1A	Date Sampled:	05/03/10
Matrix:	SO - Soil	Date Received:	05/04/10
		Percent Solids:	82.3
Project:	OH14 Cuttings Sample		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sodium Adsorption Ratio ^a	19.9		ratio	1	05/13/10 14:23	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

10165 Harwin Dr, Ste 150 Houston, TX 77036
TEL: 713-271-4700 FAX: 713-271-4770
www.acculast.com

[illegible]

T51995: Chain of Custody

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SAMPLE INSPECTION FORM

Accutest Job Number: T51995 Client: Encana Date/Time Received: 5-4-10 925
 # of Coolers Received: 1 Thermometer #: IR-1 Temperature Adjustment Factor: +0.8°C
 Cooler Temps: #1: 5.0°C #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 rec'd 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 lds? _____
 Number of lab-filtered metals? _____

Summary of Discrepancies:

TECHNICIAN SIGNATURE/DATE: [Signature] 5-4-10

INFORMATION AND SAMPLE LABELING VERIFIED BY: [Signature] 5/4/10

CORRECTIVE ACTIONS

Client Representative Notified: _____

Date: _____

By Accutest Representative: _____

Via: _____

Phone _____

Email _____

Client Instructions:

T51995: Chain of Custody

Page 2 of 3

JOB #: 751995 DATE/TIME RECEIVED: 5-4-10 925

CLIENT: Encana INITIALS: EC

[illegible]

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 ewd

Page 3 of 3



GC/MS Semi-volatiles

5

QC Data Summaries

Includes the following where applicable:

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

Method Blank Summary

Page 1 of 1

Job Number: T51995
Account: ENCACOP ENCANA
Project: OH14 Cuttings Sample

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP14728-MB	H38457.D	1	05/08/10	SC	05/06/10	OP14728	EH2054

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

T51995-1

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	51% 10-127%
321-60-8	2-Fluorobiphenyl	41% 11-133%
1718-51-0	Terphenyl-d14	61% 15-187%

Blank Spike Summary

Page 1 of 1

Job Number: T51995

Account: ENCACOP ENCANA

Project: OH14 Cuttings Sample

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP14728-BS	H38462.D	1	05/08/10	SC	05/06/10	OP14728	EH2054

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

T51995-1

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
83-32-9	Acenaphthene	167	75.6	45	18-118
208-96-8	Acenaphthylene	167	87.9	53	35-125
120-12-7	Anthracene	167	97.6	59	24-116
56-55-3	Benzo(a)anthracene	167	122	73	32-132
50-32-8	Benzo(a)pyrene	167	105	63	36-130
205-99-2	Benzo(b)fluoranthene	167	190	114	35-134
191-24-2	Benzo(g,h,i)perylene	167	82.4	49	18-149
207-08-9	Benzo(k)fluoranthene	167	163	98	30-131
218-01-9	Chrysene	167	118	71	37-124
53-70-3	Dibenzo(a,h)anthracene	167	90.2	54	23-150
206-44-0	Fluoranthene	167	134	80	28-118
86-73-7	Fluorene	167	103	62	32-106
193-39-5	Indeno(1,2,3-cd)pyrene	167	89.0	53	18-150
90-12-0	1-Methylnaphthalene	167	90.5	54	10-128
91-57-6	2-Methylnaphthalene	167	94.1	56	28-113
91-20-3	Naphthalene	167	88.9	53	31-106
85-01-8	Phenanthrene	167	95.5	57	37-112
129-00-0	Pyrene	167	99.1	59	24-132

CAS No.	Surrogate Recoveries	BSP	Limits
4165-60-0	Nitrobenzene-d5	107%	10-127%
321-60-8	2-Fluorobiphenyl	62%	11-133%
1718-51-0	Terphenyl-d14	49%	15-187%

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: T51995
Account: ENCACOP ENCANA
Project: OH14 Cuttings Sample

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP14728-MS	H38465.D	1	05/08/10	SC	05/06/10	OP14728	EH2054
OP14728-MSD	H38466.D	1	05/08/10	SC	05/06/10	OP14728	EH2054
T51811-1 ^a	H38463.D	1	05/08/10	SC	05/06/10	OP14728	EH2054
T51811-1	H38467.D	1	05/08/10	SC	05/06/10	OP14728	EH2054

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

T51995-1

CAS No.	Compound	T51811-1 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	ND		191	28.2	15	47.7	25	51	10-153/80
208-96-8	Acenaphthylene	ND		191	67.5	35	101	52	40	10-144/71
120-12-7	Anthracene	ND		191	29.7	16	78.0	40	90*	10-176/57
56-55-3	Benzo(a)anthracene	30.8		191	247	113	269	123	9	10-174/73
50-32-8	Benzo(a)pyrene	ND		191	116	61	123	64	6	10-182/74
205-99-2	Benzo(b)fluoranthene	ND		191	167	87	172	89	3	10-188/86
191-24-2	Benzo(g,h,i)perylene	ND		191	146	76	167	86	13	10-150/62
207-08-9	Benzo(k)fluoranthene	ND		191	258	135	273	141	6	10-170/94
218-01-9	Chrysene	25.8		191	150	65	144	61	4	10-165/73
53-70-3	Dibenzo(a,h)anthracene	ND		191	141	74	157	81	11	10-192/74
206-44-0	Fluoranthene	43.6		191	197	80	115	37	53	10-141/73
86-73-7	Fluorene	ND		191	406	212*	572	296*	34	10-164/72
193-39-5	Indeno(1,2,3-cd)pyrene	ND		191	132	69	151	78	13	10-150/73
90-12-0	1-Methylnaphthalene	17.8 ^b		191	1690	875*	1150	586*	38	10-154/82
91-57-6	2-Methylnaphthalene	54.2 ^b		191	3880	2002*	5790	2968*	40	10-171/75
91-20-3	Naphthalene	378		191	470	48	627	129	29	10-138/82
85-01-8	Phenanthrene	30.7 ^b		191	297	139	464	224*	44	10-191/77
129-00-0	Pyrene	163		191	492	172*	594	223*	19	10-150/66

CAS No.	Surrogate Recoveries	MS	MSD	T51811-1	T51811-1	Limits
4165-60-0	Nitrobenzene-d5	106%	115%	118%	0% *	10-127%
321-60-8	2-Fluorobiphenyl	11%	12%	12%	0% *	11-133%
1718-51-0	Terphenyl-d14	88%	107%	95%	0% *	15-187%

(a) Internal standards are not within the advisory limits due to a matrix interference. Confirmed by reanalysis.

(b) Result is from Run #2.



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: T51995
Account: ENCACOP - ENCANA
Project: OH14 Cuttings Sample

QC Batch ID: MP11755
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date: 05/11/10

Metal	RL	IDL	MDL	MB raw	final
Aluminum	10	.41	.73		
Antimony	0.50	.05	.085		
Arsenic	0.50	.085	.085	-0.0085	<0.50
Barium	10	.049	.069		
Beryllium	0.25	.0028	.0055		
Boron	5.0	.07	.17		
Cadmium	0.25	.0055	.014		
Calcium	250	.37	1.3		
Chromium	0.50	.012	.023		
Cobalt	2.5	.0075	.03		
Copper	1.3	.056	.056		
Iron	5.0	.057	1.1		
Lead	0.50	.05	.05		
Lithium	15	.1			
Magnesium	250	.38	1.3		
Manganese	0.75	.0027	.037		
Molybdenum	0.50	.02	.025		
Nickel	2.0	.035	.057		
Potassium	250	2	10		
Selenium	0.50	.077	.14		
Silver	0.50	.058	.058		
Sodium	250	.46	1.6		
Strontium	1.0	.0031	.059		
Thallium	0.50	.034	.04		
Tin	1.0	.035	.035		
Titanium	1.0	.015	.029		
Vanadium	2.5	.015	.034		
Zinc	1.0	.026	.084		

Associated samples MP11755: T51995-1

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: T51995
Account: ENCACOP - ENCANA
Project: OH14 Cuttings Sample

QC Batch ID: MP11755
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date: 05/11/10

05/11/10

Metal	T51995-1 Original	DUP	RPD	QC Limits	T51995-1 Original MS	Spikelot MPTW4	% Rec	QC Limits
Aluminum								
Antimony								
Arsenic	4.1	4.2	2.4	0-20	4.1	27.2	27.9	82.7
Barium	anr							
Beryllium								
Boron								
Cadmium	anr							
Calcium								
Chromium	anr							
Cobalt								
Copper	anr							
Iron								
Lead	anr							
Lithium								
Magnesium								
Manganese								
Molybdenum	anr							
Nickel	anr							
Potassium	anr							
Selenium	anr							
Silver	anr							
Sodium								
Strontium								
Thallium								
Tin								
Titanium								
Vanadium								
Zinc	anr							

Associated samples MP11755: T51995-1

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: T51995
Account: ENCACOP - ENCANA
Project: OH14 Cuttings Sample

QC Batch ID: MP11755
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date: 05/11/10

Metal	T51995-1 Original	MSD	Spikelot MPTW4	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic	4.1	24.1	27.4	73.1N	12.1	20
Barium	anr					
Beryllium						
Boron						
Cadmium	anr					
Calcium						
Chromium	anr					
Cobalt						
Copper	anr					
Iron						
Lead	anr					
Lithium						
Magnesium						
Manganese						
Molybdenum	anr					
Nickel	anr					
Potassium	anr					
Selenium	anr					
Silver	anr					
Sodium						
Strontium						
Thallium						
Tin						
Titanium						
Vanadium						
Zinc	anr					

Associated samples MP11755: T51995-1

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: T51995
Account: ENCACOP - ENCANA
Project: OH14 Cuttings Sample

QC Batch ID: MP11755
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date: 05/11/10

Metal	LCS Result	Spikelot MPLCD054	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic	142	158	89.9	82-118
Barium	anr			
Beryllium				
Boron				
Cadmium	anr			
Calcium				
Chromium	anr			
Cobalt				
Copper	anr			
Iron				
Lead	anr			
Lithium				
Magnesium				
Manganese				
Molybdenum	anr			
Nickel	anr			
Potassium	anr			
Selenium	anr			
Silver	anr			
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc	anr			

Associated samples MP11755: T51995-1

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

SERIAL DILUTION RESULTS SUMMARY

Login Number: T51995
Account: ENCACOP - ENCANA
Project: OH14 Cuttings Sample

QC Batch ID: MP11755
Matrix Type: SOLID

Methods: SW846 6010B
Units: ug/l

Prep Date: 05/11/10

Metal	T51995-1 Original	SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic	58.5	83.2	42.3 (a)	0-10
Barium	anr			
Beryllium				
Boron				
Cadmium	anr			
Calcium				
Chromium	anr			
Cobalt				
Copper	anr			
Iron				
Lead	anr			
Lithium				
Magnesium				
Manganese				
Molybdenum	anr			
Nickel	anr			
Potassium	anr			
Selenium	anr			
Silver	anr			
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc	anr			

Associated samples MP11755: T51995-1

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).

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: T51995
Account: ENCACOP - ENCANA
Project: OH14 Cuttings Sample

QC Batch ID: MP11775
Matrix Type: AQUEOUS

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

Prep Date: 05/07/10

Metal	RL	IDL	MDL	MB raw	final
Aluminum	200	8.3	12		
Antimony	5.0	1	1		
Arsenic	5.0	1.7	1		
Barium	200	.97	3.4		
Beryllium	5.0	.056	.16		
Boron	100	1.4	7.8		
Cadmium	4.0	.11	.09		
Calcium	5000	7.4	25	39.7	<5000
Chromium	10	.23	.27		
Cobalt	50	.15	.22		
Copper	25	1.1	5.9		
Iron	100	1.1	23		
Lead	3.0	1	1.8		
Lithium	300	2	2		
Magnesium	5000	7.7	7.9	9.5	<5000
Manganese	15	.054	1.9		
Molybdenum	10	.39	.2		
Nickel	40	.69	1.4		
Potassium	5000	39	45		
Selenium	5.0	1.5	.98		
Silver	10	1.2	.24		
Sodium	5000	9.2	100	-10	<5000
Strontium	10	.061	.4		
Thallium	10	.67	1.2		
Tin	20	.69	2.8		
Titanium	20	.29	.3		
Vanadium	50	.3	.3		
Zinc	20	.51	3.5		

Associated samples MP11775: T51995-1A

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: T51995
Account: ENCACOP - ENCANA
Project: OH14 Cuttings Sample

QC Batch ID: MP11775
Matrix Type: AQUEOUS

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

Prep Date: 05/07/10

Metal	T51867-5A Original DUP		RPD	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Boron				
Cadmium				
Calcium	459000	455000	0.9	0-20
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Lithium				
Magnesium	11000	10900	0.9	0-20
Manganese				
Molybdenum				
Nickel				
Potassium				
Selenium				
Silver				
Sodium	5930	5940	0.2	0-20
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc				

Associated samples MP11775: T51995-1A

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

SERIAL DILUTION RESULTS SUMMARY

Login Number: T51995
Account: ENCACOP - ENCANA
Project: OH14 Cuttings Sample

QC Batch ID: MP11775
Matrix Type: AQUEOUS

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

Prep Date: 05/07/10

Metal		T51867-5A Original SDL 5:25 %DIF		QC Limits	
Aluminum					
Antimony					
Arsenic					
Barium					
Beryllium					
Boron					
Cadmium					
Calcium	459000	447000	2.6	0-10	
Chromium					
Cobalt					
Copper					
Iron					
Lead					
Lithium					
Magnesium	11000	10900	1.2	0-10	
Manganese					
Molybdenum					
Nickel					
Potassium					
Selenium					
Silver					
Sodium	5930	6830	15.3*(a)	0-10	
Strontium					
Thallium					
Tin					
Titanium					
Vanadium					
Zinc					

Associated samples MP11775: T51995-1A

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



General Chemistry

QC Data Summaries

Includes the following where applicable:

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

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: T51995
Account: ENCACOP - ENCANA
Project: OH14 Cuttings Sample

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Solids, Percent	GN22571	T51995-1	%	82.3	83.2	1.1	0-5%
pH	GN22611	T51995-1	su	10.60	10.60	0.0	0-20%

Associated Samples:
Batch GN22571: T51995-1
Batch GN22611: T51995-1
(*) Outside of QC limits