

[illegible]



10/13/09

Technical Report for

ENCANA

EnCana Oil & Gas (USA) Inc.

Encana M27NW Cuttings

Accutest Job Number: T37887

Sampling Date: 09/16/09

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: 61



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: T37887

EnCana Oil & Gas (USA) Inc.
Project No: Encana M27NW Cuttings

Sample Number	Collected			Received	Matrix		Client Sample ID
	Date	Time	By		Code	Type	
T37887-1	09/16/09	00:00	KR	09/18/09	SO	Soil	OH14-CUTTINGS-091609
T37887-1A	09/16/09	00:00	KR	09/18/09	SO	Soil	OH14-CUTTINGS-091609
T37887-1B	09/16/09	00:00	KR	09/18/09	SO	Soil	OH14-CUTTINGS-091609
T37887-1C	09/16/09	00:00	KR	09/18/09	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: T37887-1
Matrix: SO - Soil
Method: SW846 8260B
Project: EnCana Oil & Gas (USA) Inc.

Date Sampled: 09/16/09
Date Received: 09/18/09
Percent Solids: 75.4

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	M0021063.D	1	09/28/09	AH	n/a	n/a	VM847
Run #2 ^a	X0055774.D	1	09/29/09	AH	n/a	n/a	VX300

	Initial Weight	Final Volume
Run #1	5.41 g	5.0 ml
Run #2	5.54 g	5.0 ml

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	5.1	6.1	0.86	ug/kg	J
108-88-3	Toluene	9.2	6.1	1.2	ug/kg	
100-41-4	Ethylbenzene	ND	6.1	1.1	ug/kg	
1330-20-7	Xylene (total)	8.5	18	2.6	ug/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	11% ^b	15% ^b	70-121%
2037-26-5	Toluene-D8	111%	107%	76-132%
460-00-4	4-Bromofluorobenzene	123%	107%	73-165%
17060-07-0	1,2-Dichloroethane-D4	75%	89%	57-122%

(a) Confirmation run for surrogate recoveries.

(b) 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: OH14-CUTTINGS-091609**Lab Sample ID:** T37887-1**Date Sampled:** 09/16/09**Matrix:** SO - Soil**Date Received:** 09/18/09**Method:** SW846 8270C SW846 3550B**Percent Solids:** 75.4**Project:** EnCana Oil & Gas (USA) Inc.

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J13488.D	1	09/29/09	SC	09/26/09	OP13100	EJ620
Run #2							

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

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	220	60	ug/kg	
208-96-8	Acenaphthylene	ND	220	52	ug/kg	
120-12-7	Anthracene	ND	220	42	ug/kg	
56-55-3	Benzo(a)anthracene	ND	220	84	ug/kg	
50-32-8	Benzo(a)pyrene	ND	220	35	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	220	54	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	220	52	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	220	41	ug/kg	
218-01-9	Chrysene	ND	220	48	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	220	120	ug/kg	
206-44-0	Fluoranthene	ND	220	45	ug/kg	
86-73-7	Fluorene	ND	220	60	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	220	78	ug/kg	
90-12-0	1-Methylnaphthalene	56.6	220	51	ug/kg	J
91-57-6	2-Methylnaphthalene	159	220	69	ug/kg	J
91-20-3	Naphthalene	75.5	220	44	ug/kg	J
85-01-8	Phenanthrene	89.2	220	59	ug/kg	J
129-00-0	Pyrene	ND	220	42	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	37%		18-104%
321-60-8	2-Fluorobiphenyl	28%		21-114%
1718-51-0	Terphenyl-d14	88%		24-149%

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:	T37887-1	Date Received:	09/18/09
Matrix:	SO - Soil	Percent Solids:	75.4
Method:	SW846 8015		
Project:	EnCana Oil & Gas (USA) Inc.		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	EE047864.D	1	09/27/09	JL	n/a	n/a	GEE2430
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.54 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	20.6	7.6	0.46	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	108%		46-127%
98-08-8	aaa-Trifluorotoluene	107%		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:	T37887-1			Date Received:	09/18/09		
Matrix:	SO - Soil			Percent Solids:	75.4		
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	CC215160.D	10	09/23/09	SS	09/21/09	OP13045	GCC958
Run #2							

	Initial Weight	Final Volume
Run #1	30.2 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	128	110	36	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:** T37887-1**Date Sampled:** 09/16/09**Matrix:** SO - Soil**Date Received:** 09/18/09**Percent Solids:** 75.4**Project:** EnCana Oil & Gas (USA) Inc.

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	5.5	0.79	0.16	mg/kg	1	09/30/09	10/10/09 NS	SW846 6010B ²	SW846 3050B ³
Cadmium	1.6	0.40	0.079	mg/kg	1	09/30/09	10/10/09 NS	SW846 6010B ²	SW846 3050B ³
Chromium	23.7	0.79	0.055	mg/kg	1	09/30/09	10/10/09 NS	SW846 6010B ²	SW846 3050B ³
Copper	32.4	2.0	0.10	mg/kg	1	09/30/09	10/10/09 NS	SW846 6010B ²	SW846 3050B ³
Lead	15.1	0.79	0.32	mg/kg	1	09/30/09	10/10/09 NS	SW846 6010B ²	SW846 3050B ³
Mercury	0.044	0.021	0.00082	mg/kg	1	10/07/09	10/07/09 NS	SW846 7471A ¹	SW846 7471A ⁴
Nickel	15.9	3.2	0.10	mg/kg	1	09/30/09	10/10/09 NS	SW846 6010B ²	SW846 3050B ³
Selenium	3.5	0.79	0.19	mg/kg	1	09/30/09	10/10/09 NS	SW846 6010B ²	SW846 3050B ³
Silver	0.36 B	0.79	0.063	mg/kg	1	09/30/09	10/10/09 NS	SW846 6010B ²	SW846 3050B ³
Zinc	56.9	1.6	0.32	mg/kg	1	09/30/09	10/10/09 NS	SW846 6010B ²	SW846 3050B ³

(1) Instrument QC Batch: MA4323

(2) Instrument QC Batch: MA4328

(3) Prep QC Batch: MP10369

(4) Prep QC Batch: MP10402

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:	T37887-1	Date Received:	09/18/09
Matrix:	SO - Soil	Percent Solids:	75.4
Project:	EnCana Oil & Gas (USA) Inc.		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chromium, Hexavalent	1.5 B	2.0	mg/kg	1	09/25/09 13:00	KD	SW846 3060/7196A
Chromium, Trivalent ^a	22.2	2.8	mg/kg	1	10/10/09 00:03	NS	SW846 6010/7196A M
Solids, Percent	75.4		%	1	09/28/09	MR	SM 2540 G
Specific Conductivity	3170	1.0	umhos/cm	1	09/25/09 08:30	KD	EPA 120.1
pH	11.5		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:	T37887-1A	Date Received:	09/18/09
Matrix:	SO - Soil	Percent Solids:	75.4
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	1.01	0.20	0.0042	mg/l	1	10/07/09	10/10/09 NS	SW846 6010B ¹	SW846 3050B ²

(1) Instrument QC Batch: MA4328
(2) Prep QC Batch: MP10403

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:	T37887-1B	Date Received:	09/18/09
Matrix:	SO - Soil	Percent Solids:	75.4
Project:	EnCana Oil & Gas (USA) Inc.		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Barium	25800	330	0.99	mg/kg	25	10/06/09	10/12/09 NS	SW846 6010B ¹	SW846 3050B ²

(1) Instrument QC Batch: MA4330
(2) Prep QC Batch: MP10395

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:	T37887-1C	Date Received:	09/18/09
Matrix:	SO - Soil	Percent Solids:	75.4
Project:	EnCana Oil & Gas (USA) Inc.		

SAR Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Calcium	1430	25	0.18	mg/l	5	10/07/09	10/10/09 NS	SW846 6010B ¹	SW846 3050B ³
Magnesium	3.02 B	25	0.039	mg/l	5	10/07/09	10/10/09 NS	SW846 6010B ¹	SW846 3050B ³
Sodium	2250	130	3.4	mg/l	25	10/07/09	10/11/09 NS	SW846 6010B ²	SW846 3050B ³

- (1) Instrument QC Batch: MA4328
(2) Instrument QC Batch: MA4329
(3) Prep QC Batch: MP10393

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:	T37887-1C	Date Received:	09/18/09
Matrix:	SO - Soil	Percent Solids:	75.4
Project:	EnCana Oil & Gas (USA) Inc.		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sodium Adsorption Ratio ^a	16.3		ratio	1	10/11/09 03:55	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

FED-EX Tracking #		Bottle Order Control #	
Accutest Quote #		Accutest Job # T37887	

Client / Reporting Information		Project Information	
Company Name EnCana Oil & Gas (USA) Inc.		Project Name / No. EnCana M27NW Cuttings	
Project Contact Chris Hines E-Mail: christopher.hines@encana.com		Bill to Invoice Attn.	
Address 2717 County Road 215, Suite 100 City: Parachute, CO 81635 State: Zip:		Address	
Phone No. 970-285-2739 Fax No.		Phone No. Fax No.	
Sampler's Name Kris Rowe		Client Purchase Order #	

Accutest Sample #	Field ID / Point of Collection	Collection		Matrix	# of bottles	Number of preserved bottles										Please see attached list	Requested Analyses	Matrix Codes
		Date	Time			KCI	INOC	HSOI	ENCOR	HAISO	MICH	NONE						
	EnCana-M27NW-091609	9/16/09	0845	SO	2												LAB USE ONLY DW - Drinking Water GW - Ground Water WW - Wastewater SO - Soil SL - Sludge OL - Oil LIQ - Other Liquid SOL - Other Solid	

Turnaround Time (Business days)		Data Deliverable Information		Comments / Remarks	
<input checked="" type="checkbox"/> 14 Day STANDARD <input type="checkbox"/> 5 Day RUSH <input type="checkbox"/> 4 Day RUSH <input type="checkbox"/> 3 Day EMERGENCY <input type="checkbox"/> 2 Day EMERGENCY <input type="checkbox"/> 1 Day EMERGENCY <input type="checkbox"/> Other	Approved By/ Date:	<input type="checkbox"/> Commercial "A" <input type="checkbox"/> Commercial "B" <input type="checkbox"/> Reduced Tier 1 <input type="checkbox"/> Full Data Package	<input type="checkbox"/> State Forms <input type="checkbox"/> EDD Format <input type="checkbox"/> Other	Client Needs Units In:	
Real time analytical data available via Lablink					

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:
<i>[Signature]</i>	9/16/09 1700		2 FedEx	9/16/09 0930	<i>[Signature]</i>
3		3	4		4
5		5	Custody Seal #	Preserved where applicable	On Ice Cooler Temp

Organic Compounds in Soil
 TPH (total volatile and extractable petroleum hydrocarbons)
 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
 Flourene
 Indeno(1,2,3-c,d)pyrene
 Naphthalene
 Pyrene

Inorganics in Soils
 Electronic Conductivity (EC)
 Sodium Adsorption Ratio (SAR)
 pH

Metals in Soils
 Arsenic
 Barium (LDNR True Total Barium)
 Boron (Hot Water Soluble)
 Cadmium
 Chromium (III)
 Chromium (VI)
 Copper
 Lead (Inorganic)
 Mercury
 Nickel (Soluble salt)
 Selenium
 Silver
 Zinc

SAMPLE INSPECTION FORM

Accutest Job Number: T37887 Client: Encana Oil & Gas (USA) Inc. Date/Time Received: 09/12/09 0910

of Coolers Received: 1 Thermometer #: 12-1 Temperature Adjustment Factor: +0.4

Cooler Temps: #1: 4.2 #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]

INFORMATION AND SAMPLE LABELING VERIFIED BY: EL 9-13-09

CORRECTIVE ACTIONS

Client Representative Notified: Date:

By Accutest Representative: Via: Phone Email

Client Instructions:

I:\mwalker\form\samplemanagement

T37887: Chain of Custody

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SAMPLE RECEIPT LOG

JOB #: 737887 DATE/TIME RECEIVED: 09/18/09 930

CLIENT: EnCana Oil & Gas (USA) Inc. INITIALS: IF

[illegible]

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 ewn

T37887: Chain of Custody

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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: T37887
Account: ENCACOP ENCANA
Project: EnCana Oil & Gas (USA) Inc.

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VM847-MB	M0021055.D	1	09/28/09	AH	n/a	n/a	VM847

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

T37887-1

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	94% 70-121%
2037-26-5	Toluene-D8	104% 76-132%
460-00-4	4-Bromofluorobenzene	100% 73-165%
17060-07-0	1,2-Dichloroethane-D4	88% 57-122%

Blank Spike Summary

Job Number: T37887
Account: ENCACOP ENCANA
Project: EnCana Oil & Gas (USA) Inc.

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VM847-BS	M0021053.D	1	09/28/09	AH	n/a	n/a	VM847

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

T37887-1

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
71-43-2	Benzene	50	47.2	94	70-114
100-41-4	Ethylbenzene	50	48.9	98	60-119
108-88-3	Toluene	50	47.9	96	68-115
1330-20-7	Xylene (total)	150	147	98	61-115

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	98%	70-121%
2037-26-5	Toluene-D8	107%	76-132%
460-00-4	4-Bromofluorobenzene	103%	73-165%
17060-07-0	1,2-Dichloroethane-D4	93%	57-122%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: T37887
Account: ENCACOP ENCANA
Project: EnCana Oil & Gas (USA) Inc.

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
T37834-1MS	M0021060.D	1	09/28/09	AH	n/a	n/a	VM847
T37834-1MSD	M0021061.D	1	09/28/09	AH	n/a	n/a	VM847
T37834-1	M0021059.D	1	09/28/09	AH	n/a	n/a	VM847

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

T37887-1

CAS No.	Compound	T37834-1 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	4.3	J	57.2	68.4	112	62.4	95	9	70-114/38
100-41-4	Ethylbenzene	8.4		57.2	47.9	69	41.1	53*	15	60-119/40
108-88-3	Toluene	21.3		57.2	57.6	63*	52.6	51*	9	68-115/38
1330-20-7	Xylene (total)	92.4		171	149	33*	130	20*	14	61-115/39

CAS No.	Surrogate Recoveries	MS	MSD	T37834-1	Limits
1868-53-7	Dibromofluoromethane	92%	90%	97%	70-121%
2037-26-5	Toluene-D8	116%	115%	118%	76-132%
460-00-4	4-Bromofluorobenzene	123%	122%	126%	73-165%
17060-07-0	1,2-Dichloroethane-D4	89%	87%	87%	57-122%



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

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Job Number: T37887
Account: ENCACOP ENCANA
Project: EnCana Oil & Gas (USA) Inc.

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP13100-MB	J13504.D	1	09/30/09	SC	09/26/09	OP13100	EJ621

The QC reported here applies to the following samples:

Method: SW846 8270C

T37887-1

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	60% 26-124%
4165-62-2	Phenol-d5	65% 19-106%
118-79-6	2,4,6-Tribromophenol	55% 18-129%
4165-60-0	Nitrobenzene-d5	62% 18-104%
321-60-8	2-Fluorobiphenyl	54% 21-114%
1718-51-0	Terphenyl-d14	83% 24-149%

Blank Spike Summary

Page 1 of 1

Job Number: T37887**Account:** ENCACOP ENCANA**Project:** EnCana Oil & Gas (USA) Inc.

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP13100-BS	J13503.D	1	09/30/09	SC	09/26/09	OP13100	EJ621

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

T37887-1

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
83-32-9	Acenaphthene	1670	1240	74	53-106
208-96-8	Acenaphthylene	1670	1290	77	61-121
120-12-7	Anthracene	1670	1330	80	66-105
56-55-3	Benzo(a)anthracene	1670	1430	86	62-113
50-32-8	Benzo(a)pyrene	1670	1340	80	61-118
205-99-2	Benzo(b)fluoranthene	1670	1640	98	67-110
191-24-2	Benzo(g,h,i)perylene	1670	1300	78	57-124
207-08-9	Benzo(k)fluoranthene	1670	1720	103	65-116
218-01-9	Chrysene	1670	1460	88	71-106
53-70-3	Dibenzo(a,h)anthracene	1670	1260	76	59-123
206-44-0	Fluoranthene	1670	1360	82	64-114
86-73-7	Fluorene	1670	1200	72	65-99
193-39-5	Indeno(1,2,3-cd)pyrene	1670	1280	77	51-133
90-12-0	1-Methylnaphthalene	1670	1250	75	56-94
91-57-6	2-Methylnaphthalene	1670	1340	80	48-101
91-20-3	Naphthalene	1670	1300	78	57-94
85-01-8	Phenanthrene	1670	1320	79	66-102
129-00-0	Pyrene	1670	1820	109	49-117

CAS No.	Surrogate Recoveries	BSP	Limits
367-12-4	2-Fluorophenol	78%	26-124%
4165-62-2	Phenol-d5	86%	19-106%
118-79-6	2,4,6-Tribromophenol	75%	18-129%
4165-60-0	Nitrobenzene-d5	77%	18-104%
321-60-8	2-Fluorobiphenyl	73%	21-114%
1718-51-0	Terphenyl-d14	104%	24-149%

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: T37887
Account: ENCACOP ENCANA
Project: EnCana Oil & Gas (USA) Inc.

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP13100-MS	J13787.D	20	10/13/09	SC	09/26/09	OP13100	EJ633
OP13100-MSD	J13788.D	20	10/13/09	SC	09/26/09	OP13100	EJ633
T37890-2	J13494.D	20	09/29/09	SC	09/26/09	OP13100	EJ620
T37890-2	J13507.D	80	09/30/09	SC	09/26/09	OP13100	EJ621

The QC reported here applies to the following samples:

Method: SW846 8270C

T37887-1

CAS No.	Compound	T37890-2 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	3140		1970	4320	60	4470	67	3	53-106/49
208-96-8	Acenaphthylene	ND		1970	ND	0*	ND	0*	nc	61-121/49
120-12-7	Anthracene	2360		1970	3280	47*	3280	47*	0	66-105/40
56-55-3	Benzo(a)anthracene	ND		1970	2040	104	1980	100	3	62-113/43
50-32-8	Benzo(a)pyrene	ND		1970	1560	79	1600	81	3	61-118/44
205-99-2	Benzo(b)fluoranthene	ND		1970	1720	87	1730	88	1	67-110/42
191-24-2	Benzo(g,h,i)perylene	ND		1970	1500	76	1530	77	2	57-124/50
207-08-9	Benzo(k)fluoranthene	ND		1970	1930	98	1950	99	1	65-116/37
218-01-9	Chrysene	ND		1970	1950	99	2020	102	4	71-106/39
53-70-3	Dibenzo(a,h)anthracene	ND		1970	ND	0*	ND	0*	nc	59-123/37
206-44-0	Fluoranthene	835		1970	3090	114	2800	99	10	64-114/45
86-73-7	Fluorene	4160		1970	5680	77	5520	69	3	65-99/42
193-39-5	Indeno(1,2,3-cd)pyrene	ND		1970	1470	75	1550	78	5	51-133/55
90-12-0	1-Methylnaphthalene	45600		1970	47100	76	47400	91	1	56-94/49
91-57-6	2-Methylnaphthalene	95700 ^b		1970	107000	573* ^a	108000	623* ^a	1	48-101/48
91-20-3	Naphthalene	77400		1970	71000	-325* ^a	77300	-5* ^a	8	57-94/49
85-01-8	Phenanthrene	12600		1970	13900	66	14200	81	2	66-102/47
129-00-0	Pyrene	1290		1970	3200	97	3290	101	3	49-117/46

CAS No.	Surrogate Recoveries	MS	MSD	T37890-2	T37890-2	Limits
367-12-4	2-Fluorophenol	36%	45%	58%	0% * ^c	26-124%
4165-62-2	Phenol-d5	71%	79%	70%	0% * ^c	19-106%
118-79-6	2,4,6-Tribromophenol	71%	69%	64%	0% * ^c	18-129%
4165-60-0	Nitrobenzene-d5	17% * ^c	22%	118% * ^c	0% * ^c	18-104%
321-60-8	2-Fluorobiphenyl	92%	91%	91%	0% * ^c	21-114%
1718-51-0	Terphenyl-d14	95%	90%	93%	0% * ^c	24-149%

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

(b) Result is from Run #2.

(c) Outside control limits due to dilution.



GC Volatiles

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: T37887
Account: ENCACOP ENCANA
Project: EnCana Oil & Gas (USA) Inc.

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GEE2430-MB	EE047859.D	1	09/27/09	JL	n/a	n/a	GEE2430

The QC reported here applies to the following samples:

Method: SW846 8015

T37887-1

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	101%
98-08-8	aaa-Trifluorotoluene	104%

Blank Spike Summary

Job Number: T37887
Account: ENCACOP ENCANA
Project: EnCana Oil & Gas (USA) Inc.

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GEE2430-BS	EE047856.D	1	09/27/09	JL	n/a	n/a	GEE2430

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

T37887-1

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-GRO (C6-C10)	0.4	0.332	83	78-115

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	98%	46-127%
98-08-8	aaa-Trifluorotoluene	107%	44-120%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: T37887
Account: ENCACOP ENCANA
Project: EnCana Oil & Gas (USA) Inc.

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
T37855-2MS	EE047866.D	1	09/27/09	JL	n/a	n/a	GEE2430
T37855-2MSD	EE047867.D	1	09/27/09	JL	n/a	n/a	GEE2430
T37855-2	EE047865.D	1	09/27/09	JL	n/a	n/a	GEE2430

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

T37887-1

CAS No.	Compound	T37855-2 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	4.43	J	25.8	27.4	89	28.0	91	2	78-115/14

CAS No.	Surrogate Recoveries	MS	MSD	T37855-2	Limits
460-00-4	4-Bromofluorobenzene	115%	115%	114%	46-127%
98-08-8	aaa-Trifluorotoluene	111%	112%	106%	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: T37887
Account: ENCACOP ENCANA
Project: EnCana Oil & Gas (USA) Inc.

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP13045-MB	CC215145.D 1		09/22/09	SS	09/21/09	OP13045	GCC958

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

T37887-1

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	34% 33-115%

7.1.1
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Blank Spike Summary

Job Number: T37887
Account: ENCACOP ENCANA
Project: EnCana Oil & Gas (USA) Inc.

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP13045-BS	CC215146.D	1	09/22/09	SS	09/21/09	OP13045	GCC958

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

T37887-1

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH (C10-C28)	33.3	25.9	78	45-107

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	50%	33-115%

7.2.1
7

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: T37887
Account: ENCACOP ENCANA
Project: EnCana Oil & Gas (USA) Inc.

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP13045-MS	CC215147.D	10	09/22/09	SS	09/21/09	OP13045	GCC958
OP13045-MSD	CC215148.D	10	09/22/09	SS	09/21/09	OP13045	GCC958
T37884-2	CC215175.D	25	09/23/09	SS	09/21/09	OP13045	GCC958

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

T37887-1

CAS No.	Compound	T37884-2 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH (C10-C28)	3820		35.1	5700	5362* a	5880	5897* a	3	45-107/34

CAS No.	Surrogate Recoveries	MS	MSD	T37884-2	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: T37887
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: T37887-1

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: T37887
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: T37887-1

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: T37887
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: T37887-1

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: T37887
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: T37887-1

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(anr) Analyte not requested

8.1.3

8

SERIAL DILUTION RESULTS SUMMARY

Login Number: T37887
 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: T37887-1

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: T37887
Account: ENCACOP - ENCANA
Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10393
Matrix Type: AQUEOUS

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

Prep Date: 10/07/09

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	1050	<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	261	<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	427	<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 MP10393: T37887-1C

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

8.2.1
8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: T37887
 Account: ENCACOP - ENCANA
 Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10393
 Matrix Type: AQUEOUS

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

Prep Date: 10/07/09

Metal	T37909-1C Original DUP		RPD	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Boron				
Cadmium				
Calcium	458000	498000	8.4	0-20
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Magnesium	24100	20700	15.2	0-20
Manganese				
Molybdenum				
Nickel				
Potassium				
Selenium				
Silver				
Sodium	2040000	2010000	7.2	0-20
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc				

Associated samples MP10393: T37887-1C

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

8.2.2
8

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: T37887
Account: ENCACOP - ENCANA
Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10395
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date: 10/06/09

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	0.78	<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 MP10395: T37887-1B

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: T37887
Account: ENCACOP - ENCANA
Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10395
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date: 10/06/09

10/06/09

Metal	T37909-1B Original	DUP	RPD	QC Limits	T37909-1B Original	MS	Spikelot MPTW4	% Rec	QC Limits
Aluminum									
Antimony									
Arsenic									
Barium	20900	20300	2.9	0-20	20900	21500	2.4	25020.0a	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 MP10395: T37887-1B

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: T37887
 Account: ENCACOP - ENCANA
 Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10395
 Matrix Type: SOLID

Methods: SW846 6010B
 Units: mg/kg

Prep Date: 10/06/09

Metal	T37909-1B Original MSD	Spikelot MPTW4	% Rec	MSD RPD	QC Limit
Aluminum					
Antimony					
Arsenic					
Barium	20900	21700	0.48	166800.0a0.9	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 MP10395: T37887-1B

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: T37887
Account: ENCACOP - ENCANA
Project: EnCana Oil & Gas (USA) Inc.

Prep Date: 10/06/09

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

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

SERIAL DILUTION RESULTS SUMMARY

Login Number: T37887
Account: ENCACOP - ENCANA
Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10395
Matrix Type: SOLID

Methods: SW846 6010B
Units: ug/l

Prep Date: 10/06/09

Metal	T37909-1B		QC	
	Original	SDL 25:125%DIF	Limits	

Aluminum				
Antimony				
Arsenic				
Barium	349000	371000	6.5	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 MP10395: T37887-1B

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

8.3.4

8

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: T37887
Account: ENCACOP - ENCANA
Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10402
Matrix Type: SOLID

Methods: SW846 7471A
Units: mg/kg

Prep Date: 10/07/09

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

Associated samples MP10402: T37887-1

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

8.4.1

8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: T37887
 Account: ENCACOP - ENCANA
 Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10402
 Matrix Type: SOLID

Methods: SW846 7471A
 Units: mg/kg

Prep Date: 10/07/09

10/07/09

Metal	T37887-1		QC	T37887-1		Spikelot	% Rec	QC
	Original	DUP	RPD	Original	MS	HGTXWS1		Limits
Mercury	0.044	0.031	34.7 (a)	0-20	0.044 0.38	0.301	111.8	75-125

Associated samples MP10402: T37887-1

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) RPD acceptable due to low duplicate and sample concentrations.

8.4.2
8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: T37887
 Account: ENCACOP - ENCANA
 Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10402
 Matrix Type: SOLID

Methods: SW846 7471A
 Units: mg/kg

Prep Date: 10/07/09

Metal	T37887-1 Original	MSD	Spikelot HGTXWS1	% Rec	MSD RPD	QC Limit
-------	----------------------	-----	---------------------	-------	------------	-------------

Mercury	0.044	0.37	0.316	103.1	2.7	
---------	-------	------	-------	-------	-----	--

Associated samples MP10402: T37887-1

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

8.4.2

8

Login Number: T37887
Account: ENCACOP - ENCANA
Project: EnCana Oil & Gas (USA) Inc.

Methods: SW846 7471A
Units: mg/kg

Metal	LCS Result	Spikelot HGLCD054 % Rec	QC Limits
-------	---------------	----------------------------	--------------

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

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: T37887
Account: ENCACOP - ENCANA
Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10403
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 10/07/09

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	14.5	<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 MP10403: T37887-1A

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: T37887
Account: ENCACOP - ENCANA
Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10403
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date:

10/07/09

10/07/09

Metal	T37909-1A Original	DUP	RPD	QC Limits	T37909-1A Original MS	Spikelot MPTW4	% Rec	QC Limits
Aluminum								
Antimony								
Arsenic								
Barium								
Beryllium								
Boron	1290	930	32.4*(a)	0-20	1290	2570	1000	64.0N 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 MP10403: T37887-1A

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.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: T37887
 Account: ENCACOP - ENCANA
 Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10403
 Matrix Type: AQUEOUS

Methods: SW846 6010B
 Units: ug/l

Prep Date: 10/07/09

Metal	T37909-1A Original	MSD	Spikelot MPTW4	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic						
Barium						
Beryllium						
Boron	1290	2470	1000	59.2N	4.0	20
Cadmium						
Calcium						
Chromium						
Cobalt						
Copper						
Iron						
Lead						
Magnesium						
Manganese						
Molybdenum						
Nickel						
Potassium						
Selenium						
Silver						
Sodium						
Strontium						
Thallium						
Tin						
Titanium						
Vanadium						
Zinc						

Associated samples MP10403: T37887-1A

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: T37887
Account: ENCACOP - ENCANA
Project: EnCana Oil & Gas (USA) Inc.

Methods: SW846 6010B
Units: ug/l

Metal	LCS Result	Spikelot MPTW4	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Boron	2400	1000	120.0	80-120
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Potassium				
Selenium				
Silver				
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc				

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

SERIAL DILUTION RESULTS SUMMARY

Login Number: T37887
Account: ENCACOP - ENCANA
Project: EnCana Oil & Gas (USA) Inc.

QC Batch ID: MP10403
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 10/07/09

Metal	T37909-1A Original	SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Boron	643	615	4.3	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 MP10403: T37887-1A

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

8.5.4
8



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: T37887
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: T37887-1
Batch GN18090: T37887-1
(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: T37887
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	GN18134	T37907-1	%	72.1	71.7	0.6	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 GN18084: T37887-1

Batch GN18090: T37887-1

Batch GN18119: T37887-1

Batch GN18134: T37887-1

(*) Outside of QC limits

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: T37887
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: T37887-1

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

9.3

6



12065 Lebanon Rd.
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Est. 1970

Chris Hines
EnCana Oil & Gas Inc. - CO
2717 County Road 215, Suite 100
Parachute, CO 81635

Report Summary

Sunday March 28, 2010

Report Number: L450598

Samples Received: 03/23/10

Client Project:

Description: M27NW Cuttings

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

Entire Report Reviewed By:

T. Alan Harvill , ESC Representative

Laboratory Certification Numbers

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

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REPORT OF ANALYSIS

Chris Hines
EnCana Oil & Gas Inc. - CO
2717 County Road 215, Suite 100
Parachute, CO 81635

March 28, 2010

Date Received : March 23, 2010
Description : M27NW Cuttings
Sample ID : M27NW-CUTTINGS-032210
Collected By : Aaron Stacy
Collection Date : 03/22/10 12:15

ESC Sample # : L450598-01

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Barium	8300	2.5	mg/kg	6010B	03/26/10	10

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

The reported analytical results relate only to the sample submitted.

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Reported: 03/28/10 10:52 Printed: 03/28/10 10:52

Summary of Remarks For Samples Printed
03/28/10 at 10:52:37

TSR Signing Reports: 358

Log EVERY sample separately. ALL samples need their own report. All samples for this account should be received from Chris Hines.

Sample: L450598-01 Account: ENCANACO Received: 03/23/10 09:00 Due Date: 03/30/10 00:00 RPT Date: 03/28/10 10:52



YOUR LAB OF CHOICE

EnCana Oil & Gas Inc. - CO
Chris Hines
2717 County Road 215, Suite 100
Parachute, CO 81635

Quality Assurance Report
Level II

L450598

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Est. 1970

March 28, 2010

Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
Barium	< .25	mg/kg			WG469245	03/25/10 20:34

Analyte	Units	Duplicate		RPD	Limit	Ref Samp	Batch
		Result	Duplicate				
Barium	mg/kg	26.0	26.4	0.380	20	L450593-02	WG469245

Analyte	Units	Laboratory Control Sample		% Rec	Limit	Batch
		Known Val	Result			
Barium	mg/kg	420	428.	102.	78.8-121.4	WG469245

Analyte	Units	Matrix Spike			% Rec	Limit	Ref Samp	Batch
		MS Res	Ref Res	TV				
Barium	mg/kg	81.1	26.4	50	109.	75-125	L450593-02	WG469245

Analyte	Units	Matrix Spike Duplicate			Limit	RPD	Limit	Ref Samp	Batch
		MSD	Ref	%Rec					
Barium	mg/kg	82.0	81.1	111.	75-125	1.10	20	L450593-02	WG469245

Batch number /Run number / Sample number cross reference

WG469245: R1158628: L450598-01

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



YOUR LAB OF CHOICE

EnCana Oil & Gas Inc. - CO
Chris Hines
2717 County Road 215, Suite 100

Parachute, CO 81635

Quality Assurance Report
Level II

L450598

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Est. 1970

March 28, 2010

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

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

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

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